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## Articles

### Intellectual Liability

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*“Intellectual property” is increasingly a misnomer since the right to exclude is the defining characteristic of property and incentives to engage in inventive and creative activity are increasingly being granted in the form of liability rights (which allow the holder of the right to collect a royalty from users) rather than property rights (which allow the holder of the right to exclude others from using the invention or creation). Much of this recent reorientation in the direction of liability rules arises from a concern over holdout or monopoly power in intellectual property. The debate over whether liability rules or property rules are preferable for intellectual property has focused too narrowly on the benefits and costs of allowing the right to exclude, which is only one stick in the potential bundle of rights. Each stick in the bundle interacts with other sticks to affect both the rewards of engaging in inventive and creative activity and the social costs attributable to the grant of the rights. Sometimes, the optimal solution is to allow the exercise of other market-power-conferring rights but to remove the right to exclude. Administrability of a liability-rights-oriented regime should not be a major concern, since liability rules usually result in private bargaining rather than judicial or administrative rate setting.*

#### I. Introduction

If the right to exclude is the essential stick in the bundle of rights known as property,<sup>1</sup> then intellectual property is increasingly not property. In

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1. The Supreme Court has called the right to exclude others “one of the most essential sticks in the bundle of rights that are commonly characterized as property.” *Kaiser Aetna v. United States*, 444 U.S. 164, 176 (1979). Richard Epstein goes further and asserts that “it is difficult to conceive of any property as private if the right to exclude is rejected.” Richard A. Epstein, *Takings, Exclusivity and Speech: The Legacy of PruneYard v. Robins*, 64 U. CHI. L. REV. 21, 22 (1997). Similarly, Tom Merrill argues that the right to exclude others “is more than just ‘one of the most

important ways, statutory innovation,<sup>2</sup> legal doctrine,<sup>3</sup> and judicial,<sup>4</sup> executive,<sup>5</sup> and administrative practice<sup>6</sup> have begun to cast intellectual property as a right to recover the risk-adjusted costs of invention but not necessarily to exclude others from the invention. Intellectual property is incrementally moving away from the conventional right of the landowner to fence out trespassers and toward a right to collect royalties from constructive licensees.

As a categorical matter, this trend away from a right to exclude toward a right to collect royalties represents a shift from a property regime to a liability regime. In their seminal work, Guido Calabresi and Doug Melamed showed that economic interests can be protected under either property rules (which entail the right to bar the trespasser) or liability rules (which entail the right to make the trespasser pay).<sup>7</sup> Under this nomenclature, intellectual property is incrementally being depropertized. Innovation incentives, once protected by property rights, are increasingly being protected by liability rights.<sup>8</sup> Instead of speaking about “intellectual property,” it may be more appropriate to speak about “intellectual rights” consisting in part of intellectual property rights and in part of intellectual liability rights.

essential’ constituents of property—it is the *sine qua non*. Give someone the right to exclude others from a valued resource, . . . and you give them property. Deny someone the exclusion right and they do not have property.” Thomas W. Merrill, *Property and the Right to Exclude*, 77 NEB. L. REV. 730, 730 (1998) (quoting *Kaiser Aetna*, 444 U.S. at 176).

2. See, e.g., Digital Millennium Copyright Act, Pub. L. No. 105-304, 112 Stat. 2860 (1998) (codified as amended in scattered sections of 17 U.S.C.) (expanding the domain of compulsory licenses for Internet music transmission); Audio Home Recording Act of 1992, Pub. L. No. 102-563, 106 Stat. 4237 (codified as amended at 17 U.S.C. §§ 1001–1010 (2006)) (substituting a liability rule and a statutory royalty rate for the right to enjoin digital recording-equipment manufacturers from contributory infringement).

3. See, e.g., Andrew Beckerman-Rodau, *The Aftermath of eBay v. MercExchange*, 126 S. Ct. 1837 (2006): *A Review of Subsequent Judicial Decisions*, 89 J. PAT. & TRADEMARK OFF. SOC’Y 631, 632–33 (2007) (describing how the legal doctrine articulated in *eBay v. MercExchange* has given trial courts discretion to choose remedies for patent infringement other than permanent injunctions); Joseph P. Liu, *Regulatory Copyright*, 83 N.C. L. REV. 87, 116–21 (2004) (discussing a general trend away from traditional property rights and toward compulsory-licensing schemes with respect to digital copyrights, especially in music).

4. See, e.g., *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 391–93 (2006) (rejecting the proposition that patent holders have a right to injunctive relief where other remedies at law, such as monetary damages, provide adequate compensation).

5. See, e.g., *infra* text accompanying notes 50–57 (discussing the rate-setting jurisdiction of the Copyright Royalty Board over significant segments of the copyright economy).

6. See U.S. DEP’T OF JUSTICE & FED. TRADE COMM’N, ANTITRUST ENFORCEMENT AND INTELLECTUAL PROPERTY RIGHTS: PROMOTING INNOVATION AND COMPETITION 22 (2007), <http://www.ftc.gov/reports/innovation/P040101PromotingInnovationandCompetitionrpt0704.pdf> [hereinafter ANTITRUST ENFORCEMENT AND INTELLECTUAL PROPERTY RIGHTS] (“If a unilateral refusal to license patents were found to violate the antitrust laws, one appropriate remedy likely would entail compulsory licensing.”).

7. See generally Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089 (1972).

8. See *supra* notes 2–6 and accompanying text.

Substantial literature has debated whether liability rights or property rights are more appropriate for the protection of the interests traditionally protected by intellectual property.<sup>9</sup> Proponents of property treatment have argued, for example, that liability rules lead to chronic undercompensation,<sup>10</sup> and that property rules incentivize intellectual property holders to invest in institutions that beneficially lower the costs of intellectual property exchanges.<sup>11</sup> Proponents of liability treatment have argued, for example, that a court's inability to adequately tailor injunctive relief may lead to exploitative holdup uses of intellectual property to exact excessive monopoly rents from licensees.<sup>12</sup> The property rule versus liability rule debate has generally focused on the value and costs of the right to exclude.

This Article reframes this debate by showing that the property–liability debate has focused too narrowly on the “right-to-exclude” stick in the bundle of rights. While that stick is undoubtedly crucial for real and tangible property and sometimes also for intellectual rights, in many circumstances, insistence upon a strong right-to-exclude stick weakens the argument for the inclusion of other, possibly more valuable, sticks. This occurs when the exercise of a particular right would allow the intellectual-rights holder to exploit economic power in excess of the socially optimal amount if the intellectual-rights holder was also permitted to unilaterally set its license fee to third parties.

For example, bundling together multiple intellectual rights (such as patents or copyrights) into a single license can be thought of as a potential,

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9. See generally Ian Ayres & Eric Talley, *Solomonic Bargaining: Dividing a Legal Entitlement to Facilitate Coasean Trade*, 104 YALE L.J. 1027, 1099–1103 (1995) (arguing that divided entitlements are often most economically efficient); Mark A. Lemley & Philip J. Weiser, *Should Property or Liability Rules Govern Information?*, 85 TEXAS L. REV. 783, 784 (2007) (arguing that liability rights are preferable to traditional property rights in markets where injunctive relief cannot be narrowly tailored); Robert P. Merges, *Of Property Rules, Coase, and Intellectual Property*, 94 COLUM. L. REV. 2655, 2664–67 (1994) (arguing that property rights are generally preferable in protecting intellectual property); Henry E. Smith, *Intellectual Property as Property: Delineating Entitlements in Information*, 116 YALE L.J. 1742, 1799–1806 (2007) (describing how information costs help explain why copyright law relies more on liability rights and patent law relies more on property rights); Stewart E. Sterk, *Property Rules, Liability Rules, and Uncertainty About Property Rights*, 106 MICH. L. REV. 1285, 1304–18 (2008) (arguing that liability rules limit incentives to conduct searches for the scope of property rights).

10. See, e.g., Richard A. Epstein, *The Property Rights Movement and Intellectual Property*, REG.: THE CATO REV. OF BUS. & GOV'T, Winter 2008, at 58, 62 (criticizing the Supreme Court's decision in *eBay Inc. v. MercExchange* as creating a risk of “systematic under-compensation during the limited life of a patent[, which] is likely to reduce the level of innovation while increasing the administrative costs of running the entire system”).

11. See, e.g., Merges, *supra* note 9, at 2655 (“[I]n the presence of high transactions costs, industry participants have an incentive to invest in institutions that lower the costs of IPR exchange.”).

12. See, e.g., Lemley & Weiser, *supra* note 9, at 784 (“In the case of many technology markets, the inability to tailor injunctive relief so that it protects only the underlying right rather than also enjoining noninfringing conduct provides a powerful basis for using a liability rule instead of a property rule.”).

and highly valuable, stick in the relevant bundle of rights.<sup>13</sup> However, antitrust or other regulatory authorities may be unwilling to allow the bundling of intellectual rights if such bundling excludes rival intellectual-rights owners and allows the intellectual-rights holder to charge a monopolistic price.<sup>14</sup> Conversely, if a court or administrative agency—rather than the holder—is setting the price of the intellectual rights, the concern over monopoly pricing may be abated and the bundling stick allowed.<sup>15</sup> In this illustration, the deletion of the right-to-exclude stick from the bundle could result in the inclusion of a right-to-bundle stick, which could be more valuable to the holder of the intellectual rights and to society more generally.

The question of whether property rights or liability rights are preferable for intellectual rights should not be answered merely with reference to the single, right-to-exclude stick. Rather, it should be answered with reference to the totality of sticks in the bundle of rights. Sometimes, the right-to-exclude stick will be important enough for the stimulation of *ex ante* innovation incentives or *ex post* exploitation incentives that strong property protections should be allowed.<sup>16</sup> Sometimes, the right-to-exclude stick will be relatively less important than other sticks whose inclusion in the bundle depends on the exclusion of the right-to-exclude stick.<sup>17</sup> In that case, liability treatment for intellectual rights may be preferable.

Part II of this Article shows how impulses from both within and without intellectual property law are pushing toward the partial depropertization of intellectual property rights (IPRs). Copyright law has long maintained a partial-liability regime through compulsory licensing for mechanical rights, but the number and complexity of compulsory licenses has grown in recent years. Patent law is depropertizing the patent right (and, by extension, the copyright) by declining to grant injunctive relief for patent infringement as a

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13. See, e.g., Robert P. Merges, *Contracting into Liability Rules: Intellectual Property Rights and Collective Rights Organizations*, 84 CAL. L. REV. 1293, 1293–94 (1996) (noting that intellectual-property-right pooling agreements may lower transaction costs for repeat players).

14. 1 HERBERT HOVENKAMP, MARK D. JANIS & MARK A. LEMLEY, *IP AND ANTITRUST: AN ANALYSIS OF ANTITRUST PRINCIPLES APPLIED TO INTELLECTUAL PROPERTY LAW* § 22.4 (2002 & Supp. 2007).

15. See Justin Hurwitz, *The Value of Patents in Industry Standards*, 36 AIPLA Q.J. 1, 24–26 (2008) (discussing the use of compulsory licensing to counteract monopoly power).

16. See 1 HOVENKAMP, JANIS & LEMLEY, *supra* note 14, § 13.2c (“The purpose of intellectual property rights is to encourage innovation by granting their owner a reward better than it could obtain in a competitive market. Sometimes that reward is maximized if the intellectual property owner uses the right itself and does not license it to others.”).

17. Hovenkamp, Janis, and Lemley illustrate several situations in which the right to exclude will be relatively unimportant to the patentee:

[I]ntellectual property owners . . . may be ill-equipped to make the protected product; they may want a revenue stream without having to invest in producing and selling the product; they may wish to reserve one geographic or product market to themselves, while allowing others to exploit the intellectual property right elsewhere; or they may simply feel that broad dissemination of their product will redound to their benefit.

*Id.*

matter of right. This means that courts may instead assess a royalty rate for infringement. To a lesser degree, antitrust law is depropertizing intellectual property by directly or indirectly compelling dominant patentees and copyright holders to share their intellectual property with others in exchange for a reasonable royalty. All three of these impulses are driven by a concern that, left to their own devices, holders of IPRs would enjoy a monopoly-holdout position enabling them to extract excessive royalties from licensees. Conjunctively, these impulses are creating a state in which inventors and creators of economically valuable intellectual resources should expect that they may have to share their inventions and creations with others in exchange for a fee determined by a third party.

Part III advances the central normative claim of this Article—that the effect of depropertization on the incentives of inventors and creators to undertake “useful arts” cannot be assessed in isolation. Instead, everything depends on the valence of intellectual rights—the interaction between the various sticks in the bundle. Inventors and creators are often quite happy to forgo the right to exclude in exchange for the introduction of other sticks into the bundle. For example, patentees who enter standard-setting organizations or patent pools are often happy to exchange property protection for liability protection if that buys them greater flexibility in the creation of the standard or the pool. Similarly, copyright holders are often content with liability protections if they are allowed to exploit their copyrights collectively rather than individually—for example, by creating copyright clearinghouses or performance-rights organizations. Hence, both proponents and critics of the depropertization of intellectual property should focus beyond the single right-to-exclude stick. Intellectual liability sometimes may be the optimal right given the inclusion of other rights in the bundle, even if it cannot be justified standing alone.

Part IV considers how to operationalize a decisional rule on intellectual rights that takes into account the interaction of various possible sticks in the relevant bundle. It addresses three questions:

- First, should the right to exclude ever be removed involuntarily from an intellectual-rights holder on the ground that the socially optimal combination of sticks in the bundle does not include the right to exclude? I answer in the affirmative. Although negotiated rate setting between licensors and licensees is generally preferable to mandatory judicial rate setting, relying on external legal pressures such as antitrust law to steer IPR holders toward voluntary rights trade-offs is unlikely to achieve optimal results.
- Second, how do institutional constraints—particularly the reluctance of generalist judges to act as rate regulators—affect the optimality of the trade-off between the right to exclude and other sticks in the bundle? Institutional competence concerns may be overstated. Rate-setting courts are rarely used, even when they are available to intervene upon bargaining impasses.

Most inventors and creators of economically valuable resources would like to share their intellectual property with others—sharing is how inventors and creators make money. In the context of intellectual rights, the consequence of the choice between liability and property rules is usually the price at which the intellectual rights will be licensed. What changes with the depropertization of intellectual rights is not so much that courts or administrative agencies are frequently dragged into rate-setting proceedings but that the terms and conditions under which others access the inventions and creations are determined by bargaining in the shadow of rate-setting courts or administrative agencies rather than bargaining in the shadow of a categorical right to exclude.

- Third, and finally, how should liability treatment of intellectual rights affect adjacent doctrines concerning IPR entitlements—particularly, antitrust law’s refusal-to-deal doctrine? To the extent that recent developments in intellectual property law have begun to address problems of market power by removing the right-to-exclude stick from the bundle of rights, these developments provide a partial solution to the longstanding debate in antitrust circles over whether the holder of a dominant IPR ever has an obligation to share her intellectual property with rivals. If intellectual property law itself mandates access by rivals and other parties disadvantaged by the IPR holder’s market power, then there is no need for antitrust law to do so. At the same time, viewing dominant intellectual property through a liability lens provides a clear-cut line of demarcation for antitrust purposes. Although intellectual property law may require an IPR holder to “share” her intellectual property in the sense that rivals may not be enjoined from infringing, antitrust law need not go any further and create mandatory obligations to cooperate with rivals who cannot appropriate the intellectual property through self-help infringement.

## II. Toward Liability

It may seem odd to speak about the depropertization of intellectual property at a time when it is commonplace to decry the overpropertization of information.<sup>18</sup> But the depropertization of intellectual property does not

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18. See Robin Jacob, *The Onward March of Intellectual Property Rights and Remedies*, in *EXPANDING THE BOUNDARIES OF INTELLECTUAL PROPERTY: INNOVATION POLICY FOR THE KNOWLEDGE SOCIETY* 415, 415 (Rochelle Dreyfuss et al. eds., 2001) (decrying the “onward march of IP rights and remedies” in the United States and Europe); Mark A. Lemley, *Romantic Authorship and the Rhetoric of Property*, 75 *TEXAS L. REV.* 873, 902 (1997) (reviewing JAMES BOYLE, *SHAMANS, SOFTWARE, AND SPLEENS: LAW AND THE CONSTRUCTION OF THE INFORMATION*

necessarily coincide with a general movement to diminish the economic rights granted by the intellectual property system. It is possible to grant expansive economic interests through a liability regime just as it is through a property regime.<sup>19</sup> Imagine, for example, the grant of a corporate charter to create a toll road. The charteree undoubtedly has a valuable economic right, but it is not a true property right—there is no right to exclude since the turnpike would be subject to a common-carrier obligation<sup>20</sup>—but only a right to collect a fee for passage. In a world in which traveling on roads used to be free, the establishment of tolls may appear to “propertize” roads even though, in a Calabresi–Melamed sense, it creates liability rights rather than property rights. In the same way, the intellectual property system may be moving away from an open-access regime and toward ever greater economic rights for creators and inventors while, at the same time, moving away from a traditional property regime and toward a liability regime. This Part considers three important ways in which this is occurring.

#### A. *Copyright’s Compulsory Licenses*

For over a hundred years, copyright has been a mixed liability- and property-rights regime; nevertheless, the movement toward liability has gathered steam in the last thirty years.<sup>21</sup> A compulsory license to make and distribute phonorecords—the “mechanical” license—entered the system in 1909 when Congress reacted to the Supreme Court’s decision in *White-Smith Music Publishing v. Apollo Co.*<sup>22</sup> by extending the copyright in musical compositions to mechanical recordings.<sup>23</sup> The quid pro quo for this statutory

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SOCIETY (1996)) (criticizing “the ‘propertization’ of intellectual property” and the simultaneous expansion of intellectual property protections). See generally MICHAEL HELLER, *THE GRIDLOCK ECONOMY: HOW TOO MUCH OWNERSHIP WRECKS MARKETS, STOPS INNOVATION, AND COSTS LIVES* 1–22 (2008); LAWRENCE LESSIG, *FREE CULTURE: HOW BIG MEDIA USES TECHNOLOGY AND THE LAW TO LOCK DOWN CULTURE AND CENTRAL CREATIVITY* 83–173 (2004) (both criticizing the overexpansion of intellectual property rights in media).

