

# PATENTS, ANTITRUST, AND RIVALRY IN STANDARD-SETTING

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## I. INTRODUCTION

Voluntary consensus standard-setting is important for commercializing products that employ new technologies because technical compatibility standards are needed before new products, particularly in communications and information technology, may be brought to market. This holds for several reasons. First, digital technology products rely heavily on networking, interoperability, and compatibility. Voluntary consensus standard-setting provides an efficient solution for achieving the level of technical agreement required for such compatibility. Also, digital networks are polymorphic, so the need for digital interfaces (and the compatibility standards that make them work) increases as network functionality, the installed base of digital devices, and the volume of stored data enlarges. Another reason for increased commercial reliance on voluntary consensus standard-setting is that new entrants into technology markets routinely confront a “patent thicket.”<sup>1</sup> Through standard-setting, companies collaborate with one another to “hack [their] way through [the patent thicket] in order to

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1. Carl Shapiro, *Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard-Setting*, in 1 INNOVATION POLICY AND THE ECONOMY 119, 121 (Adam B. Jaffe et al. eds., 2001) (describing a patent system “in danger of imposing an unnecessary drag on innovation by enabling multiple rights owners to ‘tax’ new products, processes, and even business methods”).

actually commercialize new technology.”<sup>2</sup> Yet another significant benefit of standard-setting is that it avoids marketplace “standards wars,” so it helps to forestall relinquishing a market that is about to tip to a de facto standard controlled by a dominant firm.

Not surprisingly, disputes involving standard-setting are arising with increasing frequency. The most vexing of these disputes occur when a standard is claimed to infringe one or more patents and the patent-holder, unfettered by clear legal rules or contractual commitments, demands what an adopter of the standard considers exorbitant royalties.<sup>3</sup> The threat of this kind of patent “hold-up” can stifle commerce and competition in an entire industry. Nonetheless, there is scant consensus about which “legal rules or binding contractual commitments” are most appropriate and effective for dealing with the hold-up problem.<sup>4</sup> Antitrust law governs the activities of trade associations and their participants, including associations engaged in standard-setting.<sup>5</sup> The patent laws determine the rights of patent holders, the duties of users and the uses of patented inventions, and the relief available for patent infringement.<sup>6</sup> Neither body of law is inherently well-suited to governing standard-setting. Antitrust, by tradition, is hostile toward

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2. *Id.* at 120.

3. For a patentee to make such demands, of course, requires that adopters of the standard are not able, without cost, to switch to a different standard to avoid infringing the patent. Typically, switching costs arise after adopters have made economically irreversible investments in order to implement a standard. However, given that consensus itself is usually extremely costly—standards often take years to develop—switching costs are almost always present, even if very large investments in implementation have yet to be made.

4. See generally Mark A. Lemley & David McGowan, *Could Java Change Everything? The Competitive Propriety of a Proprietary Standard*, 43 ANTITRUST BULL. 715 (1998); Mark A. Lemley, *Ten Things to Do About Patent Holdup of Standards (And One Not To)*, 48 B.C. L. REV. 149 (2007); Janice M. Mueller, *Patenting Industry Standards*, 34 J. MARSHALL L. REV. 897 (2001); Mark R. Patterson, *Antitrust and the Costs of Standard-Setting: A Commentary on Teece & Sherry*, 87 MINN. L. REV. 1995 (2003); Mark R. Patterson, *Inventions, Industry Standards, and Intellectual Property*, 17 BERKELEY TECH. L.J. 1043 (2002); David J. Teece & Edward F. Sherry, *Standards Setting and Antitrust*, 87 MINN. L. REV. 1913 (2003); Patrick D. Curran, Comment, *Standard-Setting Organizations: Patents, Price Fixing, and Per Se Legality*, 70 U. CHI. L. REV. 983 (2003).

5. See *Allied Tube & Conduit Corp. v. Indian Head, Inc.*, 486 U.S. 492, 500 (1988) (“[S]tandard-setting associations have traditionally been objects of antitrust scrutiny.”); *id.* at 505 (“[Standard-setting is] the type of commercial activity that has traditionally had its validity determined by the antitrust laws themselves.”); *id.* at 506-07 (“Indeed, . . . private standard-setting by associations comprising firms with horizontal and vertical business relations is permitted at all under the antitrust laws only on the understanding that it will be conducted in a nonpartisan manner offering procompetitive benefits . . .”).

6. See 35 U.S.C. §§ 100-376 (2000).

collaboration among competitors,<sup>7</sup> and a statutory patent grant vests in private hands an exclusive right to practice the invention claimed in a patent and to seek injunctive relief to prevent others from doing so. The threat of injunction or onerous license terms is inconsistent with the kind of widespread adoption and technical imitation ordinarily envisaged by standard-setters.

The antitrust enforcement agencies, the Antitrust Division of the Department of Justice (“DOJ”)<sup>8</sup> and the Federal Trade Commission (“FTC” or “Commission”),<sup>9</sup> recognize that “[t]he intellectual property laws and the antitrust laws share the common purpose of promoting innovation and enhancing consumer welfare.”<sup>10</sup> But, such a “common purpose” may be at too high a level of generality to be useful for resolving the contradictions between antitrust and patent law as applied to standard-setting.<sup>11</sup>

As a result of the lack of a legal framework for the analysis of patents in technical compatibility standards that encompasses competition issues, patent law has been allowed in several recent cases to preempt *sub silentio* the antitrust principles that ordinarily govern commercial relationships.<sup>12</sup> As a legal rule, ignoring antitrust law to resolve a conflict that arises when a voluntarily adopted standard infringes a patent is as unsatisfactory as

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7. Modern antitrust doctrine recognizes, of course, that some types of collaboration among rivals is procompetitive and should not be inhibited by the antitrust laws, particularly joint ventures of firms with complementary skills engaged in joint research and development. See FTC & DOJ, ANTITRUST GUIDELINES FOR COLLABORATIONS AMONG COMPETITORS 5-6 (2000), available at <http://www.ftc.gov/os/2000/04/ftcdojguidelines.pdf>. Such recognition, of course, does not negate the potential for antitrust scrutiny of conduct that resembles anticompetitive collusion.