19. Michael Carrier argues that “[o]ne of the most revolutionary legal changes in the past generation has been the ‘propertization’ of intellectual property (IP).” Michael A. Carrier, *Cabining Intellectual Property Through a Property Paradigm*, 54 *DUKE L.J.* 1, 4 (2004). However, his vision is not propertization in the Calabresi–Melamed sense but rather the expansion of the economic interests covered by the intellectual property interest. See *id.* at 6–7 (clarifying propertization to mean “the expansion of the duration and scope of initial rights to approach unlimited dimensions” and arguing that property rights are unlimited in duration until limitations are created by courts and legislatures).

20. See *Munn v. Illinois*, 94 U.S. 113, 129 (1877) (describing turnpike roads as traditionally regulated as common carriers).

21. A useful discussion of copyright’s statutory evolution toward compulsory licensing appears in Joseph Liu’s article, *Regulatory Copyright*. See Liu, *supra* note 3, at 94–114 (summarizing the statutory trend away from traditional property rules and toward liability rules in the context of digital copyrights).

22. 209 U.S. 1 (1908).

23. Copyright Act of 1909, Pub. L. No. 60-349, §§ 1(e), 25(e), 35 Stat. 1075, 1075–76, 1081–82 (1909) (codified as amended at 17 U.S.C. § 102 (2006)); see also Liu, *supra* note 3, at 97 (“The 1909 Act legislatively overruled [*White-Smith*] . . .”).

extension in favor of composers was that the recording industry received a statutory license to access copyrighted compositions, provided they pay a standard fee.<sup>24</sup> The 1909 Act is a good example of a departure from an open-access regime<sup>25</sup>—the status quo ante being the *White-Smith* holding that piano rolls were not within composition copyrights—but in the direction of liability rights rather than property rights.

From 1909 to 1976, the mechanical compulsory license remained an aberration to copyright's general presumption in favor of property rights. The 1976 Copyright Act<sup>26</sup> opened a new season of compulsory licensing. It retained the compulsory mechanical license, which now applied to the much larger universe of sound recordings.<sup>27</sup> It added a compulsory license for jukebox operators, which had been exempted altogether by the 1909 Act.<sup>28</sup> More significantly, the 1976 Act contained a complex compulsory-licensing regime for cable television retransmission of broadcast television signals.<sup>29</sup> Later, amendments extended the retransmission compulsory license to satellite transmissions.<sup>30</sup> As one commentator has noted, the 1976 Act “made greater use of compulsory licenses and established them more firmly as an alternative to a property entitlement.”<sup>31</sup>

A different form of liability regime appeared in the Audio Home Recording Act of 1992 (AHRA).<sup>32</sup> In response to music industry fears that the advent of digital audio technologies would enable rampant piracy, Congress effectively established a tax on digital technologies for the benefit of composers and record labels. The AHRA imposes a 2% levy on the sale price of digital audio recording devices and a 3% levy on the sale of blank audio media used to make digital recordings.<sup>33</sup> The Copyright Office collects

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24. See Timothy Wu, *Copyright's Communications Policy*, 103 MICH. L. REV. 278, 302–04 (2004) (describing interest-group compromises that led to the 1909 Copyright Act).

25. See James A. Swaney, *Common Property, Reciprocity, and Community*, 24 J. ECON. ISSUES 451, 451–53 (1990) (distinguishing between open access and commons and noting confusion between the terms).

26. General Revision of Copyright Law, Pub. L. No. 94-553, 90 Stat. 2541 (1976) (codified as amended in scattered sections of 17 U.S.C.).

27. 17 U.S.C. § 115(a)(1) (2006).

28. *Id.* § 116; see also Marilyn S. Wise, *Trials of the Tribunal: Toward a Fair Distribution of Jukebox Royalties*, 16 SW. U. L. REV. 757, 762 (1986) (explaining that the 1976 Act ended jukeboxes' exemption from a compulsory-licensing system and reflected a compromise under which composers would be compensated for their work while jukebox operators could play music as they wished).

29. 17 U.S.C. § 111; see also C.H. Dobal, Note, *A Proposal to Amend the Cable Compulsory License Provisions of the 1976 Copyright Act*, 61 S. CAL. L. REV. 699, 703–07 (1988) (describing the evolution of the administration of the cable-television compulsory-license regime).

30. 17 U.S.C. §§ 119, 122.

31. Liu, *supra* note 3, at 108.

32. Pub. L. No. 102-563, 106 Stat. 4237 (codified as amended at 17 U.S.C. §§ 1001–1010); see also Tia Hall, *Music Piracy and the Audio Home Recording Act*, DUKE L. & TECH. REV., 2002 (explaining the AHRA's establishment of the Serial Copy Management System and a royalty tax to protect copyright owners' interests).

33. 17 U.S.C. § 1003–1004.

the levy and distributes it to owners of copyrights in sound recordings (who take two-thirds of the proceeds) and to owners of copyrights in musical works (who take a third of the proceeds).<sup>34</sup> In exchange for these revenues, the copyright owners lose their right to sue makers of digital recording equipment for copyright infringement.<sup>35</sup> In effect, the AHRA substitutes a liability rule and a statutory royalty rate for the right to enjoin digital recording-equipment manufacturers from contributory infringement.

Three years later, in its first effort to address music distribution over the Internet, Congress continued the trend toward the depropertization of copyright with the Digital Performance Right in Sound Recordings Act of 1995 (DPRSRA).<sup>36</sup> The DPRSRA extended the domain of copyright by granting sound-recording owners certain rights to control digital public performances subject to a complex scheme of compulsory licenses.<sup>37</sup> The domain of compulsory licenses for Internet music transmission expanded in 1998 with the Digital Millennium Copyright Act (DMCA),<sup>38</sup> which gave copyright owners and performers of sound recordings a performance right when a song is publicly performed by means of a digital transmission, subject to a compulsory license.<sup>39</sup>

The trend toward liability rules does not seem to have abated. Legislation introduced in 2006 and reintroduced in 2008 would deal with the problem of “orphan works”—copyrighted works where the copyright holder cannot be located—by limiting the copyright owner’s remedy (under specified circumstances) to “reasonable compensation” for the past use of the copyrights.<sup>40</sup> Reasonable compensation would be defined as “the amount on which a willing buyer and willing seller in the positions of the infringer and the owner of the infringed copyright would have agreed with respect to the infringing use of the work immediately before the infringement began.”<sup>41</sup> In effect, this legislation would grant a compulsory license to copy orphan works subject to an obligation to pay for them if the owner emerges.<sup>42</sup>

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34. *Id.* § 1006.

35. *Id.* § 1008.

36. Pub. L. No. 104-39, 109 Stat. 336 (codified as amended in scattered sections of 17 U.S.C.).

37. See generally David Nimmer, *Ignoring the Public* (pt. 1), 7 UCLA ENT. L. REV. 189, 189–94 (2000) (surveying regulation of digital public performance rights, and arguing that Congress created an unnecessarily complex regulatory scheme).

38. Pub. L. No. 105-304, 112 Stat. 2860 (1998) (codified as amended in scattered sections of 17 U.S.C.).

39. 17 U.S.C. § 114.

40. Orphan Works Act of 2008, H.R. 5889, 110th Cong. § 2(a) (2008); Orphan Works Act of 2006, H.R. 5439, 109th Cong. § 2(a) (2006).

41. H.R. 5889.

42. See Darren Keith Henning, *Copyright’s Deus Ex Machina: Reverse Registration as Economic Fostering of Orphan Works*, 55 J. COPYRIGHT SOC’Y U.S.A. 201, 213 (2008) (describing the proposed legislation as creating a “de facto compulsory license”). The legislation would retain some property rights elements: injunctions against future infringement would be permitted if the work’s parent reappeared. H.R. 5889.

Much of copyright's expansion in the last thirty years has been in the form of liability rules. What is significant for present purposes is not only the increasing number of statutory compulsory licenses but also the institutional mechanisms governing the terms and conditions of the compulsory license—particularly the price. There are essentially two ways to run a liability regime. One is to establish a compulsory license by statute, set a flat statutory fee, and provide some legal or administrative mechanism for collecting the fee.<sup>43</sup> The other way is to grant a compulsory license without specifying its terms and then provide for a legal or administrative rate-setting mechanism in the event that the licensor and licensee cannot agree.<sup>44</sup>

Examples of both sorts of compulsory license provisions appear in the Copyright Act. The 1909 mechanical license established the price and terms of the license, reporting procedures for the recording industry and penalties for noncompliance with the statute.<sup>45</sup> The AHRA went even further in the direction of a flat, statutory royalty rate, dealing with copyright-holder remuneration on a class-wide basis rather than linking compensation to actual copying.<sup>46</sup> But the more prevalent practice seems to be in the direction of individualized royalty setting in an administrative process. The 1976 Act created an administrative body called the Copyright Royalty Tribunal to engage in rate setting for various classes of compulsory licenses.<sup>47</sup> In 1993, after significant criticism, the Copyright Royalty Tribunal gave way to a system of copyright arbitration royalty panels, convened on an ad hoc basis by the Librarian of Congress.<sup>48</sup> Just over a decade later, in 2005, Congress returned to a more permanent institutional arrangement for ascertaining compulsory license rates, creating the Copyright Royalty Board.<sup>49</sup>

A wide swath of copyrights are currently subject to the rate-setting jurisdiction of the Copyright Royalty Board. The Board has jurisdiction to set rates for cable and satellite retransmission of copyrighted programming,<sup>50</sup> “ephemeral” copies for transmission of public performances and certain other

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43. The AHRA establishes such an institutional mechanism. *See supra* notes 32–35 and accompanying text.

44. For example, the DPRSRA mandates that rate schedules set by copyright royalty judges shall be binding if a copyright owner and an individual entitled to a compulsory license for making and distributing phonorecords do not agree upon the terms and rates of royalty payments. 17 U.S.C. § 115(c)(3)(B)–(E).

45. Liu, *supra* note 3, at 97–98.

46. *See supra* text accompanying notes 32–35.

47. *See, e.g.*, Recording Indus. Ass'n of Am. v. Copyright Royalty Tribunal, 662 F.2d 1, 3 (D.C. Cir. 1981) (“[D]etermination of the appropriate royalty rates is one of the principal functions Congress has assigned to the Copyright Royalty Tribunal.”).

48. Copyright Royalty Tribunal Reform Act of 1993, Pub. L. No. 103-198, § 801, 107 Stat. 2304 (codified as amended in scattered sections of 17 U.S.C.).

49. *See* Copyright Royalty and Distribution Reform Act of 2004, Pub. L. No. 108-419, 118 Stat. 2341 (codified as amended in scattered sections of 17 U.S.C.) (stating as its purpose “to replace copyright arbitration royalty panels with Copyright Royalty Judges”).

50. 17 U.S.C. § 111(c)–(d) (2006).

copyrighted works,<sup>51</sup> digital audio transmissions,<sup>52</sup> distribution for private use of copyrighted nondramatic music works,<sup>53</sup> jukebox owners,<sup>54</sup> public broadcasting systems transmitting copyrighted works,<sup>55</sup> superstations and satellite companies rebroadcasting local and other copyrighted programming,<sup>56</sup> and digital audio-recording devices.<sup>57</sup> For these significant segments of the copyright economy, a liability regime—complete with mandatory access rules and a rate-setting administrative body—are the rule of the day.

### B. Patent's Injunction Standard

Unlike copyright, U.S. patent law is not characterized by a series of statutory compulsory licenses.<sup>58</sup> But there is another way to achieve the same effect—decline to grant permanent injunctions for patent infringement.<sup>59</sup> In the event that a permanent injunction is declined, the court hearing the infringement suit may award the patentee a reasonable royalty for the infringer's continued use of the patented technology.<sup>60</sup> In effect, the combination of declining to issue a permanent injunction and awarding the patentee a reasonable royalty is a compulsory license subject to a rate-setting court's oversight of the terms and conditions of the license.<sup>61</sup>

Until recently, property-rights protection of patents was the norm and rate-setting treatment was an aberration. The Federal Circuit, which generally controls the law of patents, followed a “general rule that courts will issue permanent injunctions against patent infringement absent exceptional circumstances.”<sup>62</sup> However, in its 2006 *eBay v. MercExchange*<sup>63</sup> decision, a fractured Supreme Court rejected this presumptive treatment of patents as property and instead held that the ordinary, permanent-injunction rule—

51. *Id.* § 112(e).

52. *Id.* § 114(e)–(f).

53. *Id.* § 115(c).

54. *Id.* § 116.

55. *Id.* § 118(b).

56. *Id.* § 119.

57. *Id.* § 1004.

58. See Andrew Beckerman-Rodau, *Patent Law—Balancing Profit Maximization and Public Access to Technology*, 4 COLUM. SCI. & TECH. L. REV. 1, 46 n.179 (2002) (“U.S. law has consistently rejected statutory authorization for compulsory licenses of patents.”).

59. See *Atlas Powder Co. v. Ireco Chems.*, 773 F.2d 1230, 1233 (Fed. Cir. 1985) (equating the denial of injunctive relief for patent infringement with the grant of a compulsory license).

60. 35 U.S.C. § 284 (2006); see also *Ga.-Pac. Corp. v. U.S. Plywood Corp.*, 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970), *modified*, 446 F.2d 295 (2d Cir. 1971) (listing relevant factors in determining a reasonable royalty).

61. See, e.g., *Hybritech Inc. v. Abbott Labs.*, 849 F.2d 1446, 1457 (Fed. Cir. 1988) (“If monetary relief were the sole relief afforded by the patent statute then . . . infringers could become compulsory licensees . . .” (quoting *Atlas Powder*, 773 F.2d at 1233)).

62. *MercExchange L.L.C. v. eBay, Inc.*, 401 F.3d 1323, 1339 (Fed. Cir. 2005).

63. 547 U.S. 388 (2006).

requiring irreparable harm, no adequate remedy at law, balance of hardships, and public interest—applied.<sup>64</sup>

In light of *eBay*, injunctions no longer issue as a matter of course in infringement cases, but it remains to be seen just how wide the impact of *eBay* will be.<sup>65</sup> Although the Court was unanimous in rejecting the Federal Circuit's "absent exceptional circumstances" standard,<sup>66</sup> two concurring opinions struck widely different notes about the value of injunctions for patent infringement. Chief Justice Roberts, joined by Justices Scalia and Ginsburg, believed that even under the generic four-part, permanent-injunction test, the historical practice in patent cases—granting an injunction—should usually prevail.<sup>67</sup> Justice Kennedy, joined by Justices Stevens, Souter, and Breyer, believed that changed economic and technological circumstances—in particular the rise of "patent trolls"—should make courts more skeptical about granting patent injunctions.<sup>68</sup> The deep case for either property rules or liability rules remains to be made on the Court.

In the meantime, the lower courts are taking a more nuanced approach toward patent infringement injunctions than they previously did. Two years after the *eBay* decision, a commentator summarized the early returns as follows:

- (1) The district courts continue to grant permanent injunctions in most cases;
- (2) Typically, permanent injunctions continue to issue when the patent owner and the infringer are direct marketplace competitors;
- (3) Typically, permanent injunctions are denied if the patent owner is a non-practicing entity; and,
- (4) Other factors such as willful infringement, venue, the existence of a complex invention incorporating a patented feature, the willingness of the patent owner to license the invention and the likelihood of future infringement are not overly predictive with regard to whether patent infringement will result in issuance or denial of a permanent injunction.<sup>69</sup>

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64. *Id.* at 390–91.

65. See generally John M. Golden, *Principles for Patent Remedies*, 88 TEXAS L. REV. (forthcoming Feb. 2010) (indicating that *eBay* has created debate in how to handle patent remedies, while suggesting principles for policymakers to follow).

66. *eBay*, 547 U.S. at 394.

67. *Id.* at 394–95 (Roberts, C.J., concurring).

68. *Id.* at 395–97 (Kennedy, J., concurring).

69. Beckerman-Rodau, *supra* note 3, at 632. Cases subsequent to these early returns seem to be pointing toward an even more pronounced trend toward liability treatment. Several courts have declined to grant permanent injunctions against even direct-competitor infringers. See, e.g., *Nichia Corp. v. Seoul Semiconductor, Ltd.*, No. 06-0162, 2008 U.S. Dist. LEXIS 12183, at \*5, \*9 (N.D. Cal. Feb. 7, 2008) (finding that the plaintiff, who held patents related to light-emitting diodes (LEDs), failed to show an entitlement to a permanent injunction against the defendants' sale of LEDs); *Respironics, Inc. v. Invacare Corp.*, No. 04-0336, 2008 U.S. Dist. LEXIS 1174, at \*1–2, \*18 (W.D. Pa. Jan. 8, 2008) (denying the plaintiff's motion for a permanent injunction against the defendant, who sold a commercialized sleep-therapy device despite the plaintiff's patents in the sleep-therapy field).

In other words, we are not seeing a complete shift away from property rules, but the number of ordinary patent infringement cases in which courts engage in prospective rate setting is growing.<sup>70</sup> Patents are no longer presumptively property rights—they are presumptively liability rights. The patentee must prove, on an individualized and case-specific basis, that its patent should be treated as a property right.<sup>71</sup> If the patentee fails to meet that burden, the court treats the IPR as a right to recover a reasonable royalty but not as a right to exclude.<sup>72</sup>

### C. Antitrust's Looming Shadow

Copyright's statutory compulsory licenses and patent's permanent-injunction rule are liability-rule-oriented impulses from within intellectual property law itself. There are also impulses from outside of intellectual property law pushing toward the deproertization of intellectual rights. The chief of these impulses is antitrust law.<sup>73</sup>

Antitrust's relationship to the property–liability debate in intellectual property can be deceiving. U.S. antitrust law generally does not impose an obligation to license intellectual property on even dominant IPR holders.<sup>74</sup> Only a small number of controversial judicial decisions have suggested the possibility that the refusal to license intellectual property could be an ingredient of an unlawful monopolization strategy, or, to put it the other way, that antitrust law could ever impose an obligation to license intellectual property

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70. See Tim Carlton, *The Ongoing Royalty: What Remedy Should a Patent Holder Receive When a Permanent Injunction is Denied?*, 43 GA. L. REV. 543, 546–48 (2009) (explaining that in the wake of *eBay*, district courts have tended to deny permanent injunctions and instead award ongoing royalties at the reasonable royalty rate).