8. Civil or criminal actions may be brought by the Department of Justice. See 15 U.S.C. §§ 1-7 (2000).

9. See generally 15 U.S.C. §§ 41-58 (2000).

10. DOJ & FTC, ANTITRUST GUIDELINES FOR THE LICENSING OF INTELLECTUAL PROPERTY § 1.0, at 2 & n.7 (1995) [hereinafter IP GUIDELINES], available at <http://www.usdoj.gov/atr/public/guidelines/0558.pdf> (citing *Atari Games Corp. v. Nintendo of Am., Inc.*, 897 F.2d 1572, 1576 (Fed. Cir. 1990) (“[T]he aims and objectives of patent and antitrust laws may seem, at first glance, wholly at odds. However, the two bodies of law are actually complementary, as both are aimed at encouraging innovation, industry and competition.”)); see also FTC, TO PROMOTE INNOVATION: THE PROPER BALANCE OF COMPETITION AND PATENT LAW AND POLICY ch. 6, at 1 (2003), available at <http://www.ftc.gov/os/2003/10/innovationrpt.pdf> (“Competition and patent policy generally work together to promote consumer welfare over time.”).

11. See Michael A. Carrier, *Unraveling the Patent-Antitrust Paradox*, 150 U. PA. L. REV. 761, 801 (2002) (arguing that “both promote welfare” is “a common denominator at such a high level as to be meaningless”).

12. See *infra* notes 73-82, 86-99 and accompanying text.

abolishing patent rights whenever the alleged infringer needs a license for the patent in order to practice a standard.

This conflict between overlapping legal regimes suggests that some accommodation by both patent law and antitrust law to the unique circumstances of standard-setting will be required if consistent legal rules—administrative, legislative, or jurisprudential—are to emerge. It is worth exploring, therefore, the patent law and antitrust principles, the modification of which would encourage procompetitive standard-setting and/or discourage anticompetitive manipulation of the standard-setting process, with consistent decision rules to apply when manipulation occurs.

Modifying patent law and antitrust principles entails at least four principal tasks. First, to identify the inherent character of voluntary consensus standard-setting that makes it a unique activity under both the patent laws and the antitrust laws. Second, to characterize the tenets of patent law to which the risk of an anticompetitive outcome is most attributable. The third is to develop an economic analysis that places the consensus-building process utilized in standard-setting in a broader market context. Finally, to identify those elements of antitrust doctrine that most inhibit standard-setting participants from engaging in activities that deter or undermine anticompetitive outcomes.

The general conclusion is that the standard-setting process depends on incentives that both patent and antitrust law can easily subvert. Thus, an overly expansive view of the entitlement created by the grant of a patent and a failure to recognize the importance of competition policy issues will impede standard-setting and, as a result, innovation. But while the patent laws cannot adopt a mantle of absolutism, neither can adjustments to existing legal doctrine be allowed to dilute the incentive to innovate. By the same token, application of the antitrust laws must reflect the unique nature of standard-setting. Unless viewed within a larger competitive environment, antitrust law risks steering standard-setters away from reaching procompetitive outcomes.

The rest of the Article proceeds as follows. The next section introduces standard-setting as a unique activity. The discussion begins with the federal statutory treatment of voluntary consensus standard-setting, and then a description of the interaction between patents and standard-setting. Next will be a discussion of the meaning of competition in the standard-setting context followed by a description of the quality of “ex post openness” as a useful principle through which to analyze the challenges of existing practices.

Section III turns to the perspective of patent law, addressing the hold-up problem first. The focus is on the incompatibility of the patentee’s right to exclude with the purposes and aspirations of standard-setting. The section

concludes with a discussion of the patent policies of standard-setting organizations that takes a critical view of the widespread use of “RAND” commitments, a promise by a patent holder to license on “reasonable and non-discriminatory terms” once a standard is adopted that necessitates infringing the patent.

Section IV focuses on standard-setting under the antitrust laws, beginning with several cases that have analyzed the liability of patent holders for conduct leading to hold-up. The discussion then moves to patent policies and looks at recent progress in exorcising “the antitrust ghost in the standard-setting machine,”<sup>13</sup> the specter of antitrust liability that frightens participants in standard-setting organizations engaged in ex ante licensing activities, i.e., exchanging information about the terms of an eventual patent license before (and as a condition of) the adoption of a standard. While antitrust analysis of standard-setting has become more nuanced over the past few years, certain antitrust-inspired restrictions continue to constrain its procompetitive potential.

The Article concludes with some brief observations on the challenge of encompassing standard-setting within the legal confines of existing law and simultaneously protecting innovation, competition, and standard-setting.

## II. STANDARD-SETTING

Standard-setting describes a diverse set of activities. The uses and purposes of standards vary,<sup>14</sup> as do the approaches and procedures applied by standard-setting organizations (“SSOs”) to adopting a standard.<sup>15</sup> Other

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13. Jeffery B. Fromm & Robert A. Skitol, *Update on the Antitrust Ghost in the Standard-Setting Machine*, IEEE MICRO, Sept./Oct. 2005, at 77, 77-78.

14. Safety standards, quality (or performance) standards, and compatibility standards differ in certain respects. See James J. Anton & Dennis A. Yao, *Standard-Setting Consortia, Antitrust, and High-Technology Industries*, 64 ANTITRUST L.J. 247, 247 (1995) (“Quality and safety standards define the design or performance characteristics that products must have either to be sold in the market . . . or to obtain ‘approval,’ ‘certification,’ or ‘listing’ by a standard-setting body . . . Interface [or compatibility] standards specify whether and how one type of product will be able to fit or communicate with other products . . .”) This Article focuses on compatibility standards.

15. See CARL CARGILL, INTELLECTUAL PROPERTY RIGHTS AND STANDARDS SETTING ORGANIZATIONS: AN OVERVIEW OF FAILED EVOLUTION, SUBMITTED TO THE DOJ & THE FTC 3 (Mar. 27, 2002), <http://ftc.gov/opp/intellect/020418cargill.pdf> (explaining that “[t]he first standardizers were trade associations,” such as the American Society for Testing Materials [now ASTM International] and American Society of Mechanical Engineers, and that “[t]he creation of standards was something that they did as a sideline”). Standard-setting organizations run the gamut from formal, accredited bodies, usually referred to as “Standards

important variables include the number and nature of SSO participants and their relationship to the various commercial markets involved. Many products or innovations could not have been commercially introduced in the absence of a standard. To be able to compete in standards-driven markets many technology companies must participate in or monitor the activities of a large number of SSOs.