71. See *eBay*, 547 U.S. at 391–92 (requiring a patentee who seeks a permanent injunction to satisfy the four-factor test historically employed by equity courts: (1) that the patentee has suffered an irreparable injury; (2) that remedies available at law are inadequate to compensate for that injury; (3) that a remedy in equity is warranted; and (4) that the public interest would not be disserved by a permanent injunction).

72. See *id.* at 391 (explaining that a plaintiff who fails to meet the standard for injunctive relief is entitled only to monetary damages).

73. Another recent innovation that has moved some technologically intensive industries in the direction of liability rules is the Telecommunications Act of 1996, which requires incumbent, local telephone-service providers to provide access and interconnection to their networks, including the leasing of network elements, to new entrants. See Lemley & Weiser, *supra* note 9, at 809–13 (extracting the following three lessons from the history of the 1996 Act: (1) liability rules should be clearly defined; (2) liability rules should be limited so that they do not undermine investment incentives; and (3) setting and enforcing liability rules can be costly). However, the Telecommunications Act's liability rules are not limited to intellectual property but require the sharing of physical infrastructure. *Id.* at 810. As discussed in subpart IV(C), such mandatory sharing of physical assets raises a different set of considerations than mandatory sharing of nonrivalrous public goods like patents or copyrights.

74. See generally Herbert Hovenkamp, Mark D. Janis & Mark A. Lemley, *Unilateral Refusals to License*, 2 J. COMPETITION L. & ECON. 1, 4–5 (2006) (“Antitrust law does not itself impose an obligation to use or license intellectual property rights, such that a refusal to use or license the right would violate the antitrust laws.”).

(other than as a remedy for some independent violation).<sup>75</sup> The Justice Department's Antitrust Division and the Federal Trade Commission take the view that refusals to license intellectual property should rarely, if ever, be the basis for antitrust liability.<sup>76</sup> It is conventional to juxtapose U.S. law's general refusal to assign antitrust liability for refusals to share intellectual property with the EU's approach, which does sometimes impose an obligation to deal.<sup>77</sup>

Despite the reluctance of the courts and enforcement agencies to create an antitrust obligation to license intellectual property, in much of the scholarly debate over property rights or liability rights for intellectual property, antitrust has been the unappreciated backdrop. Many arrangements by IPR holders that substitute liability rules for property rules seem to be purely voluntary undertakings.<sup>78</sup> Voluntary abandonment of property protections may not seem relevant to the baseline Calabresi–Melamed question of whether property or liability rules should be the defaults. Even the strongest proponent of property protection for intellectual rights would not argue that IPR holders should be barred from abandoning their property protections and voluntarily treating their IPRs as liability rights.<sup>79</sup> Instead, property advocates see property protections as the optimal baseline rule from which IPR holders may then bargain to efficient solutions.<sup>80</sup>

For example, Robert Merges has argued that property protection should be preferred for intellectual rights because “in the presence of high transaction costs, industry participants have an incentive to invest in institutions that

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75. See, e.g., *Image Tech. Servs., Inc. v. Eastman Kodak Co.*, 125 F.3d 1195, 1228 (9th Cir. 1997) (affirming a jury finding of Kodak's liability for monopolization for refusing to license its patents to independent service organizations); *Data Gen. Corp. v. Grumman Sys. Support*, 36 F.3d 1147, 1187 (1st Cir. 1994) (“[W]hile exclusionary conduct can include a monopolist's unilateral refusal to license a copyright, an author's desire to exclude others from use of its copyrighted work is a presumptively valid business justification for any immediate harm to consumers.”).

76. See ANTITRUST ENFORCEMENT AND INTELLECTUAL PROPERTY RIGHTS, *supra* note 6, at 30 (“[T]he Agencies conclude that liability for mere unconditional, unilateral refusals to license will not play a meaningful part in the interface between patent rights and antitrust protections.”).

77. See Brett Frischmann & Spencer Weber Waller, *Revitalizing Essential Facilities*, 75 ANTITRUST L.J. 1, 57–64 (2008–2009) (contrasting the EU approach to the essential-facilities doctrine, including in intellectual property cases, with the U.S. approach); Melanie J. Reichenberger, Note, *The Role of Compulsory Licensing in Unilateral Refusals to Deal: Have the United States and European Approaches Grown Further Apart After IMS?*, 31 J. CORP. L. 549, 550 (2006) (arguing that the European Court of Justice's order of the compulsory licensing of a copyrighted market-research-collection system to an infringing competitor further distanced the approaches of U.S. and European courts).

78. See, e.g., Merges, *supra* note 9, at 2662 (discussing ASCAP and patent pools—institutions that have arisen when firms have contracted into liability rules).

79. See, e.g., *id.* at 2664, 2669–70 (arguing that a property rule would better effectuate a bargain in IPR cases but acknowledging that such a rule can be transformed into a voluntary liability rule).

80. See generally Ronald H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 43, 42–44 (1960) (arguing that given sufficiently low transaction costs, parties will bargain to the efficient solution irrespective of the initial assignment of property rights).

lower the costs of IPR exchange.”<sup>81</sup> Merges argues that, given strong property protections as a baseline, intellectual-rights owners have incentives to create institutions that are “designed to streamline the exchange of property rights” by modifying “the strong property rule baseline of intellectual property law by contracting into liability rules.”<sup>82</sup> He argues that property rules facilitate this flexible bargaining into efficient regimes for information exchange whereas, perversely, “statutory liability rules work against the flexible, voluntary institutions that are formed to overcome the costs faced by transactors.”<sup>83</sup> Merges offers two examples of efficient information-exchange institutions created against the backdrop of strong property rights protection: the American Society of Composers, Authors, and Publishers (ASCAP) and Broadcast Music, Inc. (BMI) music-performance-rights organizations (PROs) and patent pools.<sup>84</sup>

PROs and patent pools are certainly examples of efficient liability regimes for information exchange, but it is less clear that their liability-rule orientation arises from a baseline of strong property rules. In both cases the decision to treat intellectual rights as liability rights arose in large part from antitrust pressures, not from the voluntary abdication of property protections.

In the case of the PROs, the liability treatment arose initially from consent decrees with the Justice Department in which potential antitrust liability was exchanged for a liability regime for the relevant copyrights.<sup>85</sup> BMI and ASCAP are music-performance-rights clearinghouses that aggregate and license millions of individual artists’ performance rights.<sup>86</sup> In the 1940s, the Justice Department brought suit against the PROs on antitrust grounds and resolved both actions by consent decree.<sup>87</sup> Under the consent decrees, BMI and ASCAP must make through-to-the-listener licenses available for public performances of their music repertoires and provide applicants with proposed license fees upon request.<sup>88</sup> If the PROs and the applicant cannot agree on a fee, either party may apply to the rate court for

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81. Merges, *supra* note 9, at 2655.

82. *Id.* at 2662.

83. *Id.*

84. *Id.*; see also *id.* at 2662, 2669–70 (further discussing collective rights organizations (specifically ASCAP and BMI) as examples of “a property rule for IPRs [being] transformed into a voluntary liability rule”).

85. See *United States v. BMI*, 1966 Trade Cas. (CCH) ¶ 71,941 (S.D.N.Y. 1966); *United States v. ASCAP*, 1950 Trade Cas. (CCH) ¶ 62,595 (S.D.N.Y. 1950) (both deciding cases on the basis of a consent decree).

86. For a discussion of the economic justifications for the BMI and ASCAP system, see *BMI v. CBS*, 441 U.S. 1, 4–6, 21–23 (1979).

87. See *BMI*, 1966 Trade Cas. (CCH) at 83,324; *ASCAP*, 1950 Trade Cas. (CCH) at 63,754 (both stating that, without trial or testimony, both parties agreed to a civil decree and judgment).

88. *United States v. BMI*, 1996-1 Trade Cas. (CCH), ¶ 76,891 (S.D.N.Y. 1994); *ASCAP*, 1950 Trade Cas. (CCH) at 63,754.

determination of a reasonable fee.<sup>89</sup> Other antitrust consent decrees contain similar provisions requiring the defendants to license their intellectual property on reasonable and nondiscriminatory terms, and reserving jurisdiction in the court to assess a reasonable royalty rate in the event that the parties cannot agree.<sup>90</sup>

Similarly, participants in patent pools often agree to liability rules not simply to promote efficient exchange of rights but because of antitrust pressures.<sup>91</sup> Patent pooling has faced a long history of antitrust challenges,<sup>92</sup> and patentees often hope to avoid antitrust suits by agreeing to license on reasonable and nondiscriminatory terms.<sup>93</sup> Participants in patent pools trade property treatment for liability treatment because the right to participate in a patent pool is more valuable than the right to exclude,<sup>94</sup> and the right to participate in patent pools may depend on the abandonment of the right to exclude.<sup>95</sup>

The coercive influence of antitrust law to abandon property protections for IPRs does not end with the two examples given by Merges—PROs and patent pools. Many standard-setting organizations (SSOs) have bylaws requiring participants to license their patents on reasonable and nondiscriminatory (RAND) terms. An empirical study conducted by Mark Lemley in 1992 found that twenty-nine out of thirty-six SSOs that had

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89. *ASCAP*, 1950 Trade Cas. (CCH) at 63,754; *see also BMI*, 1996-1 Trade Cas. (CCH) at 76,891 (modifying the original 1966 consent decree to include a provision requiring the rate court to determine a reasonable fee in the event that the parties cannot agree).

90. *See* Daniel A. Crane, *Bargaining in the Shadow of Rate-Setting Courts*, 76 ANTITRUST L.J. 307, 309 (2009) (stating that antitrust decrees that “require the defendants to license their intellectual property on reasonable terms and retain jurisdiction in the court to determine what is reasonable are said to create rate-setting courts”).

91. *See* Daniel A. Crane, *Patent Pools, RAND Commitments, and the Problematics of Price Discrimination* 9–12 (Benjamin N. Cardozo Sch. of Law Jacob Burns Inst. for Advanced Legal Studies, Working Paper No. 232, 2008), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1120071](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1120071) (describing voluntary remedies undertaken to avoid accusations of anticompetitive behavior and offering DVD technology as an example of such voluntary remedies in practice).

92. *See* 1 HOVENKAMP, JANIS & LEMLEY, *supra* note 14, § 34.3 (surveying Supreme Court decisions analyzing patent pools opposed by antitrust challenges beginning in 1902); *see also* Robert P. Merges, *Institutions for Intellectual Property Transactions: The Case of Patent Pools*, in EXPANDING THE BOUNDARIES OF INTELLECTUAL PROPERTY: INNOVATION POLICY FOR THE KNOWLEDGE SOCIETY, *supra* note 18, at 123, 156–58 (discussing the impact of government antitrust policy on patent pools).

93. *See* Richard J. Gilbert, *Antitrust for Patent Pools: A Century of Policy Evolution*, 2004 STAN. TECH. L. REV. 3, ¶ 66 (reviewing case law suggesting that patent pool participants may avoid antitrust liability by offering licenses on reasonable and nondiscriminatory terms).

94. *See* Merges, *supra* note 13, at 1341–42 (stating that patent pools reduce transaction costs by providing a “regularized transactional mechanism” that takes the place of property rules requiring a separate bargain for each transaction).

95. *See* George M. Armstrong, Jr., *From the Fetishism of Commodities to the Regulated Market: The Rise and Decline of Property*, 82 NW. U. L. REV. 79, 99 (1987) (noting “abuses of the patent privilege” that have anticompetitive consequences that justify courts “strip[ping] the owner of his right to exclude others”).

written policies about the ownership of IPRs required the IPR holders to license on reasonable and nondiscriminatory terms.<sup>96</sup> Again, a primary motivation for such abandonment of property protections in favor of a liability regime is the avoidance of antitrust liability.<sup>97</sup>

Antitrust is the invisible hand pushing toward the coerced abandonment of property protections for intellectual rights. Although antitrust's sway is only felt when the IPR holders could potentially exercise market power—a small percentage of cases—IPRs that are involved in litigation tend to be the most valuable IPRs and the ones most likely to confer market power.<sup>98</sup> The classes of IPRs about which a court might be called on to make a “property or liability” decision are the very ones that antitrust is pushing, preemptively, toward voluntary liability treatment.

Antitrust's implicit pressure complements copyright's statutory compulsory licenses and patent's emergent injunction standard. Often, the impulses work conjunctively in the direction of depropertization. For example, the PRO liability arrangement began under antitrust consent decrees and eventually made its way into a federal statute requiring a compulsory license.<sup>99</sup> Patent infringers may use antitrust counterclaims (or patent misuse, its analog) as leverage to strengthen their case for denial of a permanent injunction once infringement is found.<sup>100</sup> From both within and without, intellectual property is increasingly moving away from a true property regime.

### III. The Valence of Intellectual Rights

No single, deliberate impulse accounts for the trend toward intellectual liability. Indeed, the trend described in the previous Part finds its impetus in all three branches of government. Congress enacts statutory compulsory licenses; the courts create permanent injunction norms; and the antitrust enforcement agencies (and, to some extent, the private antitrust bar) provide the stimulus for IPR holders to voluntarily abandon property claims in exchange for freedom to engage in otherwise suspect activities.

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96. Mark A. Lemley, *Intellectual Property Rights and Standard-Setting Organizations*, 90 CAL. L. REV. 1889, 1906 (2002).

97. See Hurwitz, *supra* note 15, at 4 (“The root of the [RAND commitment] problem lies in antitrust law.”).

98. Brief of Prof. F.M. Scherer as Amicus Curiae in Support of Respondent at 5–7, *Ill. Tool Works, Inc. v. Indep. Ink, Inc.*, 547 U.S. 28 (2006) (No. 04-1329), 2005 WL 2427642, at \*5–7.

99. See W. Jonathan Cardi, *Über-Middlemen: Reshaping the Broken Landscape of Music Copyright*, 92 IOWA L. REV. 835, 846–47 (2007) (describing the effects of a 1941 consent decree on PROs); Tim Wu, *Copyright's Communications Policy*, 103 MICH. L. REV. 278, 304–11 (2004) (recounting the early history of the struggles between broadcasters and PROs). The essential mechanisms of the BMI decree are discussed in *United States v. Broadcast Music, Inc.*, 426 F.3d 91, 95 (2d Cir. 2005). The rate-setting provision is codified in 17 U.S.C. § 513 (2006).

100. See, e.g., *Paice LLC v. Toyota Motor Corp.*, 504 F.3d 1293, 1314–15 (Fed. Cir. 2007) (stating that setting a royalty rate for patents is appropriate both as a remedy for patent infringement and for antitrust violations).

The justifications for—and objections to—these various liability-rule influences are many. The justifications for liability treatment generally focus on the presence of high transaction costs and the need to curb excessive IPR-holder power in licensing negotiations.<sup>101</sup> All three of the liability-rule trends described in the previous Part are driven by a common aversion to holdout power by IPR holders. Copyright compulsory licenses are justified as a means of preventing the exercise of market power in copyright licensing or its creation in downstream markets.<sup>102</sup> Denials of permanent injunctions in patent cases are justified as means of preventing patent trolls from exacting excessive royalties through holdup strategies.<sup>103</sup> And antitrust pressures on IPR holders to grant liability-rule access are driven by concerns over the monopoly power that can arise when IPR holders have the unfettered right to decide with whom to deal and on what terms.

The criticisms of liability rules generally focus on the risk of chronic undercompensation to IPR holders—and, hence, the risk of insufficient incentives to stimulate socially beneficial inventive or creative activity.<sup>104</sup> They also focus on the information-production value of property rules, which could be undermined in a world of increasing liability rules where intellectual-asset appropriators free-ride on the inventor or creator's information-production efforts.<sup>105</sup>

Both the justifications and criticisms usually share a common focus on the value and costs of the right-to-exclude stick in the bundle of rights. That single stick, however, can be too narrow a focus. The right to exclude often interacts with other sticks in the bundle of rights both to provide incentives to

101. See, e.g., Jane C. Ginsburg, *Creation and Commercial Value: Copyright Protection of Works of Information*, 90 COLUM. L. REV. 1865, 1925 (1990) (“The most popular current justification for compulsory licensing is the reduction of otherwise insuperable transactions costs.”).

102. See Alan M. Fisch, *Compulsory Licensing of Blacked-Out Professional Team Sporting Event Telecasts (PTSETS): Using Copyright Law to Mitigate Monopolistic Behavior*, 32 HARV. J. ON LEGIS. 403, 417–28 (1995) (discussing compulsory licenses as tools for lessening harm caused by the exercise of market power); Michael J. Meurer, *Vertical Restraints and Intellectual Property Law: Beyond Antitrust*, 87 MINN. L. REV. 1871, 1906 (2003) (“Copyright law has enacted compulsory licenses to moderate the danger that exclusive licenses can be used to create market power in downstream markets.”). *But cf.* F.M. SCHERER, *THE ECONOMIC EFFECTS OF COMPULSORY PATENT LICENSING* 84–88 (Edwin J. Elton & Martin J. Gruber eds., 1977) (suggesting that compulsory licensing is unnecessary when market power is absent).

103. See Peter Lee, *The Evolution of Intellectual Infrastructure*, 83 WASH. L. REV. 39, 115 (2008) (“Allowing liability rule protection for patented intellectual infrastructure held by trolls will help mitigate their threats of holdout.”); Mark A. Lemley, *Are Universities Patent Trolls?*, 18 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 611, 613–14 (2008) (“Hundreds of companies are engaging in efforts to capture not just the value of what they contributed to an invention, but also a disproportionate share of somebody else’s product.”).

104. See Epstein, *supra* note 10, at 62 (“[S]ystematic under-compensation during the limited life of a patent is likely to reduce the level of innovation while increasing the administrative costs of running the entire system.”).

105. See, e.g., Henry E. Smith, *Property and Property Rules*, 79 N.Y.U. L. REV. 1719, 1729 (2004) (“Ownership concentrates on the owner the benefits of information developed about—and bets placed on—the value of the asset.”).

engage in inventive and creative activity and to enable the exercise of market power. A full account of the Calabresi–Melamed issue, as applied to intellectual rights, requires analysis of the valence of intellectual rights.