Compatibility standards enable interoperability, through space and time, of a set of competing and complementary products or components. Interface standards provide compatibility by specifying physical connections or logical protocols between existing products or components. Platform standards determine the future development path for a set of complementary products to ensure dynamic, inter-temporal interoperability. These compatibility standards are critical to maximizing innovation in technology markets. Hearings convened jointly by the DOJ and the FTC in 2002 shed considerable light on how standard-setting is conducted and clarified the importance of compatibility standards in an economy dependent on information and communications technology.<sup>16</sup>

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Development Organizations” (“SDOs”), to consortia of like-minded companies with few or no formal procedures. In the U.S., SDOs are accredited by the American National Standards Institute (“ANSI”), a private body that represents the U.S. before the International Organization for Standardization (“ISO”) and the International Electrotechnical Commission (“IEC”). SDOs gain international accreditation when they are representative of the standardization activities of the SDOs’ countries and for meeting criteria for transparency, openness, impartiality, effectiveness, and balance. The terminology “SSO” is intended to be agnostic as to the precise nature of the group or association doing the standard-setting and is inclusive of SDOs as well as other forms of SSOs.

16. *See generally* Competition and Intellectual Property Law and Policy in the Knowledge-Based Economy: Hearings Before the Fed. Trade Comm’n & Dep’t of Justice (2002) [hereinafter FTC/DOJ Hearings], <http://ftc.gov/opp/intellect/>. The record of the hearings revealed that an ANSI standard can take several years to develop, in part because SDOs must adhere to ANSI policies. *Id.*; *see* AM. NAT’L STANDARDS INST., ANSI PROCEDURES FOR THE DEVELOPMENT AND COORDINATION OF AMERICAN NATIONAL STANDARDS (2002), available at <http://www.ansi.org> (follow “Library: ANSI Public Documents” hyperlink; then follow “American National Standards” hyperlink; then follow “Procedures, Guides, and Forms” hyperlink; then follow “ANS Procedures - Historical” hyperlink; then follow “anspro2002r” hyperlink). Formal standard-setting, therefore, may be too slow for the pace of innovation. Non-accredited consortia, operating under less formal consensus-making procedures, as do SDOs, emerged as a way to produce standards quickly enough to be in sync with commercial product cycles.

*A. Statutory Background*<sup>17</sup>

The National Technology Transfer and Advancement Act of 1995<sup>18</sup> requires all federal agencies and departments to carry out their policies and objectives as much as possible by using “technical standards . . . developed or adopted by voluntary consensus standards bodies.”<sup>19</sup> The law also requires federal agencies and departments to “consult with voluntary, private sector, consensus standards bodies and . . . participate with such bodies in the development of technical standards.”<sup>20</sup> The National Institute of Standards and Technology (“NIST”) is charged with creating an “implementation plan” for the coordination of public and private standards.<sup>21</sup> This legislation has been influential for the development of voluntary consensus standard-setting.<sup>22</sup>

In the Standards Development Organization Advancement Act of 2004 (“SDOAA”), Congress lessened the risk of potential antitrust liability for formal SSOs engaged in standard-setting that meet certain criteria.<sup>23</sup> The various provisions of SDOAA ensure rule-of-reason analysis in any suit under federal or state antitrust law<sup>24</sup> and de-trebling of damages if the

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17. To avoid choice of law issues, this Article restricts itself to a discussion of standard-setting activities under U.S. law, ignoring globalization and the fact that standard-setting is an international activity. The domiciliary for the IEC and the ISO, for example, is Switzerland.

18. Pub. L. No. 104-113, 110 Stat. 775 (1996) (codified as amended in scattered sections of 15 U.S.C.).

19. *Id.* § 12(d)(1), 110 Stat. at 783.

20. *Id.* § 12(d)(2), 110 Stat. at 783.

21. See NAT’L INST. OF STANDARDS & TECH., PLAN FOR IMPLEMENTATION (1996), <http://ts.nist.gov/standards/conformity/plan.cfm>.

22. See AM. NAT’L STANDARDS INST., SIGNIFICANT FEDERAL LAWS AND POLICIES, [http://www.ansi.org/government\\_affairs/laws\\_policies/laws.aspx?menuid=6](http://www.ansi.org/government_affairs/laws_policies/laws.aspx?menuid=6) (noting the National Technology Transfer and Advancement Act is “[f]oremost” among “several laws making it clear that federal agencies rely upon private voluntary standards whenever feasible” and has “a dramatic impact upon the way federal agencies do business in the standardization area”).

23. 15 U.S.C.A. §§ 4301-4305 (West 1998 & Supp. 2006). The National Cooperative Production Amendments of 1993, Pub. L. No. 103-42, 107 Stat. 117, amended the National Cooperative Research Act of 1984, Pub. L. No. 98-462, 98 Stat. 1815, by renaming it the National Cooperative Research and Production Act of 1993 and extending its provisions to joint ventures for production, including informal SSOs or consortia. The SDOAA extended the provisions of the NCRPA to formal SDOs (but not to SDO participants).

24. See 15 U.S.C.A. § 4302. “Rule-of-reason” describes a judicial antitrust standard that considers the net effect of conduct that potentially restrains competition and also provides expected competitive benefits. The rule-of-reason standard is not applied to conduct irrebuttably presumed never to yield competitive benefits, i.e., to “per se” unlawful conduct, such as price-fixing, bid rigging, or market allocation. Note that even though standard-setting

standards organization pre-notifies the DOJ and the FTC.<sup>25</sup> To benefit from the SDOAA, the policies and procedures of the SDO must comply with the due process requirements described in Circular A-119 published by the Office of Management and Budget.<sup>26</sup> OMB Circular A-119 defines voluntary consensus standards and establishes policies on federal use and development of voluntary consensus standards and on conformity assessment activities.<sup>27</sup> The circular observes that such standards “include provisions requiring that owners of relevant intellectual property have agreed to make that intellectual property available on a non-discriminatory, royalty-free or reasonable royalty basis to all interested parties.”<sup>28</sup> The express purpose of the SDOAA was to encourage disclosure and discussion of intellectual property rights and licensing terms during standard-setting proceedings.<sup>29</sup> The exclusion of SDO

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ordinarily yields expected competitive benefits, blanket application of the rule-of-reason legal standard would ignore cases of per se illegality that can arise in the standard-setting context. The SDOAA, therefore, extends rule-of-reason antitrust treatment only to SDOs engaged in SDO activities that satisfy certain standards of conduct.

25. *Id.* § 4303.

26. *Id.* § 4301(a)(8) (defining an SDO as “a domestic or international organization that plans, develops, establishes, or coordinates voluntary consensus standards using procedures that incorporate the attributes of openness, balance of interests, due process, an appeals process, and consensus in a manner consistent with the Office of Management and Budget Circular Number A-119, as revised February 10, 1998. The term ‘standards development organization’ shall not, for purposes of this chapter, include the parties participating in the standards development organization.”).