#### A. *A Matrix for Valuating the Right-to-Exclude Stick*

All other things being equal and focusing just on any given intellectual creation, the owner of that intellectual creation would prefer to be allowed to refuse to license her creation unless the licensee agrees to pay the fee she requests.<sup>106</sup> This is not to say that intellectual-rights owners as a class necessarily prefer property rules to liability rules. In some contexts—for example, high-technology markets—intellectual-rights owners are licensees just as often as they are licensors.<sup>107</sup> There, the class-wide preference will depend not simply on the immediate advantages of the right to exclude to the owner of the right but on the systemic costs and benefits of the two regimes.<sup>108</sup> Conversely, in some contexts—for example, the creation of new musical compositions—there are distinct classes of creators and licensees.<sup>109</sup> There, average reciprocity of advantage is not a consideration and class-wide preference for property rules is clear—all other things being equal.<sup>110</sup>

But all other things are not equal. The inclusion of any one right in the bundle of intellectual rights necessarily affects the inclusion of other rights. From an economic perspective, intellectual rights are primarily given to induce creative and inventive activity.<sup>111</sup> Each successive stick adds to the inducement by increasing the value of the bundle.<sup>112</sup> At some point, the bundle may grant an excessive inducement—a reward that exceeds the risk-adjusted cost of creating or inventing.<sup>113</sup> At that point, the bundle of rights

106. Lemley and Weiser refer to this maxim as “Epstein’s Law,” in honor of Richard Epstein. Lemley & Weiser, *supra* note 9, at 788.

107. *See, e.g.*, Peter C. Grindley & David J. Teece, *Managing Intellectual Capital: Licensing and Cross-Licensing in Semiconductors and Electronics*, 39 CAL. MGMT. REV. 8, 10 (1997) (discussing extensive cross-licensing in electronics); David J. Teece & Edward F. Sherry, *Standards Setting and Antitrust*, 87 MINN. L. REV. 1913, 1928–29 (2003) (discussing the multiple hats worn by patentees in high-technology industries).

108. *See, e.g.*, Grindley & Teece, *supra* note 107, at 8–10 (contending that in the high-technology industry the use of licensing and cross-licensing has been necessary and beneficial).

109. In the case of the PROs, for example, there are distinct classes of songwriters, music publishers, and PROs. *See* Skyla Mitchell, *Escape from the Byzantine World of Mechanical Licensing*, 24 CARDOZO ARTS & ENT. L.J. 1239, 1252–55 (2007) (describing the complex organization of the current music-licensing regime).

110. *See id.* at 1288 (arguing that in order to protect songwriters, the compulsory license should be replaced with a right to negotiate prices, which necessarily includes a right to exclude).

111. WILLIAM M. LANDES & RICHARD A. POSNER, *THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW* 12–16 (2003). In addition to providing incentives, intellectual property rights may also help to solve coordination problems. Smith, *supra* note 9, at 1751.

112. *Cf.* LANDES & POSNER, *supra* note 111, at 12–13 (explaining that the enclosure movement in England—in which farmers, who had previously only had the right to use a common pasture, were given the right to exclude others from their pasture—increased the value of farmland).

113. *See id.* at 16–18 (describing the common phenomenon of rent-seeking in which the potential for profit greatly exceeds the cost of generating the profit).

imposes social deadweight losses and the bundle slides into a position of negative social worth.<sup>114</sup>

Louis Kaplow has developed a useful framework for evaluating what rights should be included in the bundle of patent rights.<sup>115</sup> According to Kaplow, patent and antitrust law should operate conjunctively to provide sufficient incentive—but no more—for inventive activity to take place.<sup>116</sup> There are two ways of providing incentives. Congress could either add additional years to the life of the patent, or Congress or the courts could permit the patentee to engage in certain restrictive activities (such as price-fixing with other patentees or tying together patented goods with nonpatented goods).<sup>117</sup> Kaplow refers to both the additional lifeyears and the restrictive activities as “practices.”<sup>118</sup> Each of these practices adds to the reward the patentee enjoys but also creates monopoly costs.<sup>119</sup> Kaplow argues that antitrust law and patent law should ordinarily arrange these various practices based on their patentee-reward to monopoly-loss ratio and permit them in sequence until the patentee has just enough reward to undertake the invention.<sup>120</sup>

Kaplow’s analysis is useful for appraising the appropriate sticks in the bundle of intellectual rights more generally. The right to exclude others—that stick in the bundle of IPRs that correlates with property rules—is simply one “practice” that could be included or excluded from any given bundle of intellectual rights. Whether it should be included or excluded depends on the ratio between its value in stimulating incentives to engage in inventive or creative activity and its social costs in comparison to the ratios between the same factors with respect to other practices. If the right to exclude is a significant source of incentives to authors and inventors in relation to the social costs it imposes, it should be preferred to other practices that have a comparatively inferior ratio of positive incentives and social costs.

114. *See id.* (explaining that when incentives are too high, too many individuals are willing to invest in obtaining the property right and the aggregated cost of investment exceeds the social benefit of the property right; at this point, a “deadweight social loss” is incurred).

115. *See generally* Louis Kaplow, *The Patent-Antitrust Intersection: A Reappraisal*, 97 HARV. L. REV. 1813 (1984).

116. *Id.* at 1828.

117. *Id.* at 1829–30.

118. *Id.* at 1829.

119. *See id.* at 1817 (“[T]he very purpose of a patent grant is to reward the patentee by limiting competition, in full recognition that monopolistic evils are the price society will pay.”).

120. Kaplow offers three questions one should ask in determining the ratio. First, “[h]ow much of the [r]eward is [p]ure [t]ransfer?” *Id.* at 1835. For example, if the practice mostly siphons off consumer surplus (i.e., price discrimination), it is more efficient than one that involves a restriction in output. *Id.* Second, “[w]hat [p]ortion of the [r]eward accrues to the [p]atentee?” *Id.* For example, if practices were to allow price-fixing, then the value of the reward is diluted because the patentee would have to share the monopoly profits with others. *Id.* at 1835–37. Finally, “[t]o [w]hat [d]egree [i]s this [s]ource of [r]eward an [i]ncentive?” *Id.* at 1837. Unless an *ex post* reward can be reasonably expected *ex ante*, it will not incentivize the desired inventive behavior. *Id.* at 1836.

Conversely, if the right to exclude has a relatively worse ratio than other practices, it should not be included in the relevant bundle of rights.

Suppose, for example, that the amount of incentive necessary for a particular, socially beneficial invention to occur is \$20. To simplify, assume that the twenty-year patent life is a given,<sup>121</sup> and that this confers \$10 of reward. The remaining \$10 must be made up through other “practices”—permissions to the patentee to do other things with its patents. There are any number of practices that confer value on the patentee. Permission to engage in price-fixing conspiracies would undoubtedly confer value on the patentee, but the social costs of the conspiracy would be very high in relation to the amount of reward. Say that allowing such a practice would result in an additional \$5 of reward but impose a social cost of \$10. There would be relatively little bang for the buck. That practice probably should not be allowed. Other practices might yield a more favorable reward to social-cost ratio. Say that allowing the patentee to impose downstream, vertical resale price maintenance provided a reward of \$5 with a social cost of \$2, that allowing the patentee to enter SSOs provided a reward of \$5 with a social cost of \$3, and that allowing the patentee to exclude others from the patent provided a reward of \$5 with a social cost of \$4.<sup>122</sup> In this analysis, the package of patent rights should include the rights to engage in resale-price maintenance and to enter SSOs, but not to exclude others.

Significantly, the right-to-exclude practice may not only have an inferior reward-to-cost ratio than other practices, but disallowing it from the bundle of intellectual rights may actually improve the reward-to-cost ratio of other practices, thus improving the overall welfare effects of the grant of intellectual rights. Suppose, for example, that the reason that the right to enter into SSOs is socially costly is that patentees sometimes are able to game the system and obtain extra monopoly power by virtue of having their patented technology adopted as a standard (a matter that will be considered in greater detail below).<sup>123</sup> However, that power can only be exercised in the form of a demand for supracompetitive royalties if the patentee can threaten not to license and can unilaterally set its own royalty rates. But if the right to exclude is not included in the relevant bundle of rights, then the reward from the SSO practice may shrink a bit, even while the social cost vanishes altogether.<sup>124</sup> On balance, the social gain will be pronounced since the

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121. *But see* 35 U.S.C. § 154(a)(2) (2006) (requiring a payment of fees for the grant of a twenty-year patent life).

122. For purposes of these illustrations, I am assuming that the social cost is fully externalized—in other words, that the IPR holder does not internalize any of the social cost and therefore that it does not diminish the reward.

123. *See generally infra* text accompanying notes 141–44.

124. The magnitude of the decline in social cost depends, in part, on whether both deadweight losses and wealth transfers are included in the social cost. *See* RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 7 (6th ed. 2003) (noting that some wealth transfers cause no social costs); Richard A. Posner, *An Economic Theory of the Criminal Law*, 85 COLUM. L. REV. 1193, 1195–98

increase in social welfare will far offset the loss of incentive. In that event, the interaction between the SSO practice and the right-to-exclude practice makes it desirable that the right to exclude not appear in the package.

The social desirability of including a right-to-exclude stick in the bundle of IPRs depends not merely on the effect this has on incentives, and not merely on the costs such a stick imposes on society, but on the ratio between the incentives and the costs *and* the effect that the right-to-exclude stick has on the ratio between incentives and costs as to other factors. In other words, the value and costs of the right-to-exclude stick can never be fully assessed in isolation. Everything depends on the valence of sticks in the bundle—the way that different IPRs interact to create both incentives to engage in socially desirable behavior and social costs.

This observation is really nothing more than an elaboration of the long-held view that property entitlements to exclude others must sometimes be forfeited in exchange for other, more valuable rights.<sup>125</sup> Consider, for example, the historical effect of receiving exclusive franchise protection. In exchange for exclusivity, the franchisee became a common carrier, subject to an obligation to provide service to all comers on reasonable and nondiscriminatory terms.<sup>126</sup> The franchisee thus exchanged property protection for liability protection given the assumption of another right—one that tended to confer market power.<sup>127</sup>

This is not to say that the inclusion of any stick conferring market power in a bundle of intellectual rights should lead to automatic forfeiture of property protection. Granting certain forms of market power may be a relatively efficient way to grant the reward necessary to induce inventive or creative activity. In all cases, the question should be how the right-to-

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(1985) (discussing how coercive wealth transfers are socially costly). Liability treatment of patents should lead to a diminution of both the wealth transfers and the deadweight losses. On the other hand, the reward will shrink by the amount of wealth transfer that the patentee could have captured by engaging in monopolistic holdup.

125. See, e.g., Joseph William Singer, *The Reliance Interest in Property*, 40 STAN. L. REV. 611, 674–77 (1988) (discussing how protection of the public interest can limit the right to exclude).

126. See 2 ALFRED E. KAHN, *THE ECONOMICS OF REGULATION* 8 (1988) (noting that public utilities typically have been given exclusive franchises in return for assuming common-carrier obligations). See generally Epstein, *supra* note 1, at 47 (“[I]nnkeepers and common carriers historically had a monopoly position and the obligation to take all comers at a reasonable price . . .”).

127. See H.W. Chaplin, *Limitations upon the Right of Withdrawal from Public Employment*, 16 HARV. L. REV. 555, 556–57 (1903) (discussing the duties and obligations of common carriers); Herbert Hovenkamp, *Regulatory Conflict in the Gilded Age: Federalism and the Railroad Problem*, 97 YALE L.J. 1017, 1045 (1988) (“As early as the 17th century, the common law had derived the duty to charge reasonable rates from the common carrier’s obligation to serve everyone.”); Henry Hull, *Reasonable Rates*, 15 MICH. L. REV. 478, 479 (1917) (stating that common carriers had a common law duty to make reasonable charges).

exclude stick interacts with other potential sticks in the bundle to create both rewards and social costs.<sup>128</sup> We now turn to some examples.

### B. *Applications of a Valence-Based Approach*

The primary social cost imposed by allowing the right to exclude is the holdup power it confers on the IPR holder. If the IPR holder may categorically refuse to deal with others—except upon terms to which he consents—then, in many situations, he may be able to appropriate nearly all the gains of trade from the licensee. This holdup power may or may not be “market power” in a strong sense—in the sense in which that concept is employed in antitrust law, for example.<sup>129</sup> Antitrust law is generally only concerned with the kind of market power in which a seller is able to deviate significantly from marginal-cost pricing because buyers cannot readily turn to substitutes for the seller’s goods.<sup>130</sup> Whether or not it is market power in a strong sense, it is power that can potentially both add to the reward of the IPR holder and to the social costs of allowing the relevant practice.

#### 1. *Strong Forms of Market Power*

*a. Performance-Rights Organizations.*—As noted earlier, the ASCAP and BMI PROs are pervasively regulated by an antitrust consent decree, now partially codified in a federal statute, that requires them to treat the musical-composition copyrights that they have authority to license as liability rights, and to license performance rights to all comers on reasonable terms.<sup>131</sup> A rate-setting court stands ready to set the royalty rate in the event the parties cannot agree.<sup>132</sup> This long-standing arrangement makes sense as an application of the Kaplow reward-to-cost-ratio test. Allowing copyright owners to appoint a collective licensing agent on their behalf runs obvious risks of anticompetitive behavior—the PROs clearly obtain a large amount of market power by virtue of issuing blanket licenses on behalf of millions of

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128. Ian Ayres and Paul Klemperer apply Kaplow’s ratio test to the preliminary-injunction standard and conclude that more sparing use of preliminary injunctions would be preferable. Ian Ayres & Paul Klemperer, *Limiting Patentees’ Market Power Without Reducing Innovation Incentives: The Perverse Benefits of Uncertainty and Non-injunctive Remedies*, 97 MICH. L. REV. 985, 1020–23 (1999).

129. Another, lesser form of ostensible market power are Ricardian rents, which arise when intellectual property confers a cost advantage in production, but the IPR holder sells its products into a competitive market. See Ariel Katz, *Making Sense of Nonsense: Intellectual Property, Antitrust, and Market Power*, 49 ARIZ. L. REV. 837, 867–71 (2007) (distinguishing between Ricardian rents and market power and arguing that the term “Ricardian rents” is overused at the expense of clarity).

130. RICHARD A. POSNER, *ANTITRUST LAW* 22 (2d ed. 2001); William M. Landes & Richard A. Posner, *Market Power in Antitrust Cases*, 94 HARV. L. REV. 937, 939 (1981).

131. See *supra* text accompanying notes 85–89.

132. *Id.*

copyright owners.<sup>133</sup> On the other hand, prohibiting copyright owners from employing PROs would seriously undermine the reward of the copyrights for reasons that will be discussed momentarily. To the extent that the liability treatment of copyrights that are licensed to PROs removes a substantial part of the PROs' market power, the simultaneous inclusion of a "right to enter PROs" and the removal of the right to exclude from the relevant bundle of rights may be optimal.

The PRO situation illuminates the relationship between Kaplow's ratio test and arguments about the preferability of property rules or liability rules. The typical argument in favor of liability rules is that the presence of high transaction costs may impede efficient bargaining between property owners and potential users such that a court's determination of the price for the use allows more efficient use of social resources.<sup>134</sup> The PROs, however, do not face substantial downstream transaction costs (costs in licensing performance rights to downstream users like television stations). Indeed, their very purpose is to solve a transaction-cost problem. When the Supreme Court rebuffed CBS's antitrust challenge to the ASCAP and BMI arrangements in 1979, it did so on the grounds that the transaction costs that arise from thousands of copyright owners bargaining with thousands of licensees over millions of compositions make some form of collective licensing plainly efficient.<sup>135</sup> ASCAP and BMI solve a transaction-cost problem that arises in dispersed markets where individualized bargaining is cost prohibitive. But the solution to the transaction-cost problem created another problem: it enabled the exercise of market power by the middlemen PROs. The consent decrees reflected an implicit acknowledgment of the necessary trade-off:

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133. See Howard H. Chang et al., *Some Economic Principles for Guiding Antitrust Policy Toward Joint Ventures*, 1998 COLUM. BUS. L. REV. 223, 297 ("BMI and ASCAP's repertoires jointly covered virtually all U.S. copyrighted compositions, with . . . rights to about 1 million and 3 million compositions respectively. Because of the shares of BMI and ASCAP and because the blanket licenses at issue do require price setting, . . . we would most likely find evidence of market power.").

134. See Ian Ayres & J.M. Balkin, *Legal Entitlements as Auctions: Property Rules, Liability Rules, and Beyond*, 106 YALE L.J. 703, 706 n.9 (1996) ("[L]egal scholars have interpreted Calabresi and Melamed to be saying that property rules are more efficient when transaction costs are low."); James E. Krier & Stewart J. Schwab, *Property Rules and Liability Rules: The Cathedral in Another Light*, 70 N.Y.U. L. REV. 440, 451 (1995) (summarizing the outworking of the Calabresi-Melamed principle as "[w]hen transaction costs are low, use property rules; when transaction costs are high, use liability rules"); Lemley & Weiser, *supra* note 9, at 786 ("The conventional approach that emerged from Calabresi and Melamed's classic article is that courts should rely on liability rules when transaction costs are sufficiently high that the relevant parties will not be able to reach a consensual arrangement for access to the resource in question."); Merges, *supra* note 9, at 2655 ("Ever since Calabresi and Melamed, transaction costs have dominated the choice of the proper entitlement rule, with a liability rule being the entitlement of choice when transaction costs are high.").

135. *BMI v. CBS*, 441 U.S. 1, 21-23 (1979) (discussing the efficiencies of a blanket licensing system). The Court did not find that the ASCAP and BMI arrangements, as modified by the earlier consent decrees, were per se legal. The Court simply rejected CBS's argument that the PROs' blanket licensing arrangements were per se illegal. *Id.* at 24-25.

allowing the right to participate in blanket licensing through PROs—a highly valuable right—required the abandonment of a less valuable right—the right to exclude others from the compositions through copyright property protections.<sup>136</sup>

*b. Standard Setting Organizations.*—SSOs pose unique challenges for antitrust enforcement.<sup>137</sup> SSOs are valuable tools for solving coordination problems and facilitating interconnectivity.<sup>138</sup> In principle, the goal of an SSO should be to specify the “best” standard given technological constraints and cost.<sup>139</sup> But the participants in the standard-setting process are not disinterested technocrats.<sup>140</sup> Many of them are patentees, and the standard is likely to take a path through a thicket that includes some of their own patents.<sup>141</sup> The SSO participants have an obvious interest in steering the standard through their own patents. A patentee who can quietly steer the standard through his undisclosed patents will later enjoy a powerful holdout position.<sup>142</sup> For this reason, the antitrust enforcement agencies have taken a dim view of SSO participation by firms with undisclosed patents later

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136. See RICHARD A. EPSTEIN, *ANTITRUST CONSENT DECREES IN THEORY AND PRACTICE: WHY LESS IS MORE* 32–33 (2007) (substantiating the “negative implications for the likelihood of new entry by competitors,” and remarking on the “novel challenges” of the “advent of radio”).

137. See generally Lemley, *supra* note 96, at 1937 (describing potential liability of an SSO and its members for collaborating to compel a license from an intellectual property owner); Erica S. Mintzer & Logan M. Breed, *How to Keep the Fox out of the Henhouse: Monopolization in the Context of Standards-Setting Organizations*, *INTELL. PROP. & TECH. L.J.*, November 2007, at 5 (explaining that SSOs face pressure to design licensing policies that limit patent holdup without violating antitrust rules against *ex ante* royalty discussion or negotiations); Dorothy Gill Raymond, *Benefits and Risks of Patent Pooling for Standard-Setting Organizations*, 16 *ANTITRUST* 41, 45–46 (2002) (identifying antitrust issues associated with SSOs using patent pools to facilitate contribution of complementary intellectual property); Christopher L. Sagers, *Antitrust Immunity and Standard Setting Organizations: A Case Study in the Public-Private Distinction*, 25 *CARDOZO L. REV.* 1393, 1395–97 (2004) (noting how a rule immunizing SSOs from antitrust suits may allow powerful groups to regulate their own market with little democratic process or judicial review).

138. See, e.g., Carl Shapiro, *Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard Setting*, in 1 *INNOVATION POLICY AND THE ECONOMY* 119, 136–38 (Adam B. Jaffe et al. eds., 2000) (highlighting the benefits of compatibility and standards for industry participants).

139. Gerald F. Masoudi, Deputy Assistant Att’y Gen., Antitrust Div., U.S. Dep’t of Justice, Address at Tilburg Law & Economic Center, Tilburg University: High-Level Workshop on Standardization, IP Licensing, and Antitrust (Jan. 18, 2007) (transcript available at <http://www.usdoj.gov/atr/public/speeches/220972.htm>) (“The goal of standard setting, generally speaking, is to find the best combination of technical success, cost, and time-to-market, while also delivering enough economic surplus that all parties (inventors, producers, and consumers) can share, so that the product is commercially viable.”).

140. See, e.g., Daniel A. Crane, *Technocracy and Antitrust*, 86 *TEXAS L. REV.* 1159, 1196–97 (2008) (noting that private administrative commitments “replace[] ideological struggle over antitrust norms with pragmatic problem solving, usually by technology experts”).

141. *Id.*

142. See *id.* (noting that if a patentee’s technology is adopted by an SSO, the “result [may be] . . . very substantial market power”).

adopted into the standard,<sup>143</sup> and some SSOs explicitly require participants to disclose their patents up front.<sup>144</sup>

Antitrust disclosure obligations and contractual enforcement by SSOs may guarantee that the royalties and other licensing terms will be bargained for up-front, but this merely replaces the potential for unilateral monopoly holdouts with the potential for cartelization.<sup>145</sup> As the Department of Justice and Federal Trade Commission recognized in their report on intellectual property, *ex ante* negotiations over licensing terms create a serious potential for both naked price-fixing (i.e., agreeing on downstream prices or using standard setting as a sham to cover a price-fixing agreement on royalties) and the joint exercise of market power by members of the standard-setting body.<sup>146</sup>

Empirical evidence on the behavior of SSOs suggests that while the SSO process does sometimes result in the choice of superior technologies at lower prices, it sometimes descends into horse trading or—perhaps worse—impasses between competing intellectual property owners. Case studies on the development of mobile Internet standards by the Institute of Electrical and Electronics Engineers (IEEE) and the development of DSL standards by a team at the Harvard Business School reached a number of troubling conclusions about the performance of SSOs.<sup>147</sup> SSOs often have supermajority requirements for approving new technologies, which leads to often lengthy delays in standard setting as stakeholders fight for preferred positions.<sup>148</sup> Rules that open participation in the standard-setting process to any member facilitate packing of the standard-setting committees by corporate interests who want to ensure that their technologies receive preferential treatment.<sup>149</sup> Finally, “[i]n some cases, the rules of standard-setting bodies may be

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143. The currently pending *Rambus* case, which raises such issues, is discussed below. See *infra* text accompanying notes 153–63. There is one other major enforcement action involving an undisclosed patent. See *In re Dell Computer Corp.*, No. 931-0097, 1995 FTC LEXIS 466, at \*10–11 (F.T.C. Oct. 20, 1995) (creating a consent decree under which Dell agreed not to assert patent rights and disclaimed the existence of such patents during the standard-setting process).

144. See Lemley, *supra* note 96, at 1904.

145. See Mintzer & Breed, *supra* note 137, at 5 (remarking that while holdup concerns have generated a desire for *ex ante* licensing, SSOs are wary that a collaborative process will be subject to antitrust challenges regarding collusion).

146. ANTITRUST ENFORCEMENT AND INTELLECTUAL PROPERTY RIGHTS, *supra* note 6, at 50–52. Curiously, the agency’s report refers to the potential for anticompetitive exercise of group market power as one of monopsony—buying power—as though, outside of naked collusion, the primary antitrust concern was that the SSO would artificially suppress the price of patent inputs by collective bargaining with patentees. See *id.* at 49 (noting that the most efficient standard would be the one that is the least costly to produce). To me, it seems that the much larger risk is one of group cartelization on the *selling* side, as patentees—participants in the standard-setting and patent-pooling process—horse trade favors.

147. See generally Brian J. DeLacey et al., *Strategic Behavior in Standard-Setting Organizations* (Harvard Bus. Sch. Negotiation, Org. and Mkts. Unit, Working Paper No. 903214, 2006), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=903214#](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=903214#).

148. *Id.* at 35.

149. *Id.*

successfully exploited by firms with a stake in existing or alternative technologies to block the adoption of a new standard.”<sup>150</sup> Given the difficulty in coordinating the large number of differing interests represented in SSOs, it would not be surprising if technological gerrymandering, resulting in the specification of suboptimal standards and excessive royalty exaction, occasionally occurs. Indeed, the more successful the standard in attracting industry support, the greater the opportunity for monopolistic holdup by every patentee on whose patent the standard reads.<sup>151</sup>

The FTC has addressed opportunistic standard-setting behavior by patentees in several recent, high-profile decisions. The Commission required Dell to forgo charging royalties on a patent after Dell participated in an SSO and falsely (or mistakenly) certified that it did not have any patents reading on the standardized technologies.<sup>152</sup> In a recent high-profile decision, the Commission set a maximum royalty rate that Rambus could charge for certain of its patents relating to computer memory following Rambus’s failure to disclose its patents or patent applications to an SSO in which it was participating.<sup>153</sup> The D.C. Circuit subsequently set aside the Commission’s decision, finding that the challenged acts did not constitute monopolization.<sup>154</sup> In the meantime, the Commission prohibited Negotiated Data Solutions from charging more than a one-time fee of \$1,000 for the licensing of n-Data’s NWay technology that had been adopted into an SSO’s Fast Ethernet standards.<sup>155</sup> N-Data’s predecessor in interest had promised to license its technology to all comers for the thousand-dollar fee but reneged after the promulgation of the standard.<sup>156</sup> Recently, the American Antitrust Institute filed a petition asking the FTC to take action against Rembrandt, Inc., a patent licensing company, for allegedly reneging on an agreement to license its patented technology on RAND terms if the technology was

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150. *Id.*

151. See Shapiro, *supra* note 138, at 136 (“If the standard becomes popular, each such patent can confer significant market power on its owner, and the standard itself is subject to holdup if these patent holders are not somehow obligated to license their patents on reasonable terms.”).

152. *In re Dell Computer Corp.*, No. C-3888, Decision and Order (F.T.C. July 28, 1999), available at <http://www.ftc.gov/os/1999/08/9823563c3888dell.htm>.

153. *In re Rambus, Inc.*, No. 9302, Modification of Final Order of the Commission (F.T.C. Apr. 27, 2007), available at [http://www.ftc.gov/os/adjpro/d9302/070427commopinonpetreconsideration\\_pv.pdf](http://www.ftc.gov/os/adjpro/d9302/070427commopinonpetreconsideration_pv.pdf).

154. *Rambus, Inc. v. Fed. Trade Comm’n*, 522 F.3d 456, 466–67 (D.C. Cir. 2008) (finding that the Commission failed to prove that the SSO would have standardized other technologies if it had known the scope of Rambus’s intellectual property and that there was no proof for anticompetitive harm).

155. *In re Negotiated Data Solutions LLC*, No. 051-0094, Analysis of Proposed Consent Order to Aid Public Comment (F.T.C. Jan. 22, 2008), available at <http://www.ftc.gov/os/caselist/0510094/080122analysis.pdf>.

156. *Id.*

adopted in the Advanced Television System Committee's standards for digital television broadcasting.<sup>157</sup>

Much of the discussion about these SSO holdup cases has been about whether antitrust law should impose an obligation on parties participating in SSOs to disclose their patents or precommit to RAND licensing before the standard is set.<sup>158</sup> The D.C. Circuit's rejection of such an obligation in *Rambus* casts doubt on antitrust law's effectiveness in this area.<sup>159</sup> Nonetheless, the reward-to-cost-ratio test could be usefully applied as a matter of patent law. Participating in standard-setting activities is a valuable right, but it is also one that tends to inflate the value of one's own patents.<sup>160</sup> Requiring premature disclosure of patents or patent applications also has significant drawbacks.<sup>161</sup> Instead, the optimal solution may be to treat the right to participate in standard setting as inconsistent with the right to exclude. Once exercised, the right to participate in standard-setting activities would commit the patentee to liability-rule treatment for any patents that read on the adopted standard.<sup>162</sup>

Such a rule would undoubtedly have some negative effect on the value of the right to participate in standard-setting activities. Some patentees might be reluctant to engage in standard setting if that meant surrendering their right to unilaterally set the price of any technologies adopted by the SSO.<sup>163</sup> Yet the proper question is whether, on balance, the composite of rights creates a better reward-to-cost ratio than the alternative. It would take a very large reduction in the reward of participating in SSOs to offset the cost that comes from patentees engaging in post hoc holdup based on previously undisclosed patents or discarded commitments to license on RAND terms.

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157. Request for Investigation of Rembrandt, Inc. for Anticompetitive Conduct that Threatens Digital Television Conversion from Albert A. Foer, President, Am. Antitrust Inst., to Donald Clark, Sec'y, Fed. Trade Comm'n (Mar. 26, 2008) (on file at <http://www.ftc.gov/os/aa1.pdf>) [hereinafter Investigation of Rembrandt].

158. See, e.g., ANTITRUST ENFORCEMENT AND INTELLECTUAL PROPERTY RIGHTS, *supra* note 6, at 55 (stating that antitrust enforcement agencies do not consider antitrust law to require SSOs to adopt any particular policy with respect to patent disclosure or RAND commitments).

159. See *infra* text accompanying notes 225–29.

160. See *supra* note 142 and accompanying text.

161. See ANTITRUST ENFORCEMENT AND INTELLECTUAL PROPERTY RIGHTS, *supra* note 6, at 42–43 (reporting on comments by panelists to the effect that mandatory disclosure requirements can slow down standards development and impose costs on SSO participants that may cause some to withdraw from the SSO).

162. See *Qualcomm, Inc. v. Broadcom Corp.*, 548 F.3d 1004, 1015, 1026 (Fed. Cir. 2008) (holding that a party, who participated in an SSO without disclosing the existence of its patent in violation of the SSO's disclosure policies, lost the right to enforce the patent against an infringer implementing the standardized technology).

163. Significantly, Rambus withdrew from the JEDEC SSO after its outside patent counsel advised Rambus that, in light of the FTC's consent decree with Dell requiring Dell to license certain patents on a royalty-free basis after Dell denied their existence during the standard-setting process, "there should be 'no further participation in any standards body . . . do not even get close!'" *In re Rambus, Inc.*, No. 9302, Opinion of the Commission at 44–45 (F.T.C. Aug. 2, 2006), available at <http://www.ftc.gov/os/adjpro/d9302/060802commissionopinion.pdf>.

On balance, the trade-off between an unfettered right to engage in standard setting and liability-rule treatment of any covered patents may be optimal.

*c. Contractual Tying.*—Participation in PROs and SSOs are examples of economic rights whose reward to social cost ratio arguably improves when the right to exclude is removed from the bundle. Hence, a strong case for liability-regime treatment can be made for patentees who participate in PROs or SSOs. Contractual tie-ins between patented and nonpatented goods provide a counterexample. With tie-ins, the social reward-to-cost ratio worsens when the right to exclude is removed from the bundle.<sup>164</sup> Hence, subjecting patents that are used as tying goods to liability regime treatment is a decidedly suboptimal solution to the problem of market power in patent tie-ins.

Contractual<sup>165</sup> tie-ins between patented and nonpatented goods are common in many industries and the subject of much antitrust litigation.<sup>166</sup> In *Illinois Tool Works Inc. v. Independent Ink, Inc.*,<sup>167</sup> the Supreme Court reversed its long-standing presumption that the presence of a patent in the tying market conclusively satisfies the requirement that the plaintiff prove sufficient market power to establish an anticompetitive tie.<sup>168</sup> Following *Independent Ink*, plaintiffs must prove that the defendant has market power in the tying market in all cases, whether or not the defendant has a patent in that market.<sup>169</sup>

The economics of tying relationships are complex and in a state of some dispute in the academic literature. To provide a brief sketch, early Supreme Court decisions found that tie-ins threatened to leverage the defendant's monopoly power in one market—the tying market—to a second market—the tied market.<sup>170</sup> Chicago School scholars and cases refuted the “leverage

164. See *infra* text accompanying notes 185–86 (arguing that if one accepts price discrimination as output enhancing, removal of the right to exclude diminishes social welfare; if, on the other hand, one accepts price discrimination as output diminishing, removal of the right to exclude would be pointless).

165. This illustration does not consider the separate question of technological tie-ins, which raise a different set of issues. See *United States v. Microsoft Corp.*, 253 F.3d 34, 84–97 (D.C. Cir. 2001) (noting that a case involving technological integration of the added functionality of Internet Explorer into Microsoft's Windows operating systems has no close parallel in antitrust cases and criticizing the application of per se tying rules).

166. See, e.g., 1 HOVENKAMP, JANIS & LEMLEY, *supra* note 14, § 21.3f1–.3f3 (analyzing the different approaches courts have historically taken in applying the patent “misuse” doctrine and antitrust law to tying cases).

167. 547 U.S. 28 (2006).

168. See *id.* at 31 (concluding that because Congress amended the Patent Act in 1988 to eliminate the market-power presumption in patent cases, the presumption should not survive as a matter of antitrust law).

169. *Id.* at 146.

170. See, e.g., *Times-Picayune Publ'g Co. v. United States*, 345 U.S. 594, 611 (1953) (“[T]he essence of illegality in tying agreements is the wielding of monopolistic leverage; a seller exploits his dominant position in one market to expand his empire into the next.”).

fallacy,” arguing that the monopolist could not exact a monopoly profit from the tied market without eroding its monopoly profit in the tying market.<sup>171</sup> Since there was only one monopoly profit to be earned, the Chicago School posited that a different explanation than monopoly leverage must account for tie-ins.<sup>172</sup> The emergent explanation was that firms tie in order to engage in price discrimination.<sup>173</sup> For example, if IBM required buyers of its patented computers to purchase its punch cards also, it could engage in metering, thereby charging a higher effective price for the use of computers and punch cards to more intensive users who tend to be less price sensitive than less intensive users.<sup>174</sup> Chicagoans view price discrimination as likely to be output enhancing under many circumstances and output neutral at worst.<sup>175</sup>

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171. See ROBERT H. BORK, *THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF* 229 (1978) (reasoning that because a monopolist who holds monopoly positions in both manufacturing and retailing, for instance, still faces the same consumer demand and costs at both levels, there is no incentive to gain a second monopoly that is vertically related because there is no additional monopoly profit to be taken); Ward S. Bowman, Jr., *Tying Arrangements and the Leverage Problem*, 67 *YALE L.J.* 19, 20–21 (1957) (arguing that because a monopolist cannot necessarily maximize his monopoly power by imposing additional restrictions on customers, any sacrifice in terms of return on the tying product must be more than compensated by the increased return on the tied product); Aaron Director & Edward H. Levi, *Law and the Future: Trade Regulation*, 51 *NW. U. L. REV.* 281, 290 (1956) (asserting that competitive firms cannot impose additional coercive restrictions to increase their monopoly power without also losing the advantage of the original power). The one-monopoly theory also appears in the “Harvard School” Areeda–Hovenkamp antitrust law treatise. See 3A PHILLIP E. AREEDA & HERBERT HOVENKAMP, *ANTITRUST LAW* ¶ 756b2, at 13–14 (2d ed. 2002) (elaborating that as long as outputs of all other stages are competitively priced and there are no integration economies, the optimal monopoly profit is gained from the sale of an end product, and integration and monopolization of a prior stage will have no effect on profits, prices, or outputs).

172. See, e.g., 3A AREEDA & HOVENKAMP, *supra* note 171, at 55–56 (criticizing indulgence in the leverage fallacy and contending that contractual tie-ins should be properly understood as profit-maximizing techniques, not as leveraging devices).

173. See, e.g., WARD S. BOWMAN, JR., *PATENT AND ANTITRUST: A LEGAL AND ECONOMIC APPRAISAL* 55–56, 118 (1973) (explaining tying arrangements as facilitating metering and the charging of differential, effective prices).