27. See OFFICE OF MGMT. & BUDGET, EXEC. OFFICE OF THE PRESIDENT, CIRCULAR NO. A-119 REVISED (1998), available at <http://www.whitehouse.gov/omb/circulars/a119/a119.html>. Section 4(a)(1) of the Circular states, “A voluntary consensus standards body is defined by the following attributes: (i) Openness. (ii) Balance of interest. (iii) Due process. (vi) [sic] An appeals process. (v) Consensus, which is defined as general agreement, but not necessarily unanimity, and includes a process for attempting to resolve objections by interested parties . . . .” Section 4(b) characterizes standards that are not voluntary consensus standards as:

(1) ‘Non-consensus standards,’ ‘Industry standards,’ ‘Company standards,’ or ‘de facto standards,’ which are developed in the private sector but not in the full consensus process. (2) ‘Government-unique standards,’ which are developed by the government for its own uses. (3) Standards mandated by law, such as those contained in the United States Pharmacopeia and the National Formulary, as referenced in 21 U.S.C. [§] 351.

28. *Id.* § 4(a). Note that “actions relating to the intellectual property policies of the standards development organization” are expressly included in the definition of “standards development activity” in the SDOAA. 15 U.S.C.A. § 4301(a)(7).

29. See H.R. REP. NO. 108-125, pt. 2 (2003) (amending Part 1 of the report, stating that “[t]he Act seeks to encourage disclosure by intellectual property rights owners of relevant intellectual property rights and proposed licensing terms. It further encourages discussion



participants from the ambit of the SDOAA, however, may have unintentionally undermined this purpose.<sup>30</sup>

Other federal legislation affecting voluntary consensus standard-setting includes the Consumer Product Safety Act, which directs the Consumer Product Safety Commission to rely upon consumer product safety standards “whenever compliance with such voluntary standards would eliminate or adequately reduce the risk of injury . . . and it is likely that there will be substantial compliance with such voluntary standards.”<sup>31</sup> Federal policy clearly encourages the private sector to engage in voluntary consensus standard-setting and directs the federal government to take advantage of such standards whenever feasible.

### *B. Patents in Standards and SSO Patent Policies*

The legal issues where patent law, antitrust, and standard-setting intersect relate to how the various SSOs engage in the process of standard-setting. Because standard-setting does not lend itself well to attempts to compartmentalize the liability of either the SSO or its participants by ownership structure or agreement, it is helpful to consider together conduct by the SSO and its participants.<sup>32</sup> The “conduct” at issue, therefore, includes the written policies and customary procedures of an SSO, as well as actual conduct by the organization or its participants.

Patents may become intertwined with standards developed by any type of organization or entity, either knowingly or unknowingly. Knowingly including patented technology in a standard may be unavoidable if it is the only way to bring particular technology to market.<sup>33</sup> Conversely, a patentee

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among intellectual property rights owners and other interested standards participants regarding the terms under which relevant intellectual property rights would be made available for use in conjunction with the standard or proposed standard”).

30. See *infra* note 32 and accompanying text.

31. 15 U.S.C. § 2056(b)(1) (2000).

32. In *American Society of Mechanical Engineers, Inc. v. Hydrolevel Corp.*, the Supreme Court used the principle of apparent authority to hold an SSO liable for the acts of its agents, stating, “We need not delineate today the outer boundaries of the antitrust liability of standard-setting organizations for the actions of their agents committed with apparent authority.” 456 U.S. 556, 577 (1982). One implication of this is that the SDOAA may lack efficacy because it fails to lighten the antitrust burden for SDO participants. See 15 U.S.C.A. § 4301(a)(8) (excluding SDO participants from the definition of an SDO).

33. Indeed, certain patented technology simply cannot be marketed without the patent holder also publishing accompanying standard specifications to instruct licensees on achieving interoperability, for example, or to assure the market that the technology will continue to be supported.

may, by deception, misrepresentation or some other form of dishonest manipulation, manage to insinuate a patent into a standard without the knowledge of the standard adopters.

A hold-up problem can occur in either scenario, as long as a substantial investment has been made in adopting or implementing the standard so that the selection of the standard is economically irreversible. The written policies and customary practices of SSOs are important not only because standard-setters that knowingly adopt a standard based on patented technology usually do so by following a specific patent policy, but also because they characterize the intentions of the SSO and codify the expectations of the participants with respect to the process. SSO policies are the product of the perceived legal environment as well as the political, social, and economic factors that may influence an SSO. Accordingly, SSO practices can vary widely. Although actionable conduct may not be directly related to the written policies or customary procedures of the SSO, procedural issues nonetheless dominate the case law involving standard-setting.<sup>34</sup>

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34. See Anton & Yao, *supra* note 14, at 248 n.1. The authors express concern that “limiting [antitrust] enforcement attention solely to procedural considerations leaves room for anticompetitive outcomes” that occur despite the absence of any procedural irregularity. *Id.* at 248. It is the nature of standard-setting, however, that one standard is selected to the exclusion of others and it is difficult and unnecessary for courts to adjudicate whether a “substantive reasonable basis for a standard” exists. *Id.*; see also Willard K. Tom, *A Field Guide to Antitrust Issues in Standard Setting and Patent Pooling*, COMPETITION: J. ANTITRUST & UNFAIR COMPETITION L. SEC. ST. BAR CAL., Fall/Winter 2005, at 13, 22, available at [http://www.morganlewis.com/pubs/WTom\\_article\\_FieldGuidetoAntitrust\\_2005.pdf](http://www.morganlewis.com/pubs/WTom_article_FieldGuidetoAntitrust_2005.pdf) (expressing no surprise “that the court in [*M & H Tire Co. v. Hoosier Racing Tire Corp.*, 733 F.2d 973 (1st Cir. 1984),] was unsympathetic with the claims of a proponent of a standard that was not selected, unless the party could show that the selection process itself was tainted”). The *M & H Tire* case involved the joint adoption of a “single tire rule” by race track owners and race car drivers, and the First Circuit reversed an injunction entered on behalf of a tire manufacturer whose tire was not selected. *M & H Tire Co.*, 733 F.2d at 974, 976. Antitrust law remains unconstrained as long as conduct not directly related to the rules, policies or customs of the SSO still may be subject to antitrust scrutiny, even in the absence of a “procedural irregularity.” See, e.g., Opinion of the Commission, Rambus Inc. (*Rambus II*), F.T.C. Docket No. 9302, at 35 (Aug. 2, 2006), available at <http://www.ftc.gov/os/adjpro/d9302/060802commissionopinion.pdf> (“If an SSO chooses not to require such disclosures [of patents or patent applications infringed by a standard], SSO members still are not free to lie or to make affirmatively misleading representations.”).