174. See Bowman, *supra* note 171, at 23–24 (describing a metering device in connection with a button-stapling machine and noting that the use of a tie-in sale as a counting device is consistent with the facts of a large number of tying cases, including punch cards tied to computers); Director & Levi, *supra* note 171, at 292 (opining that the IBM practices can be best explained as a method of charging different prices to different customers rather than as an extension of monopoly); see also David S. Evans & Michael Salinger, *Why Do Firms Bundle and Tie? Evidence from Competitive Markets and Implications for Tying Law*, 22 *YALE J. ON REG.* 37, 50 n.58 (2005) (citing sources in economic journals for initial economic discussion and explicit modeling of tie-in sales).

175. See, e.g., BORK, *supra* note 171, at 398 (suggesting that two-price systems tend to increase output and that it is “very probable” that the relative output effects of price discrimination and nondiscrimination are “at worst indeterminate”); BOWMAN, *supra* note 173, at 118 (opining that price discrimination “can be socially as well as privately ‘efficient’”). Price discrimination is perhaps the best way that intellectual property rights owners have to recover the high fixed costs of creating information. See CARL SHAPIRO & HAL R. VARIAN, *INFORMATION RULES: A STRATEGIC GUIDE TO THE NETWORK ECONOMY* 299 (1999) (describing and recommending personalized pricing, versioning, and group pricing as forms of price discrimination that can help recover the high fixed costs of creating information). To be fair, the Chicago School never described price discrimination as an unqualified good. See POSNER, *supra* note 124, at 127–28 (describing welfare consequences of imperfect price discrimination as indeterminate or potentially negative).

Post-Chicagoans have largely accepted the price-discrimination explanation for tie-ins but have questioned the Chicago School assumption that price discrimination tends to be output maximizing.<sup>176</sup> Thus, today there is widespread agreement that patent tie-ins often exist in order to price discriminate but widespread disagreement as to whether this fact is a reason to think well or ill of tie-ins.

Now, consider the effect of trying to solve the Chicago/post-Chicago impasse by treating contractual tie-ins as a reason to impose liability-regime treatment on tying patents. In this scenario, whenever a patentee offered to sell a patented good subject to the buyer's agreement to buy nonpatented goods from the seller, the patentee would lose its right to exclude others from the patent. There are two possible ways of implementing such a loss of the right to exclude. Under a "weak" version, the patentee could continue to sell its patented and nonpatented goods at whatever price the market would bear but could not enjoin rivals from infringing the patent. Instead, it could only collect a reasonable royalty, as determined by some objective third party (be it a court or administrative tribunal). Under the "strong" version, the patentee would effectively become subjected to an obligation to sell the tied goods to all comers and subject to judicial or administrative rate regulation for the price of the tied products.

Either way, liability-regime treatment would thwart the patentee's ability to use contractual tie-ins to price discriminate. Courts or administrative agencies that are called on to set royalty rates for patents (and, by extension, the price for goods whose value comes largely from a patent) cannot engage in the sort of cost-plus-reasonable-profit-based rate regulation that characterizes rate-regulated, brick-and-mortar industries.<sup>177</sup> Simply allowing a firm to recover the sum of its sunk capital costs and its marginal costs of production for any particular invention would not be remunerative since for every invention that succeeds there tends to be many others that fail.<sup>178</sup> Rate regulators are ill equipped to factor in an appropriate risk

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176. See, e.g., Brief of Professors Barry Nalebuff et al. as Amici Curiae in Support of Respondent at 17–18, *Ill. Tool Works Inc. v. Indep. Ink, Inc.*, 547 U.S. 28 (2006) (No. 04-1329), 2005 WL 2427646, at \*17–18 (arguing that while the "predominant explanation" for tying requirements is price discrimination via metering, such metering will usually lead to reductions in consumer welfare and is inefficient); Brief of Professor F.M. Scherer as Amicus Curiae in Support of Respondent at 17, *Ill. Tool Works Inc.*, 547 U.S. 28 (No. 04-1329), 2005 WL 2427642, at \*17 (contending that price discrimination reduces output and decreases overall consumer welfare).

177. See Ariel Katz, *Making Sense of Nonsense: Intellectual Property, Antitrust, and Market Power*, 49 ARIZ. L. REV. 837, 859 (2007) (contending that one reason the price of intellectual property must deviate from marginal cost is due to a high risk of failure); Mark A. Lemley, *Property, Intellectual Property, and Free Riding*, 83 TEXAS L. REV. 1031, 1053–54 (2005) (discussing the difference in marginal cost of intellectual property and tangible goods, and the resulting difficulty in pricing).

178. For example, it is well known that only a small fraction of new drugs invented by pharmaceutical companies ever reach the market. See Michael A. Carrier, *Two Puzzles Resolved: Of the Schumpeter–Arrow Stalemate and Pharmaceutical Innovation Markets*, 93 IOWA L. REV.

adjustment for investments as speculative as intellectual property.<sup>179</sup> The few available examples from antitrust rate courts suggest that comparability to external benchmarks is the chief guiding principle.<sup>180</sup> The Copyright Royalty Board also relies principally on external benchmarks in setting rates pursuant to its statutory function.<sup>181</sup>

Mere uniformity in the level of the patent royalty rate (or the price of the patented good) would not itself destroy the patentee's power to engage in price discrimination. The price-discriminatory effect of contractual tie-ins comes not from selling the patented product at different prices based on variances in the buyers' demand elasticities but rather from lowering the price of the patented product and increasing the price of the nonpatented product.<sup>182</sup> This allows the patentee to charge higher prices to intensive, price-inelastic users than to nonintensive, price-elastic users. What would destroy the patentee's power to engage in price discrimination would be having to share its patented technology with rivals.<sup>183</sup> In that event, the rivals could destroy the patentee's ability to require customers to purchase from the patentee in the aftermarket by offering the patented good untied. Similarly, if the rate regulator did not require licensing of the patented product to rivals but instead directly rate regulated the two products, it is unlikely that the patentee would be able to charge a supracompetitive price in the aftermarket. A rate regulator setting a rate for a physical good whose value did not arise from intellectual property rights would presumably peg prices to costs.<sup>184</sup>

The upshot would be the patentee's loss of a primary reward: engaging in contractual tying. Whether curtailing the patentee's ability to engage in price discrimination would improve or worsen the social-cost factor depends on one's views of the general welfare effects of second-degree price

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393, 419 (2008) (reporting the aggregate rates of four studies showing that 18% of drugs reach the market at the Phase One clinical stage, 30% at Phase Two, and 57% at Phase Three).

179. See *infra* text accompanying notes 237–38 (discussing the inherent problems with valuing intellectual property).

180. See, e.g., *United States v. BMI*, 426 F.3d 91, 94 (2d Cir. 2005) (“A rate court’s determination of the fair market value of the music is often facilitated by the use of benchmarks—agreements reached after arms’ length negotiation between other similar parties in the industry.”).

181. *In re* Determination of Rates and Terms for Preexisting Subscription Servs. and Satellite Digital Audio Radio Servs., No. 2006-1 CRB DSTRA 1, 17 (U.S. Copyright Royalty Judges 2006), available at <http://www.loc.gov/crb/proceedings/2006-1/sdars-final-rates-terms.pdf>.

182. See Joseph Gregory Sidak, *Debunking Predatory Innovation*, 83 COLUM. L. REV. 1121, 1127–31 (1983) (explaining how contractual tie-ins can be used to price discriminate by increasing the price of complementary components and reducing the price of the primary product).

183. See 1 HOVENKAMP, JANIS & LEMLEY, *supra* note 14, § 21.2g (discussing the use of technological tie-ins to advance the distribution of a newly innovated product).

184. This analysis assumes that the patent does confer market power. Price discrimination in competitive markets is also possible. See LANDES & POSNER, *supra* note 111, at 377 (noting that intellectual property is often priced discriminatorily even in markets where it has economic substitutes). However, if the patent confers no market power, there is no reason to remove the patentee's property rights since the right to tie and the right to exclude have no logical relationship.

discrimination.<sup>185</sup> If one accepts the Chicago School view that price discrimination is generally output enhancing, then liability treatment for tying patents would actually diminish social welfare. The reward side would decrease while the cost side actually increased. If one accepts post-Chicago accounts that price discrimination often decreases output, then it is rather pointless to try to discipline patentees by subjecting them to a liability regime when they use their patents to tie in order to price discriminate.<sup>186</sup> The appropriate response would be to prohibit tying, not to rate regulate it.

This analysis shows that removing the right to exclude from the IPR bundle of rights is not a one-size-fits-all solution to the problem of market power in intellectual property. Again, the proper analysis requires examining the interaction of the different rights in the bundle. In some cases—as with PROs and SSOs—the valence of the rights lends itself to liability treatment. In other cases, as with contractual tying, it does not—even if one concludes that a market-power problem is presented.

2. *Weak Forms of Market Power.*—The three previous examples—SSOs, PROs, and contractual tie-ins—involved uses of intellectual property that have traditionally been regulated by antitrust law because of the presence of strong forms of market power. However, the focal point for much of the recent debate over property or liability treatment for intellectual property involves “patent trolls,”<sup>187</sup> who typically do not have the sort of market

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185. Second-degree price discrimination is differential pricing based on the use of a complementary product. See John E. Kwoka, Jr., *Output and Allocative Price Efficiency Under Second-Degree Price Discrimination*, 22 *ECON. INQUIRY* 282, 284–85 (1984); Richard A. Posner, *Vertical Restraints and Antitrust Policy*, 72 *U. CHI. L. REV.* 229, 235–36 (2005); Barry Nalebuff, *Bundling, Tying, and Portfolio Effects* 78 (DTI Econ. Paper No. 1, 2003), available at <http://www.berr.gov.uk/files/file14774.pdf> (all discussing ambiguous welfare effects of second-degree price discrimination).

186. Kaplow notes that it may be sensible to permit patentees to engage in price discrimination even if the net effect of the practice (on the denominator, or cost side, of the ratio) is negative because the discrimination results in a reduction of output. This is because the negative effect on the cost side may be relatively small compared to other monopolistic practices even while the benefit on the reward (numerator) side is large. Kaplow, *supra* note 115, at 1833, 1874–78. This is an argument in favor of allowing the price-discrimination stick in the bundle of rights. If one concludes that price discrimination is, on balance, socially harmful, it would not make sense to use liability-rule treatment to control practices that result in price discrimination. The preferable course would be simply to prohibit those practices.

187. See generally John M. Golden, “Patent Trolls” and Patent Remedies, 85 *TEXAS L. REV.* 2111, 2112–13 (2007) (explaining that those who believe patent law has “overleaped its bounds” often blame patent trolls, then attempting to define the term); Lemley, *supra* note 103, at 611 (criticizing universities that act as patent trolls); Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 *TEXAS L. REV.* 1991, 2008–15 (2007) (lamenting that the threat of injunction creates holdup problems even when patent trolls own a patent that covers only a small piece of the product); Gerard N. Magliocca, *Blackberries and Barnyards: Patent Trolls and the Perils of Innovation*, 82 *NOTRE DAME L. REV.* 1809, 1812–13 (2007) (paralleling the patent troll phenomenon with the nineteenth century “patent shark” episode, showing that some patents are more vulnerable than others and suggesting that policy makers can learn from earlier generations by not focusing solely on the problem of opportunistic licensors).

power that counts in an antitrust sense.<sup>188</sup> Patent trolls are firms that aggregate patents for technology that they usually did not themselves create and do not themselves use, but for which they seek to exact royalty payments from commercial users.<sup>189</sup> Patent trolls usually do not possess market power in a strong sense because they aggregate portfolios of patents that are either unrelated to one another or, at most, complements.<sup>190</sup> Indeed, patent trolls are often criticized for seeking royalties on patents for which there are no ready substitutes, which puts them in the position of being able to exact royalty payments that exceed the fair value of the patented technology (more on this in a moment).<sup>191</sup> Since the aggregated patents do not compete with each other, their aggregation does not confer market power in an antitrust sense.<sup>192</sup>

Yet, patent trolls stand accused of having unfair—or worse, socially costly—bargaining power in negotiations with potential licensees. This undue power is said to arise from the troll’s practice of waiting to announce its presence until firms have unknowingly adopted the troll’s technology in a complex system—a computer chip, for example.<sup>193</sup> By this point, the infringer has made irreversible investments that assume the use of the troll’s technology.<sup>194</sup> Further, the trolls and commercializers supposedly have asymmetrical incentives, since trolls are only interested in exacting payments whereas commercializers often resolve infringement disputes with other commercializers through cross-licensing arrangements.<sup>195</sup>

Troll defenders counter that trolls are socially useful intermediaries between small inventors and commercialization.<sup>196</sup> Small inventors may not have the resources to engage in detecting infringers, licensing negotiations,

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188. See POSNER, *supra* note 124, at 197–98 (“[M]ost patents confer too little monopoly power to be a proper object of antitrust concern. Some patents confer no monopoly power at all.”).

189. See Lemley, *supra* note 103, at 613 (discussing the troll problem and the increase in patent litigation by nonmanufacturing entities).

190. See, e.g., Acacia Research, About Us, [http://www.acaciaresearch.com/aboutus\\_main.htm](http://www.acaciaresearch.com/aboutus_main.htm) (listing a patent holding company’s broad portfolio of patents); see also Magliocca, *supra* note 187, at 1816–17 (describing the typical process by which patent trolls assemble patent portfolios).

191. See, e.g., Magliocca, *supra* note 187, at 1828–29 (noting that a troll need not have a particularly valuable part of a complex product because of the cost of redesigning the product).

192. See generally Landes & Posner, *supra* note 130, at 979–80 (defining market power as the potential to compete, not simply market share).

193. Lemley, *supra* note 103, at 613.

194. *Id.*

195. Brief for Yahoo!, Inc. as Amicus Curiae Supporting Petitioner, eBay, Inc. v. MercExchange, L.L.C., 547 U.S. 388 (2006) (No. 05-130), reprinted in 21 BERK. TECH. L.J. 999, 1014 (2006) (“Entities of the latter type present an asymmetrical threat to potential defendants—unlike legitimate producers, patent trolls have no potentially infringing products of their own, and therefore no incentive to engage in the formal and informal cross-licensing agreements that resolve many claims of infringement without litigation.”).

196. See Magliocca, *supra* note 187, at 1810 n.8 (citing amici briefs defending patent trolls as beneficial for innovation); Ronald J. Mann, *Do Patents Facilitate Financing in the Software Industry?*, 83 TEXAS L. REV. 961, 1024 (2005) (“[T]rolls are serving a function as intermediaries that specialize in litigation to exploit the value of patents that cannot be exploited effectively by those that have originally obtained them.”).

or patent infringement lawsuits against infringers.<sup>197</sup> By buying up patents from small inventors, trolls may “spur innovation by investing in undercapitalized projects and reducing transaction costs for small inventors who are routinely robbed by large corporations.”<sup>198</sup>

There are close parallels between patent trolls and PROs. Both patent trolls and PROs aggregate rights by diffuse inventors or creators and lessen transactions costs by negotiating collectively on their behalf (or in their stead).<sup>199</sup> Thus, both facilitate inventive or creative activity by providing a greater reward to inventors and creators than that which might exist if the inventors and creators were required to integrate forward into distribution.<sup>200</sup> At the same time, the act of aggregating IPRs confers some market power on the aggregator. In the case of the PRO, it is strong market power—the control over substitutes.<sup>201</sup> In the case of the trolls, it is of a weaker form—a superior bargaining position by virtue of industry position, first-mover advantage, or legal savvy.<sup>202</sup> Either way, there is the potential that property treatment will permit the IPR holder to exact more than the socially optimal royalty.

As noted earlier, post-*eBay* courts seem to be denying permanent injunctions to nonpracticing patentees almost as a matter of course.<sup>203</sup> This position may very well be justified by the trade-off between the right to exclude and various patent privileges that enable trolls to exist. Patent law generally allows the free transfer of patent rights from inventors to aggregators,<sup>204</sup> permits the patentee to sit on his own invention without ever using it,<sup>205</sup> and requires no disclosure from the patentee other than that which accompanies his application to the patent office.<sup>206</sup> Collectively, these rights

197. See James F. McDonough III, Note, *The Myth of the Patent Troll: An Alternative View of the Function of Patent Dealers in an Idea Economy*, 56 EMORY L.J. 189, 210, 213 (2006) (discussing barriers to individual inventors that prevent patent infringement).

198. Magliocca, *supra* note 187, at 1810.

199. Compare McDonough, *supra* note 197, at 213–15 (describing the role of patent dealers in facilitating licensing), with *BMI v. CBS*, 441 U.S. 1, 20 (1979) (noting PROs’ aggregation and collective bargaining functions).

200. Compare McDonough, *supra* note 197, at 217 (“[I]ndividual inventors gain the value of their patent . . . the public also gains from the increase in incentives inventors have to invent.”), with *BMI*, 441 U.S. at 20 (recognizing the necessity of PRO organizations for artists to be compensated for the broadcast of their performances).

201. See *ASCAP v. Showtime/The Movie Channel, Inc.*, 912 F.2d 563, 570 (2d Cir. 1990) (noting the strong market power possessed by PROs).

202. See Magliocca, *supra* note 187, at 1814–16 (outlining the advantages patent trolls possess in bringing infringement claims).

203. See *supra* notes 69–72 and accompanying text.

204. *E.g.*, 35 U.S.C. § 261 (2006) (“Subject to the provisions of this title, patents shall have the attributes of personal property. Applications for patent, patents, or any interest therein, shall be assignable in law by an instrument in writing.”).

205. *Hartford-Empire Co. v. United States*, 323 U.S. 386, 432–33 (1945) (holding that a patentee has no affirmative obligation to use or license the patented invention).

206. Inventors have no general obligation to make other firms aware of their patents. See 37 C.F.R. § 1.56(a) (2009) (mentioning only a duty to disclose the existence of patents to the U.S.

provide substantial rewards to patentees—the downsides of prohibitions on alienation, mandatory-use requirements, and costly disclosure obligations are apparent.<sup>207</sup> Yet, this combination of rights also creates holdup power in trolls. The optimal solution may be to allow trolls to operate largely as they do, even while subjecting them to liability-rule treatment.