The patent policies of SSOs vary widely,<sup>35</sup> in part because OMB Circular A-119, even for formal SDOs, leaves considerable room to maneuver.<sup>36</sup> This applies to the timing and extent of required disclosures of patents or patent applications. It also applies to the nature of the licensing commitments expected of patent holders in exchange for considering a standard that infringes on the patent. Current ANSI policy with respect to its accreditation of SDOs states “no objection in principle to drafting a proposed American National Standard [by an accredited SDO] in terms that include the use of a patented item, if it is considered that technical reasons justify this approach.”<sup>37</sup> In the event that ANSI is notified of a patent infringed by a proposed standard, ANSI procedures require the patentee to commit to either (a) make a license available “without compensation” to licensees desiring to implement the standard; or (b) offer to make a license available on reasonable terms “demonstrably free of any unfair discrimination.”<sup>38</sup> Once ANSI receives assurance that the patentee will offer licenses on either a royalty-free (“RF”) or reasonable and non-discriminatory (“RAND”) basis, the ultimate standard is required to carry a notice calling attention “to the possibility that compliance with [the] standard may require use of an invention covered by patent rights.”<sup>39</sup> Additional guidelines make clear that ANSI patent policy does not mandate disclosure of patents or patent applications during the standard-setting process.<sup>40</sup> Instead, early disclosure with an indication of a “willingness to license” is encouraged, but it remains optional, at least according to the literal terms of the policy.<sup>41</sup> Moreover, SDO participants have no duty under the ANSI patent policy to search their patent portfolios; ANSI policy does not impute knowledge of the patent

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35. For a survey of the patent policies implemented by forty-three different SSOs, see Mark A. Lemley, *Intellectual Property Rights and Standard-Setting Organizations*, 90 CAL. L. REV. 1889 (2002).

36. See *supra* notes 27-28 and accompanying text.

37. AM. NAT'L STANDARDS INST., ANSI ESSENTIAL REQUIREMENTS: DUE PROCESS REQUIREMENTS FOR AMERICAN NATIONAL STANDARDS § 3.1 (2006) [hereinafter ANSI ESSENTIAL REQUIREMENTS], <http://www.ansi.org> (follow “Library: ANSI Public Documents” hyperlink; then follow “American National Standards” hyperlink; then follow “Procedures, Guides, and Forms” hyperlink; then follow “ER0106” hyperlink).

38. *Id.* § 3.1.1.

39. *Id.* § 3.1.3.

40. See AM. NAT'L STANDARDS INST., GUIDELINES FOR IMPLEMENTATION OF THE ANSI PATENT POLICY (rev. 2003), <http://www.ansi.org> (follow “Library: ANSI Public Documents” hyperlink; then follow “American National Standards” hyperlink; then follow “Procedures, Guides, and Forms” hyperlink; then follow “PATPOL” hyperlink).

41. See *id.* § III.B.

portfolio to firm employees engaged in standard-setting.<sup>42</sup> ANSI guidelines also make clear that discussion of specific license terms—including whether terms are RAND—“are not matters that are properly the subject of discussion or debate at a development meeting.”<sup>43</sup>

### C. *Competition and Standard-setting*

A popular conception of the standard-setting process when patents are involved is “ex ante competition among different holders of intellectual property rights to get their property into the standard.”<sup>44</sup> “Competition” in economic analysis consists of two components. The first, emphasized by Adam Smith and typical of the dominant strain of economic thought during the eighteenth and nineteenth centuries,<sup>45</sup> is “an independent striving for patronage.”<sup>46</sup> The second component, characteristic of the modern approach, is the market process by which resources are allocated toward supply or demand.

From an economic perspective, therefore, the process of standard-setting fails to fulfill the technical definition of competition. Standard-setting participants are not involved in a market where resources are allocated and there is no mechanism for the equilibration of supply and demand or any determination of the price of exchange (in this case, license terms). Therefore, a standard-setting process involving the selection of patented (or non-patented) alternatives is more akin to a beauty contest, where a more precise term for the relationship between the contestants is “rivalry.”<sup>47</sup> As a general rule, the allocation of resources occurs elsewhere, outside of the voluntary consensus process that characterizes standard-setting. Standard-setting is unique in an economic sense, therefore, because it temporally

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42. *See id.* § III.A.

43. *Id.* § III.B.

44. Shapiro, *supra* note 1, at 142. Of course, non-proprietary specifications might also vie for inclusion.

45. *See* F.M. SCHERER & DAVID ROSS, *INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE* 15 (3d ed. 1990).

46. *Id.*

47. *See id.* at 16 (explaining that the technical definition of competition “differs markedly from the usage adopted by businesspeople who . . . are apt to view competition as a conscious striving against other business firms,” and giving the example of two neighboring Iowa corn farmers who are pure competitors but not necessarily rivals, and General Motors, Ford, and Honda, who may be rivals but not necessarily competitors, at least in the sense of pure or perfect competition).

disaggregates the two principal components of competition: rivalry and resource allocation.

*D. The Ex Post Openness of a Standard*

The concept of “ex post openness” can be used to describe the tension between the temporary right to exclude granted by a patent and the inclusive aspirations of most standard-setters. One approach to dealing with this tension is taken by the ANSI patent policy. While the ANSI policy encourages disclosure of patent interests early in the standard-setting process, proponents or adopters of standards are not required to disclose relevant patents, to search their patent portfolios, or to undertake any analysis to determine the extent to which patents owned might be implicated by a proposed standard. Assurances regarding licensing for known patents are only required for patents of which ANSI has been given actual notice, and there is no limitation on the terms of licensing as long as the terms satisfy the vague notion of being RAND.

Depending on how one defines the terms, the ANSI patent policy can lead to either “open” standards or “closed” standards. ANSI itself considers American National Standards developed under its procedures and policies to be “open standards” because interested parties are granted access to the standard-setting process. This sense of openness is procedural in nature, applicable to events *before* adoption of a standard (i.e., *ex ante* openness), and comprises an essential element of due process.<sup>48</sup>

However, if a standard, in order to be considered “open,” must be free of private proprietary interests, American National Standards will often be closed because such standards could include patents.<sup>49</sup> This sense of openness, i.e., “ex post openness,” focuses on the ease with which the standard itself may be practiced after it has been adopted and is being implemented. Because ex post openness captures the relative cost and ease with which parties desiring to practice the standard will be able to do so, it is

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48. See, e.g., ANSI ESSENTIAL REQUIREMENTS, *supra* note 37, § 1.1 (“Participation shall be open to all persons who are directly and materially affected by the activity in question. There shall be no undue financial barriers to participation. Voting membership on the consensus body shall not be conditional upon membership in any organization, nor unreasonably restricted on the basis of technical qualifications or other such requirements.”).

49. See, e.g., Daniel A. Farber & Brett H. McDonnell, *Why (and How) Fairness Matters at the IP/Antitrust Interface*, 87 MINN. L. REV. 1817, 1859 (2003) (“Standards can be either closed or open; that is, either a single party owns the intellectual property rights that control access to the standard (closed) or no party owns those rights (open).”).

the inverse of the barrier to entry into the market created by the need for new entrants to obtain access to the standard.

There is no single recognized definition of an “open standard,” and concepts of ex ante and ex post openness are often conflated, with most definitions encompassing both kinds of openness.<sup>50</sup> For the purposes of competition analysis, a standard should be considered open in the ex post sense if it is well-documented and publicly available for use without undue economic or legal restrictions so as to create a barrier to entry into the market.<sup>51</sup>

The inclusion of a patent in a standard obviously has the potential to impinge on the ex post openness of the standard as long as an adopter is required to obtain a license to lawfully implement it and the patent holder is unconstrained with respect to the license terms that may be demanded. Clearly, the objective of ex post openness may be undermined when patent claims are not adequately disclosed to, or the cost implications of such claims are not clearly understood by, an SSO or its participants during the standard selection process.

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50. For example, Bruce Perens lists six “principles behind the standard, and the practice of offering and operating the standard, [which] make the standard Open”: (1) The standard is available for all to read and implement; (2) it creates fair, competitive markets for implementations; (3) it is free for all to implement, with no royalty or fee; (4) one implementer is not favored over another; (5) implementations may be extended or offered in subset form; and (6) there is no prohibition on non-predatory extensions. BRUCE PERENS, OPEN STANDARDS: PRINCIPLES AND PRACTICE, <http://perens.com/OpenStandards/Definition.html> (last visited Apr. 15, 2007). Ken Krechmer identifies ten basic rights of creators, implementers, and users that, when supported, yield an open standard: (1) Open meetings; (2) consensus and non-domination; (3) due process; (4) open intellectual property rights available to all implementers; (5) worldwide consistency; (6) open change processes; (7) open documentation; (8) open interfaces; (9) open uses and certifications; and (10) on-going support until user interest ceases. Ken Krechmer, *Open Standards Requirements*, INT’L J. IT STANDARDS & STANDARDIZATION RES., Jan.-June 2006, at 43, available at <http://www.csrstds.com/openstds.pdf>. It deserves mention that “open standards” are quite different from “open source” licensing arrangements. The latter deal with the distribution of ownership rights to software that is cooperatively developed. Open source software development agreements typically cover firms and individuals who derive rights and duties from the general license terms. Such license terms ordinarily do not serve to “standardize” a particular technology, create intellectual property rights in the software or necessarily promote market acceptance.

51. See R. Preston McAfee, Hugo M. Mialon & Michael A. Williams, *What Is a Barrier to Entry?*, 94 AM. ECON. REV. 461, 463 (2004) (describing the “rich and confused heritage” of the concept of an entry barrier and defining an “antitrust barrier to entry” as “a cost that delays entry and thereby reduces social welfare relative to immediate but equally costly entry”).

SSOs with different patent policies may be placed along a continuum to reflect the varying degree to which their policies contemplate and promote ex post openness. For example, standard-setters that strongly prefer ex post open standards may be willing to incur costs to avoid including patented technology in standard specifications, including being willing to forgo superior technology covered by a patent in favor of a less elegant technical solution that is patent-free.<sup>52</sup> Since they lower barriers to entry, such policies are strongly procompetitive ex post.<sup>53</sup> The concept of ex post openness is useful for the antitrust analysis of standard-setting because it summarizes the expected effect of ex ante policies and conduct on the degree of ex post market exclusion occasioned by the standard.

### III. THE PATENT LAW PERSPECTIVE

The patent laws are based on the Constitutional provision authorizing Congress to “promote the Progress of Science and useful Arts”<sup>54</sup> through the incentive of the grant of a patent coupled with the ability of the patent holder to prevent others from practicing the patent.<sup>55</sup> In the view of the U.S. antitrust enforcement agencies, as articulated in the *IP Guidelines*, conduct involving patents and other intellectual property is subject to the same general principles as conduct involving any other property.<sup>56</sup> As Professor

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52. See Janice M. Mueller, *Patent Misuse Through the Capture of Industry Standards*, 17 BERKELEY TECH. L.J. 623, 650 (2002) (citing examples of “standards-setting organizations [that] have gone to considerable lengths to establish that the technology they have adopted does not infringe any existing patents”).

53. But see *American Society of Sanitary Engineering*, 106 F.T.C. 324 (1985), which is often cited for the proposition that an SSO that excludes patented technology from a standard ex ante merely because it is patented runs the risk of antitrust liability. However, because the patent in that case was not essential to practicing the standard, there is little applicability of the decree to the ex post openness of a standard. See Amy A. Marasco, *Standards-Setting Practices: Competition, Innovation and Consumer Welfare*, Testimony Before the Fed. Trade Comm’n & Dep’t of Justice 5 (Apr. 18, 2002), available at <http://www.ftc.gov/opp/intellect/020418marasco.pdf>. Nonetheless, a fully procompetitive solution achieves both openness ex post as well as consideration of any suitable technical solution—including patented technologies—ex ante.

54. U.S. CONST. art. I, § 8, cl. 8.

55. See 35 U.S.C. § 283 (2000) (granting courts jurisdiction to grant injunctions “to prevent the violation of any right secured by patent”).

56. See IP GUIDELINES, *supra* note 10, § 2.1, at 3 (“The Agencies apply the same general antitrust principles to conduct involving intellectual property that they apply to conduct involving any other form of tangible or intangible property.”). But see *id.* § 4.1.2, at 20 (recognizing that the economic characteristics of IP, non-rivalrousness and non-

Harry First observes, “[T]he notion that inventions or works of authorship are ‘property’ has exerted a powerful force on the development of laws dealing with the protection of intellectual products.”<sup>57</sup> Not surprisingly, the patent law perspective on the legal issues arising in standard-setting strongly reflects this “powerful force.”