Viewing the “troll” issue through a reward-to-cost-ratio lens might improve the policy analysis of “troll” practices. Too often, the discourse seems to follow a “trolls good, trolls bad” rhetorical path.<sup>208</sup> As with other patent practices that potentially confer forms of market power, the “good” and “bad” categories are too vacuous to be helpful. The proper questions are (1) how large a reward does allowing the practices that enable troll behavior confer on inventors, (2) how large a social cost does troll behavior impose, and (3) would requiring the surrender of other, less valuable practices (such as the right to exclude) improve the overall reward-to-cost ratio in a way that would make the combined bundle of rights superior to alternative bundles of rights. The answers to these questions should shape the grant or denial of injunctions in cases involving nonpracticing patentees.

#### IV. Operationalizing a Valence-Based Perspective

Much of the debate over liability and property rules centers on the operationalization of the different rules. For example, property-rule advocates argue that property rules allow for more efficient dissemination of intellectual rights through voluntary exchange.<sup>209</sup> They also argue that courts and administrative agencies are ill equipped to regulate intellectual property, which liability-rule treatment requires.<sup>210</sup> This final Part addresses

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Patent Office). And, some commentators have questioned whether the patent system’s formal disclosure requirements have a meaningful effect on the dissemination of technological information. See, e.g., Ashish Arora et al., *R&D and the Patent Premium* 17 (Nat’l Bureau of Econ. Research, Working Paper No. 9431, 2003), available at <http://www.nber.org/papers/w9431> (“[P]atent disclosures appeared to have no measurable impact on information flows from other firms, and therefore no measurable effect on R&D productivity.”).

207. A rule prohibiting the free alienability of patents would stymie innovation and undermine efficiency by prohibiting the exploitation of comparative advantage in various functions such as research and development, manufacturing, and marketing. Survey, *Patents and Technology: A Market for Ideas*, THE ECONOMIST, Oct. 20, 2005. A “use it or lose it” rule would also undermine incentives to innovate by forcing inventors to prematurely expend resources on marketing patented products. 1 HOVENKAMP, JANIS & LEMLEY, *supra* note 14, § 13.2d (Supp. 2009). Market announcement requirements would be excessively costly and create an extreme amount of “noise” that could actually increase search costs. Brian Kahin, *Patents and Diversity in Innovation*, 13 MICH. TELECOMM. & TECH. L. REV. 389, 390 (2007).

208. Compare Jason Rantanen, *Slaying the Troll: Litigation as an Effective Strategy Against Patent Threats*, 23 SANTA CLARA COMPUTER & HIGH TECH. L.J. 159, 160 (2006–2007) (asserting that patent trolls “have become a major threat to market participants”), with McDonough, *supra* note 197, at 190 (arguing that “patent trolls actually benefit society”).

209. See Merges, *supra* note 9, at 2655.

210. See Merges, *supra* note 13, at 1307–17 (asserting that administrative agencies are less effective at rate setting because IPR liability rules set by Congress are not precisely tailored valuations and can become quickly outdated, and that judicially administered liability rules become

these arguments from the perspective of the interaction of various rights in the bundle. It also considers a third and related implementation consideration—the relationship between IPR rules on the right to exclude and the continuing controversy in antitrust circles over the duty to license intellectual property.

A. *Voluntary or Mandatory Liability Treatment?*

The reward-to-cost-ratio approach to the right to exclude could be implemented either voluntarily or through mandatory external direction. The voluntary approach is largely in place already. When IPR holders decide that certain rights—such as participating in patent pools, SSOs, or PROs—are more valuable than maintaining the right to exclude and that maintaining the right to exclude jeopardizes the other rights, they voluntarily abdicate the right to exclude by committing to RAND treatment.<sup>211</sup> This is what Merges gives as an example of strong property protections leading to the creation of efficient institutions of exchange.<sup>212</sup> The mandatory approach would not make liability treatment contingent on the voluntary abdication of the right to exclude. Instead, it would consider the right to exclude waived whenever the IPR holder appropriated certain other rights. For example, the rule might be that participation in an SSO automatically leads to the waiver of the right to exclude.<sup>213</sup> Another way of saying this is that a party that actively participates in an SSO is constructively and enforceably<sup>214</sup> committing to RAND treatment of any of its patents adopted into the standard, whether or not it discloses those patents.

There are good reasons for making the reward-to-cost-ratio approach mandatory and establishing it within intellectual property law as opposed to allowing opt-in liability rules in order to eschew antitrust liability or other regulatory sanctions. Relying on doctrines and remedies external to intellectual property law to establish the optimal mix of intellectual rights is

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expensive as judges must study the industry and appropriate IPR valuation ranges for each case, leading to a costly parade of experts).

211. See *supra* text accompanying notes 94–95.

212. Merges, *supra* note 9, at 2655.

213. See *supra* text accompanying notes 161–62.

214. One issue with respect to voluntary RAND commitments is whether third parties can enforce them contractually as third-party beneficiaries. See Crane, *supra* note 91, at 3–4. In at least one case, a patentee purportedly made a RAND commitment to an SSO and then, in litigation, took the position that the RAND commitment did not create enforceable third-party beneficiary rights in potential uses of the standardized technologies. See Investigation of Rembrandt, *supra* note 157 (reporting that Rembrandt, Inc.—the subject of the AAI’s complaint—has taken the position that its predecessor’s actions with respect to the ATSC SSO did not create enforceable contractual or third-party beneficiary rights). Treatment of the patents as liability rights would partially moot this third-party beneficiary issue by making the RAND commitment a mandatory rule of patent law rather than a contractual undertaking.

problematic. Antitrust law, in particular, is “heavy artillery”<sup>215</sup> with which to equilibrate intellectual rights. Antitrust suffers from a “splitting” tendency. Either it identifies a practice as a “violation” of the relevant legal norm—in which case it subjects the practice to deterrence-oriented sanctions including treble damages<sup>216</sup> and (in extreme cases) criminal punishment<sup>217</sup>—or it immunizes the practice altogether.<sup>218</sup> There is no middle ground in which a practice can be traded-off against another practices to achieve a socially optimal balance.

An example of this is the D.C. Circuit’s treatment of the FTC’s challenge to Rambus’s participation in the JEDEC SSO.<sup>219</sup> The FTC determined that Rambus should be compelled to license certain of its computer-memory patents on RAND terms (as set by the FTC in a separate order on remedy)<sup>220</sup> because its participation in JEDEC without disclosure of its patents and patent applications gave Rambus a monopolistic holdout position after the standard was irretrievably adopted.<sup>221</sup> This was a sensible and generally nonpunitive<sup>222</sup> transition from property rules to liability rules. Significantly, Rambus was not prohibited from future participation in SSOs, which would have eliminated a higher value right (participating in SSOs) in order to protect a lower value right (the right to unilaterally set royalty

215. *See, e.g.*, *Sheridan v. Marathon Petroleum Co.*, 530 F.3d 590, 595 (7th Cir. 2008); *United States v. Brown Univ.*, 5 F.3d 658, 680 (3d Cir. 1993) (both referring to federal antitrust law as “heavy artillery”).

216. 15 U.S.C. § 15 (2006).

217. *Id.* § 2.

218. *See id.* § 17 (making antitrust laws inapplicable to labor organizations); *id.* § 37 (dictating that people “negotiating, issuing, participating in, implementing, or otherwise being involved in the planning, issuance, or payment of charitable gift annuities or charitable remainder trusts shall have immunity from suit under the antitrust laws”).

219. *See Rambus, Inc. v. Fed. Trade Comm’n*, 522 F.3d 456, 462–69 (D.C. Cir. 2008) (acknowledging that although Rambus may have engaged in deception, the alleged deception was not anticompetitive and therefore did not violate antitrust laws).

220. *In re Rambus, Inc.*, No. 9302, Order Granting in Part and Denying in Part Respondent’s Petition for Reconsideration of the Final Order and Granting Complaint Counsel’s Petition for Reconsideration of Paragraph III.C of the Final Order, at 2–3 (F.T.C. Apr. 27, 2007), *available at* <http://www.ftc.gov/os/adjpro/d9302/070427commorderreconsideration.pdf>.

221. *In re Rambus, Inc.*, No. 9302, Opinion of the Commission, at 118 (F.T.C. Aug. 2, 2006), *available at* <http://www.ftc.gov/os/adjpro/d9302/060802commissionopinion.pdf>.

222. There was a slightly punitive aspect to the Commission’s decision, which arose from the inherent difficulty in establishing the but-for market rate for Rambus’s patents. The Commission found that “[t]here [was] no direct evidence as to what royalty rates would have resulted from *ex ante* SDRAM negotiations among the parties had Rambus not engaged in the unlawful conduct.” *In re Rambus, Inc.*, No. 9302, Final Order, at 17 (F.T.C. Feb. 5, 2007), *available at* <http://www.ftc.gov/os/adjpro/d9302/070205opinion.pdf>. So, the Commission considered the range of royalties that Rambus might have been able to negotiate in the but-for world and entered an injunction prohibiting Rambus from charging a royalty rate higher than prescribed rates at the lower end of the assumed range. *Id.* at 22. This effectively forced Rambus to internalize the costs of the uncertainty that it created by failing to disclose the patents.

rates).<sup>223</sup> Instead, the Commission functionally treated the right to participate in the SSO without disclosing its patents as interdependent with the right to exclude.<sup>224</sup>

The D.C. Circuit, however, set aside the Commission's decision based on antitrust formalities. The court determined that even if Rambus acted deceptively and was able to charge higher royalties as a result, the injury to consumers did not result from a monopolistic practice.<sup>225</sup> The injury resulted from JEDEC's missed opportunity to bargain *ex ante* for a RAND commitment or a particular royalty rate, which did not affect the competitive functioning of any relevant market.<sup>226</sup> Ergo, no antitrust "violation."<sup>227</sup>

It is questionable whether the D.C. Circuit's reasoning was correct,<sup>228</sup> but that is beside the point. Antitrust law, even properly applied, is not

223. The Commission enjoined Rambus from making misrepresentations or omissions to SSOs, required full compliance with SSO disclosure requirements, and generally enjoined Rambus from doing anything that would lead an SSO to adopt a standard reading on a Rambus patent without being aware of the Rambus patent. *Id.* at 4–5.

224. Having found Rambus liable, the Commission was then faced with the difficult matter of specifying a future-oriented remedy that would prevent Rambus from charging a higher royalty rate than it could have negotiated if it had disclosed its patents during the standard-setting process. *Id.* The Commission considered the range of royalties that Rambus might have been able to negotiate in the but-for world and entered an injunction prohibiting Rambus from charging a royalty rate higher than prescribed rates at the lower end of the assumed range. *Id.* at 22. The European Commission brought a Statement of Objections against Rambus based on the same conduct and has now disseminated for public comment a proposed settlement agreement whereby Rambus would, for five years, cap its royalty rates for products compliant with the JEDEC standards. See Press Release, European Commission, Antitrust: Commission Market Tests Commitments Proposed by Rambus Concerning Memory Chips (June 12, 2009) (on file at <http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/09/273>).

225. See *Rambus, Inc. v. Fed. Trade Comm'n*, 522 F.3d 456, 466 (D.C. Cir. 2008) (“[A]n otherwise lawful monopolist’s end-run around price constraints, even when deceptive or fraudulent, does not alone present a harm to competition in the monopolized market . . .”).

226. *Id.*

227. *Id.* at 466–67.

228. The court relied heavily (and arguably improperly) on *NYNEX Corp. v. Discon, Inc.*, 525 U.S. 128 (1998), a case in which a rate-regulated telephone service provider allegedly cheated on its rate regulators by paying inflated fees to a telephone-switching-equipment service provider, which allowed it to justify higher prices to the rate regulator, and then accepted secret kickbacks from the switching company. *Rambus*, 522 F.3d at 464–65. In *NYNEX*, there was deception and resulting consumer injury, but the consumer injury did not result from the diminished competitiveness of any market. See *NYNEX*, 525 U.S. at 136 (“[C]onsumer injury naturally flowed not so much from a less competitive market for removal services, as from the exercise of market power that is *lawfully* in the hands of a monopolist, . . . combined with a deception worked upon the regulatory agency that prevented [it] from controlling New York Telephone’s exercise of its monopoly power . . .”). By contrast, Rambus’s power to overcharge licensees arose from its allegedly fraudulent failure to disclose its patents. See *Rambus*, 522 F.3d at 463 (“Had Rambus fully disclosed its intellectual property, ‘JEDEC either would have excluded Rambus’s patented technologies from the JEDEC DRAM standards, or would have demanded RAND assurances, with an opportunity for *ex ante* licensing negotiations.’”). In the but-for world, there would have been a market transaction that would have driven prices lower—a pre-adoption bargain over royalties or the substitution of some other technology for Rambus’s. By preventing those market engagements from occurring, Rambus effectively thwarted the operation of a competitive market, and thus obtained monopoly power in a manner other than competition on the merits.

sufficiently flexible or adaptive to perform the necessary rights trade-off function. Nor is it sensible to hope that the threat of antitrust liability will consistently prompt IPR holders to make the voluntary trade-offs themselves. For example, Lemley's empirical study of SSO bylaws found a wide variety of practices and policies with respect to patent disclosure and RAND commitments—some of which provided very little protection against abusive patent practices.<sup>229</sup>

Treating liability rules as mandatory under specified circumstances would not necessarily curtail the role of markets or voluntary bargaining. As discussed next, the implementation of liability rules does not typically lead to the substitution of rate regulation for individualized bargaining. Rather, it leads to bargaining in the shadow of the rate regulator. Liability rules and a market-based approach to setting intellectual-rights royalties are fully compatible.

### B. Institutional Considerations

Post-*eBay*, the Federal Circuit has made two significant rulings on institutional issues. First, the court ruled that the setting of the prospective royalty rate is not a damages-setting exercise and that the patentee has no Seventh Amendment right to have the future damages award determined by a jury.<sup>230</sup> Second, the court ruled that, in setting the future royalty rate, the district court is not bound by the jury's damages determination as to the royalty rate for past infringement.<sup>231</sup> In combination, these rulings give judges setting a future royalty rate a relatively free hand, much like a conventional rate regulator.

This new role sits uncomfortably with many judges. Judges usually claim to be poor rate regulators.<sup>232</sup> The sorts of specialized, technical competence and supervisory capacity assumed by public-utilities commissions are usually absent from judicial chambers.<sup>233</sup> Judges are generally better at

229. Lemley, *supra* note 96, at 1904.

230. See *Paice LLC v. Toyota Motor Corp.*, 504 F.3d 1293, 1316 (Fed. Cir. 2007), *cert. denied*, 128 S. Ct. 2430 (2008) (“[T]he fact that monetary relief is at issue in this case does not, standing alone, warrant a jury trial . . .”).

231. See *Amado v. Microsoft Corp.*, 517 F.3d 1353, 1361–62 (Fed. Cir. 2008) (explaining why the district court was correct in departing from the jury's royalty-rate determination).

232. See, e.g., *Pac. Bell Tel. Co. v. Linkline Commc'n, Inc.*, 129 S. Ct. 1109, 1121 (2009) (asserting that courts cannot act as rate regulators); *Arsberry v. Illinois*, 244 F.3d 558, 562 (7th Cir. 2001) (referring to rate setting as “a task [courts] are inherently unsuited to perform competently”); *In re Coordinated Pretrial Proceedings in Petroleum Prods. Antitrust Litig.*, 906 F.2d 432, 445 (9th Cir. 1990) (“The federal courts generally are unsuited to act as rate-setting commissions.”); *Berkey Photo, Inc. v. Eastman Kodak Co.*, 603 F.2d 263, 294 (2d Cir. 1979) (rejecting “judicial oversight of pricing policies [that] would place the courts in a role akin to that of a public regulatory commission”).

233. Unlike judicial chambers, public-utility commissions have the resources to develop long-term, strategic rate-setting plans. See, e.g., FED. ENERGY REGULATORY COMM'N, STRATEGIC PLAN FOR FISCAL YEARS 2006–2011 (Sept. 2006) (detailing the ways in which the Commission

deciding rights and awarding money damages for the violations of rights than at setting (and periodically updating) the prices of assets.

Further, there is a legitimate concern that no one—whether a court or an administrative body—is very good at setting rates for licensing intellectual property. RAND commitments are frequently criticized as feckless—“reasonable” is a meaningless concept to economists.<sup>234</sup> Since, as previously noted, cost-based pricing is not an option for intellectual property and benchmarking is not much better at addressing the problem of market power,<sup>235</sup> commentators often despair that RAND commitments cannot provide a workable framework for ordering IPR-laden markets.<sup>236</sup> In these visions, an IPR rate setter who arrives at the true economic value of the IPR does so only by blind chance. More usually, the rate setter systematically undervalues IPR out of conservatism or an *ex post* bias<sup>237</sup> or else defers to market benchmarks already distorted by the patentee’s excessive market power and hence systematically overvalues the IPR.<sup>238</sup>

These institutional weaknesses, however, may actually have some disguised virtues. Unlike a conventional statutory rate regulator, which must set the rate for public utilities, intellectual property royalties must only be set by a third-party institution if the licensor and licensee cannot agree on the rate. The very unpredictability and inadequacy of the institutional mechanisms available for such rate setting are a spur to bargaining between the licensor and licensee.<sup>239</sup> Further, the ambiguous directionality of the district court’s putative determination—will it err on the downside because of conservatism or on the upside in light of inflated market benchmarks—

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will promote the development of the country’s energy infrastructure and ensure competitive markets while also complying with environmental and other law).

234. See ANTITRUST ENFORCEMENT AND INTELLECTUAL PROPERTY RIGHTS, *supra* note 6, at 47 (reporting on panelists’ comments on the vacuousness of RAND commitments). Notwithstanding such criticisms, prominent economists have proposed methods for setting royalty rates pursuant to RAND commitments. See, e.g., Daniel G. Swanson & William J. Baumol, *Reasonable and Nondiscriminatory (RAND) Royalties, Standards Selection, and Control of Market Power*, 73 ANTITRUST L.J. 1, 31 (2005) (proposing the application of an efficient component-pricing rule (ECPR) as a matrix for determining RAND licensing); Joseph Farrell et al., *Standard Setting, Patents, and Hold-Up*, 74 ANTITRUST L.J. 603, 640–41 (2007) (criticizing application of the ECPR approach).