*A. The Patent Law Approach to the Hold-Up Problem*

Because of its tendency toward propertization, the patent law approach to the hold-up dispute considers standard-setting only so far as it bears on the rights of the patent holder. Where those rights have been extinguished under patent law because of some conduct of the patent holder in connection with standard-setting, a hold-up dispute is avoided. If the patent is valid and enforceable, however, there is no mechanism under the patent law to take account of the competitive ramifications or injury flowing from a patent hold-up.

A patent case belonging to the first category, in which hold-up was prevented because its factual predicate rendered the patent unenforceable, is *Stambler v. Diebold, Inc.*,<sup>58</sup> which involved a suit for infringement by the inventor of card technology for automatic teller machines (“ATMs”) against manufacturers of ATMs.<sup>59</sup> The court found that ten years before the suit was filed the patentee was aware that standards for ATMs known as “Thrift” and “MINTS” were being proposed that infringed his patent.<sup>60</sup> The court observed:

It was well known to plaintiff and throughout the industry that the same provisions the plaintiff is relying on for infringement were being contemplated as national and international standards. Moreover, in the mid-1970’s plaintiff sat on an American National Standard Institute standards committee after concluding that the proposed thrift and MINTS standards

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excludability, “may justify the use of some restrictions that might be anticompetitive in other contexts”).

57. Harry First, *Controlling the Intellectual Property Grab: Protect Innovation, Not Innovators*, 38 RUTGERS L.J. 365, 370 (2007).

58. No. 85-CV-3014, 1988 WL 95479 (E.D.N.Y. Sept. 2, 1988), *aff’d*, 878 F.2d 1445 (Fed. Cir. 1989).

59. *Id.* at \*1.

60. *Id.* at \*6.



infringed his patent. . . . Under these circumstances, plaintiff had a duty to speak out and call attention to his patent.<sup>61</sup>

The court found that “plaintiff’s silence was intentionally misleading.”<sup>62</sup> The manufacturer raised the defenses of laches and equitable estoppel, which require a showing that the patent holder’s conduct not only justified a belief by the alleged infringer that the patent would not be enforced, but also that the misleading conduct was actually relied upon to the alleged infringer’s detriment.<sup>63</sup> The court applied the estoppel doctrine to deny the patentee damages or injunctive relief.<sup>64</sup>

Had the result been otherwise, the patentee could have demanded royalties from a banking system locked-in to an installed base of globally networked ATMs implementing the patentee’s technology. “Plaintiff could not remain silent,” the court ruled, “while an entire industry implemented the proposed standard and then when the standards were adopted assert that his patent covered what manufacturers believed to be an open and available standard.”<sup>65</sup> The decision to estop enforcement of the patent, therefore, was based at least in part on the need to prevent hold-up.

While the *Stambler* case employed estoppel principles to prevent hold-up, in *Wang Laboratories, Inc. v. Mitsubishi Electronics America, Inc.*,<sup>66</sup> the Federal Circuit affirmed a judgment against the patentee based on an implied license granted to the alleged infringer.<sup>67</sup> The patentee had lobbied the Joint Electron Device Engineering Council (“JEDEC”), an ANSI-accredited SDO, for three years to adopt its patented technology for computer memory modules as a standard while also encouraging the defendant to manufacture modules that complied with the standard.<sup>68</sup> The patentee never informed either JEDEC or the manufacturer of its ongoing pursuit of its patents.<sup>69</sup> Wang sued for infringement and a jury ultimately found that the patent holder had granted the manufacturer an implied license.<sup>70</sup> The Federal Circuit affirmed, based on the “‘entire course of conduct’ between the parties

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61. *Id.*

62. *Id.*

63. *Id.* at \*5.

64. *Id.* at \*6.

65. *Id.*

66. 103 F.3d 1571 (Fed. Cir. 1997).

67. *Id.* at 1573.

68. *Id.* at 1573-76.

69. *Id.* at 1575-76.

70. *Id.* at 1576.

over a six-year period.”<sup>71</sup> As in *Stambler*, the outcome was supported by conduct of the patent holder over a lengthy period of time that resulted in the incorporation of its proprietary technology in a widely implemented formal standard. The court found that “Wang received exactly the remuneration it desired: Wang’s design is an industry standard, and the benefits of a large market and lower prices for [its memory modules] redound to this day.”<sup>72</sup>

The common feature in *Stambler* and *Wang* is the passage of a significant period of time during which the patentee successfully promoted its proprietary technology as a formal standard whereupon it was then widely implemented. The standard-setting context, however, was incidental in those cases compared to the more dispositive facts that support the traditional equitable defenses of estoppel or implied license (deception with detrimental reliance in the case of estoppel and conduct constituting an affirmative grant of consent in the case of implied license). Where support for such traditional defenses is lacking, however, patent law is otherwise powerless to prevent or remedy hold-up.

For example, in *Townshend v. Rockwell International Corp.*,<sup>73</sup> the defendant allegedly infringed a patent necessary to practice the V.90 telephone modem standard adopted by the International Telecommunications Union (“ITU”).<sup>74</sup> The ITU has a patent policy in the ANSI mold: In order for patented technology to be recommended as a standard, patent holders are required to submit evidence of “willingness to negotiate licenses” that are either RF or RAND, although such negotiating is “left to the parties” and “performed outside” the ITU.<sup>75</sup> In an antitrust counterclaim, the *Townshend* defendants alleged that plaintiffs, proponents of the standard before the ITU, had agreed to license their patents on a RAND basis as a condition to the selection of their technology.<sup>76</sup> After a standard infringing their patents was adopted and commercially implemented, the patent holders allegedly “sought unfair royalty rates, double-charging of customers and manufacturers, mandatory cross-licenses, and reservation of the right to condition licenses on the resolution of litigation.”<sup>77</sup> That is, the defendants alleged hold-up.

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71. *Id.* at 1581.

72. *Id.* at 1582. The court appears to have assumed that the price elasticity of demand for Wang’s memory modules was such that higher volumes and lower prices inured to its benefit.

73. No. C99-0400SBA, 2000 WL 433505 (N.D. Cal. Mar. 28, 2000).

74. *Id.* at \*1-2.

75. *Id.* at \*7.

76. *Id.* at \*2.

77. *Id.* at \*7.