235. See *supra* text accompanying notes 177–180.

236. See, e.g., Jonathan L. Rubin, *The IP Grab: The Struggle Between Intellectual Property Rights and Antitrust: Patents, Antitrust and Rivalry in Standard-Setting*, 38 RUTGERS L.J. 509, 531 (2007) (acknowledging the belief that RAND commitments can provide a workable framework, but criticizing this view).

237. See Epstein, *supra* note 10, at 62 (criticizing the *eBay* decision as creating a risk of “systematic under-compensation during the limited life of a patent”).

238. See Lemley & Shapiro, *supra* note 187, at 2021–22 (arguing that negotiated royalties and court-awarded royalties are artificially high because of patentee holdup of defendants, which gives patent holders greater bargaining power).

239. See Merges, *supra* note 13, at 1295 (arguing that despite legislative attempts to dictate licensing terms, bargaining among private parties is ultimately a more effective way of overcoming transactional bottlenecks).

incentivizes both parties to view the district court's decision as an unappetizing risk.<sup>240</sup> Hence, the framing of a liability regime for certain classes of intellectual rights does not necessarily mean that courts or administrative agencies must actually set the rates. Instead, just as with a property regime, most rate setting occurs through private bargain. The difference from the property regime is that, when a liability rule is pre-announced, the bargaining occurs in the shadow of a rate-setting court or administrative body. The rate-setter's shadow disciplines the licensing negotiation by trumping the licensor's holdout threat and setting an ill-defined, but credible, upper boundary on the price the licensor can charge.

While it is difficult to say exactly what effect the rate-setter's shadow has on the licensing bargain, it is empirically apparent that the announcement of liability-rule treatment does not lead to a substantial amount of rate-setting activity by courts or administrative agencies. In a recent study, I examined fifty-two antitrust consent decrees that contained liability-rule provisions for patents or copyrights.<sup>241</sup> In essence, these provisions required the defendants to license their patents or copyrights on reasonable and nondiscriminatory terms, and reserved jurisdiction in the court to set the rate in the event that the parties could not agree.<sup>242</sup> In only three out of fifty-two cases was the district court ever called on to set a rate.<sup>243</sup> In only one case—ASCAP—did a substantial amount of activity appear.<sup>244</sup> Between 1950 and the present, the Southern District of New York has had to set rates for ASCAP about nine times—a significant amount of activity compared to other cases, but still relatively infrequent compared to the magnitude of ASCAP's licensing activities, the length of time at issue, and the pervasiveness of the consent decree regulating ASCAP's activities.<sup>245</sup> In most cases, the bargaining over

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240. See John Kennan & Robert Wilson, *Bargaining with Private Information*, 31 J. ECON. LITERATURE 45, 86 (1993) (explaining that parties tend to avoid formal litigation where transaction costs are high and the outcome is highly uncertain).

241. Crane, *supra* note 90, at 311–12.

242. The following consent-decree language—from a rare case in which the district court actually did set a rate—is typical:

Upon application for a license under the provisions of this Section, the defendant to whom application is made shall state the royalty which it deems reasonable for the patents to which the application pertains. If the parties are unable to agree upon a reasonable royalty, the defendant may apply to this Court for the determination of a reasonable royalty, giving notice thereof to the applicant and the Attorney General, and he shall make such application forthwith upon request of the applicant. In any such proceeding, the burden of proof shall be upon the defendant to whom application is made to establish by a fair preponderance of evidence, a reasonable royalty, and the Attorney General shall have the right to be heard thereon . . . .

United States v. Am. Optical Co., 95 F. Supp. 771, 772 (S.D.N.Y. 1950).

243. Crane, *supra* note 90, at 312.

244. *Id.*

245. *Id.* at 311.

copyright or patent royalty rates happened quietly in the shadow of the rate-setting courts.

Similarly, the delegation of rate-setting authority to administrative tribunals does not necessarily stymie market-based negotiations between IPR holders and licensees. Since the 1976 promulgation of Section 801(b)(1) of the Copyright Act—which provided for Copyright Royalty Judges to “make determinations and adjustments of reasonable terms and rates of royalty payments” for the Section 112(e) and 114 compulsory licenses<sup>246</sup>—copyright judges (in various incarnations) have only had to set rates relatively infrequently.<sup>247</sup> Similarly, the DPRSRA extended the compulsory mechanical license to digital phonorecord deliveries<sup>248</sup> and delegated rate-setting authority to the Copyright Royalty Board,<sup>249</sup> but it was not until 2006 that the Board first had to entertain a rate-setting application for digital phonorecord deliveries.<sup>250</sup> For significant periods of time, compulsory licenses have been subject to bargaining in the shadow of copyright royalty judges.

Courts continue to set prospective rates in some patent infringement cases after declining to grant an injunction against future infringement.<sup>251</sup> In these cases, the defendant contests liability for infringement, and, hence, there is an issue over whether any payment for past or future infringement is even due.<sup>252</sup> Having decided that the defendant has infringed, the court may then determine past damages and a future royalty amount.<sup>253</sup> Yet even here there is space for a substantial amount of individualized bargaining. The Federal Circuit has noted that, after finding infringement but denying a permanent injunction, the district court may only set the prospective royalty rate “[s]hould the parties fail to come to an agreement.”<sup>254</sup> The preferable practice in such a case is for the district court to announce that it will not grant a permanent injunction and then set a future date for a rate-setting determination so that the parties have time and incentives to bargain

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246. Copyright Revision Act of 1976, Pub. L. No. 94-553, 90 Stat. 2541 (codified as amended at 17 U.S.C. § 801(b)(1) (2006)).

247. See Determination of Rates and Terms for Preexisting Subscription Services and Satellite Digital Audio Radio Services, No. 2006-1, available at <http://www.loc.gov/crb/proceedings/2006-1/sdars-final-rates-terms.pdf> (“There have been three statutory license proceedings involving the reasonable rate standard and the Section 801(b)(1) factors . . .”).

248. See *supra* text accompanying note 37.

249. See *supra* text accompanying notes 47–57.

250. Determination of Reasonable Rates and Terms for Noncommercial Broadcasting, 71 Fed. Reg. 1453 (Jan. 9, 2006).

251. See, e.g., *Paice LLC v. Toyota Motor Corp.*, 504 F.3d 1293, 1315 (Fed. Cir. 2007) (declining to issue an injunction, but setting a royalty rate).

252. See, e.g., *id.* at 1302 (denying defendant’s motion to overturn jury’s finding of infringement).

253. See, e.g., *id.* at 1303 (imposing a future royalty of \$25 per vehicle after the jury determined that the defendant had infringed the patent).

254. *Id.* at 1315.

efficiently toward a Pareto-optimal solution shaped by the looming shadow of the rate-setting hearing. That shadow will usually be effective to frame a private and efficient bargain.

*C. Implications for Antitrust's Refusal-to-Deal Doctrine*

Much of the argument for liability-rights treatment of intellectual rights centers on the holdup power that IPR holders enjoy under certain circumstances.<sup>255</sup> The Kaplow reward-to-cost-ratio test, suggested earlier as a basis for deciding whether to accord property or liability treatment, grew out of problems at the intersection of antitrust and patent law.<sup>256</sup> Hence, implementation of the valence-of-rights approach could have important implications for antitrust law as well. In particular, an approach to intellectual rights that analyzed the right to exclude based upon its interaction with other market-power factors could potentially moot the parallel debate over whether antitrust law should ever impose on dominant firms a duty to share their intellectual property with rivals.

As noted earlier, U.S. courts and the antitrust enforcement agencies are reluctant to impose an antitrust obligation to license intellectual property (except perhaps as a remedy for some independent violation).<sup>257</sup> This impulse reflects a long-standing aversion to requiring firms to cooperate with their competitors.<sup>258</sup> Ever since the second half of the New Deal, atomistic competition between hostile firms, inexorably moving the market toward marginal-cost pricing, has been antitrust's normative vision.<sup>259</sup> Both patent and antitrust law have assumed that a patentee has an inviolable interest in denying any cooperation to his rivals.

The valence-based approach suggested above addresses the problem from a different perspective. Rather than framing the question as whether dominant firms have a duty to deal with rivals—which suggests a negative answer—the valence-based approach asks whether an IPR holder has a right to exclude. The distinction is far from semantic. There are important differences between allowing rivals access to intellectual property and a general obligation to cooperate with competitors.

First, simply treating intellectual property as a liability regime does not compel any cooperation between the intellectual-rights holder and the

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255. See *supra* text accompanying notes 101–03.

256. See *supra* text accompanying notes 115–20.

257. See *supra* text accompanying notes 74–76. Further, as previously noted, post-*eBay* courts generally grant permanent injunctions against patent infringers who are competitors of the patentee on the theory that a competitor's infringement leads to irreversible and incalculable price erosion and diminution of brand distinctiveness. See *supra* note 69 and accompanying text.

258. See ELLIS W. HAWLEY, *THE NEW DEAL AND THE PROBLEM OF MONOPOLY: A STUDY IN ECONOMIC AMBIVALENCE* 47 (1966) (discussing the widespread support of individualistic competition throughout U.S. history).

259. See generally *id.* (discussing the victory of Brandeisian atomistic competitionists during the second half of the New Deal).

constructive licensee. Treating IPRs as rights to collect royalties requires no “dealing” between the parties—although, as noted earlier, they will usually prefer to deal than to have a court set the rate. Liability treatment avoids a number of concerns about imposing an affirmative duty to cooperate—for example, was the monopolist sufficiently cooperative, whose fault was the failure of cooperation, and was the monopolist obliged to treat its rivals as well as it treated its customers? Since the infringer appropriates the inventor’s property through self-help, these questions do not arise.

Second, there is a strong justification for treating intellectual property differently than other forms of property for liability-regime purposes. Intellectual property is a public good—one whose consumption is nonrivalrous.<sup>260</sup> The second person to use a patented technology does not diminish the inventor’s own ability to use the same technology. Copying of copyrighted material does not prevent the author from using or enjoying the work herself. This is very different from requiring the sharing of infrastructure, which the Supreme Court did in its *Terminal Railroad*<sup>261</sup> and *Otter Tail*<sup>262</sup> decisions and refused to do in its *Trinko*<sup>263</sup> decision. It is also very different than requiring a firm to enter into a joint venture with a competitor, as the Supreme Court appeared to do in the much-criticized *Aspen Skiing*<sup>264</sup> decision. Although infringement of a copyright or patent deprives the owner of economic value and can hence undermine incentives to engage in inventive or creative activity, it does not require the sharing of a physical asset where mutual entanglement and destructive interference are more likely.

Although the valence-based approach would sometimes respond to the threat of market power by curtailing an IPR holder’s right to exclude, it could also provide a line of demarcation beyond which no duty to deal in intellectual property would be imposed. Simply denying an anti-infringement injunction to dominant IPR holders under specified circumstances would not respond to a rival’s claimed need to obtain cooperation from the IPR holder.

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260. See William M. Landes & Richard A. Posner, *Indefinitely Renewable Copyright*, 70 U. CHI. L. REV. 471, 475 (2003) (describing intellectual property as a public good); Paul A. Samuelson, *The Pure Theory of Public Expenditure*, 36 REV. ECON. & STAT. 387, 387 (1954) (defining “collective consumption goods” as those goods where each individual’s consumption of the good does not diminish any other individual’s consumption of the same good).

261. See *United States v. Terminal R.R. Ass’n of St. Louis*, 224 U.S. 383, 411–12 (1912) (requiring a railroad-terminal joint venture to admit other railroads on nondiscriminatory terms).

262. See *Otter Tail Power Co. v. United States*, 410 U.S. 366, 368, 382 (1973) (affirming the grant of an injunction against a power company that refused to transmit power generated by competing utilities through its transmission system).

263. See *Verizon Commc’ns, Inc. v. Law Offices of Curtis V. Trinko*, 540 U.S. 398, 407, 415–16 (2004) (rejecting the claim that an incumbent telephone service provider violated Section 2 of the Sherman Act by breaching its statutory interconnection obligations under the 1996 Telecommunications Act).

264. See *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 586 (1985) (upholding monopolization liability for a Colorado ski resort that discontinued a multimountain pass arrangement with rival ski resort).

For example, in the *Kodak* decision, the Ninth Circuit held Kodak liable under Section 2 of the Sherman Act for refusing to make its patented photocopier replacement parts available to independent service organizations (ISOs) that wanted to compete with Kodak in the copier-servicing market.<sup>265</sup> What the ISOs claimed to need was not simply a right to access Kodak's patents but the right to purchase the physical parts.<sup>266</sup> Similarly, Microsoft operates under a consent decree that requires it to not only license certain of its IPRs but also to make available technical information to facilitate compatibility between Microsoft's operating system and competitive or adjacent products.<sup>267</sup> Approaching the problem from the perspective of intellectual property law rather than antitrust law would not address these scenarios in which the rival needs not only the right to use the dominant firm's intellectual property but also the dominant firm's cooperation to make the use of the intellectual property successful. Intellectual property would not impose a duty to deal but rather allow self-help appropriation of the dominant firm's intellectual property subject to a duty to pay for it.

Using a reward-to-cost-ratio test under an intellectual property rubric, but then flatly refusing to find an antitrust duty to deal, would thus favor dominant firms as to a category of scenarios that the intellectual property approach would leave unpoliced. Such a compromise might well be optimal. The strongest objections to a duty to deal lie in the inadvisability of compelling rival firms to cooperate. The objections to such an injunctive role for courts are familiar from the common law. Common law courts do not order specific performance of personal-service contracts because of the inherent difficulties and tensions in coercing unwilling business relationships.<sup>268</sup> Nor will they indirectly compel adherence to a personal-service contract by forbidding the ex-employee from taking other work.<sup>269</sup> Absent extraordinary

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265. *Image Technical Servs. Inc. v. Eastman Kodak Co.*, 125 F.3d 1195, 1224–28 (9th Cir. 1997).

266. *Id.* at 1207.

267. See William H. Page & Seldon J. Childers, *Measuring Compliance with Compulsory Licensing Remedies in the American Microsoft Case*, 76 ANTITRUST L.J. 239, 240 (2009) (describing developments with respect to provision III.E of a consent decree requiring Microsoft to “make available . . . communications protocols that Windows client operating systems use to interoperate [‘natively’] with Microsoft’s server operating systems”). Microsoft’s compulsory licensing and collaboration obligations in the U.S. consent decree were remedies for separate antitrust violations and not the theories of liability themselves.

268. See RESTATEMENT (SECOND) OF CONTRACTS § 367(1) (1981) (“A promise to render personal service will not be specifically enforced.”); see also *id.* cmt. a (“The refusal is based in part upon the undesirability of compelling the continuance of personal association after disputes have arisen and confidence and loyalty are gone and, in some instances, of imposing what might seem like involuntary servitude. . . . The refusal is also based upon the difficulty of enforcement inherent in passing judgment on the quality of performance.”).

269. *Id.* § 367(2) (“A promise to render personal service exclusively for one employer will not be enforced by an injunction against serving another if its probable result will be to compel a performance involving personal relations the enforced continuance of which is undesirable . . .”).

circumstances,<sup>270</sup> the common law declines to apply coercion to compel unwilling partnerships or other cooperation.<sup>271</sup> This prudential intuition is instructive for IPRs as well. Allowing self-help appropriation of intangible assets, subject to an obligation to pay, is very different from compelling cooperation or the sharing of physical assets. Courts should sometimes do the former but almost never do the latter.

## V. Conclusion

When it comes to intellectual rights, there is no *a priori* reason to prefer either property rules or liability rules. Among other things, the choice depends critically on the inclusion and scope of other sticks in the bundle of rights. The optimal solution is the inclusion of those rights that grant just enough reward to induce the inventive or creative activity at the lowest social cost possible. Sometimes, such a bundle will include the right to exclude and sometimes it will not.

The trend in the last few decades has been away from property rules and toward liability rules. This has not necessarily resulted from a conscious deliberation about the relevant rights trade-offs. Special interest legislation, undifferentiated frustration over patent trolls, and fear of antitrust liability have at least as much explanatory power. Further, the future of liability rules remains uncertain. Although apparently tipping in the direction of liability rules in *eBay v. MercExchange*, the Supreme Court remains closely divided on the propriety of liability treatment as an antidote to holdup and excessive market power.

Future scholarship, litigation advocacy, and statutory-reform initiatives would do well to identify the relevant trade-offs expressly. Every right included in the bundle has consequences for every other right. A strong propertization backlash could dim the prospects for other, more valuable rights. For example, insisting that patent trolls should continue to enjoy the

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270. The common law recognizes an exception to the prohibition on negative injunctions when the employee's services are "unique" such that her defection to a rival employer would cause extra injury to the former employer. See 27A AM. JUR. 2D *Entertainment and Sports Law* § 49 (2008) (citing 42 AM. JUR. 2D *Injunctions* §§ 129, 130 (2008)) ("An adult who has bound himself by contract to render special, unique, or extraordinary personal services or acts, or to render services which are intellectual, or peculiar and individual in their character, or who has special, unique, or extraordinary qualifications, may be restrained from breaching the negative covenant in his contract of employment not to render services to another.").

271. It is no answer to say that, just like the common law, antitrust law could award damages for breach of the duty to deal even if it would not injunctively enforce the obligation. Contractual remedies are only meant to compensate, not to coerce performance. See O.W. Holmes, Jr., *The Path of the Law*, 10 HARV. L. REV. 457, 462 (1897) (teaching that "[t]he duty to keep a contract at common law means a prediction that you must pay [a compensatory sum] if you do not keep it,—and nothing else"). By contrast, antitrust damages are meant to deter, and, hence, to coerce. *Vt. Agency of Natural Res. v. United States ex rel. Stevens*, 529 U.S. 765, 786 (2000) ("The very idea of treble damages reveals an intent to punish past, and to deter future, unlawful conduct, not to ameliorate the liability of wrongdoers." (quoting *Tex. Indus., Inc. v. Radcliff Materials, Inc.*, 451 U.S. 630, 639 (1981))).

right to exclude could result in pressures to remove the patent rights that make patent trolls possible—and, arguably, socially valuable. At the same time, there are circumstances where property protection remains optimal. Careful consideration of the valence of intellectual rights provides a sound basis for deciding whether intellectual property or intellectual liability should be preferred.