Ruling on a motion to dismiss the antitrust counterclaims, the court cited the Patent Act<sup>78</sup> and the decision of the Federal Circuit in *In re Independent Service Organizations Antitrust Litigation (ISO)*<sup>79</sup> for the proposition that “the antitrust laws do not negate the patentee’s right to exclude others from patent property.”<sup>80</sup> The court found that “[a] patent owner’s pursuit of optimum royalty income is not an act in restraint of trade which violates the antitrust laws,”<sup>81</sup> and concluded that the defendants did not—indeed could not under the circumstances of the case—allege anticompetitive conduct to support either an actionable antitrust counterclaim against the patentee or a defense to infringement under the doctrine of patent misuse.<sup>82</sup>

The Federal Circuit’s *ISO* decision is celebrated for holding that patentees are effectively immune from antitrust liability except in cases involving tying patented and non-patented products, fraud on the Patent and Trademark Office, or engaging in sham litigation. An enormous literature is devoted to the conflict between the *ISO* decision and the Ninth Circuit’s earlier opinion in *Image Technical Services, Inc. v. Eastman Kodak Co.*,<sup>83</sup> in which patentees were held subject to scrutiny under traditional antitrust analysis of market power and anticompetitive conduct, § 271(d) of the Patent Act notwithstanding.<sup>84</sup>

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78. 35 U.S.C. § 271(d) (2000) (“No patent owner otherwise entitled to relief . . . shall be . . . deemed guilty of . . . illegal extension of the patent right by reason of his having . . . (4) refused to license or use any rights to the patent . . .”).

79. 203 F.3d 1322 (Fed. Cir. 2000).

80. *Id.* at 1325.

81. *Townshend*, 2000 WL 433505, at \*8.

82. See 35 U.S.C. § 271(d) (defining patent misuse).

83. 125 F.3d 1195 (9th Cir. 1997).

84. See, e.g., Joseph P. Bauer, *Refusals to Deal with Competitors by Owners of Patents and Copyrights: Reflections on the Image Technical and Xerox Decisions*, 55 DEPAUL L. REV. 1211 (2006); Peter M. Boyle, Penelope M. Lister & J. Clayton Everett, Jr., *Antitrust Law at the Federal Circuit: Red Light or Green Light at the IP-Antitrust Intersection?*, 69 ANTITRUST L.J. 739 (2002); Michael A. Carrier, *Refusals to License Intellectual Property after Trinko*, 55 DEPAUL L. REV. 1191 (2006); Carrier, *supra* note 11; Daniel A. Farber & Brett H. McDonnell, *Why (and How) Fairness Matters at the IP/Antitrust Interface*, 87 MINN. L. REV. 1817 (2003); James B. Gambrell, *The Evolving Interplay of Patent Rights and Antitrust Restraints in the Federal Circuit*, 9 TEX. INTELL. PROP. L.J. 137 (2001); Daniel J. Gifford, *Antitrust’s Troubled Relations with Intellectual Property*, 87 MINN. L. REV. 1695 (2003); Daniel J. Gifford, *The Antitrust/Intellectual Property Interface: An Emerging Solution to an Intractable Problem*, 31 HOFSTRA L. REV. 363 (2002); Herbert Hovenkamp, Mark D. Janis & Mark A. Lemley, *Unilateral Refusals to License*, 2 J. COMPETITION L. & ECON. 1 (2006); A. Douglas Melamed & Ali M. Stoeppelwerth, *The CSU Case: Facts, Formalism and the Intersection of Antitrust and Intellectual Property Law*, 10 GEO. MASON L. REV. 407 (2002); Robert Pitofsky,

It is notable that the patent holder's ex ante disclosure of its proposed license terms in *Townshend* did not figure prominently in the court's reasoning in dismissing the antitrust hold-up counterclaim. One explanation for this may be that the ITU patent policy prohibited consideration of the substance of proposed licensing provisions in deciding whether or not to adopt a particular standard.<sup>85</sup> Under such a prohibition even a putative licensee who can see a hold-up coming before the standard is adopted is powerless within the confines of the standard-setting proceeding to do anything about it. Instead, the *Townshend* court relied on the much more sweeping generality of the near antitrust immunity granted to patent holders by the Federal Circuit in *ISO*.

Another example of the sway of the *ISO* decision on cases involving allegations of patent hold-up (*Kodak* notwithstanding) is the Initial Decision in the FTC's enforcement action in *Rambus Inc.*<sup>86</sup> The *Rambus* case involved a standard for computer memory adopted by a committee of JEDEC. Rambus was alleged to have failed to disclose necessary patents and patent applications while JEDEC was considering the standard, a process in which Rambus participated.<sup>87</sup> After the industry widely incorporated the infringing technology in products implementing the standard, Rambus demanded supracompetitive royalties.<sup>88</sup>

The Administrative Law Judge ("ALJ") dismissed counsel's antitrust complaint because he was unable to reconcile it "with the statement of the Federal Circuit that 'in the absence of any indication of illegal tying, fraud in the Patent and Trade Office, or sham litigation, the patent holder may enforce the statutory rights to exclude others (under the patent) free from liability under the antitrust laws.'" On appeal,<sup>90</sup> a unanimous full Commission found Rambus liable under section 5 of the Federal Trade

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*Challenges of the New Economy: Issues at the Intersection of Antitrust and Intellectual Property*, 68 ANTITRUST L.J. 913 (2001).

85. See *Townsend*, 2000 WL 433505, at \*7.

86. Initial Decision, *Rambus Inc. (Rambus I)*, F.T.C. Docket No. 9302 (Feb. 23, 2004), available at <http://www.ftc.gov/os/adjpro/d9302/040223initialdecision.pdf>.

87. *Id.* at 2.

88. *Id.*

89. *Id.* at 257 (quoting *Intel Corp. v. VIA Techs., Inc.*, No. C 99-03062, 2001 WL 777085 (N.D. Cal. Mar. 20, 2001)).

90. See *Rambus II*, F.T.C. Docket No. 9302 (Aug. 2, 2006), available at <http://www.ftc.gov/os/adjpro/d9302/060802commissionopinion.pdf>.

Commission Act<sup>91</sup> for conduct in violation of section 2 of the Sherman Act.<sup>92</sup> The Commission held that the respondent's failure to disclose its patents under circumstances in which it was expected to do so for the purpose of ensuring that its patents would be included in a standard constituted unlawful monopolization.<sup>93</sup> In contrast to the ALJ, the Commission in *Rambus II* considered the insidious effect on the procompetitive features of standard-setting when misinformation or outright deception is employed to manipulate a consensus-based standard-setting process.<sup>94</sup>

In yet another *ISO*-inspired example of the inadequacy of patent law in the face of an alleged hold-up, a district court in *Broadcom Corp. v. Qualcomm Inc.*<sup>95</sup> was presented with allegations of hold-up in the cellular telephone industry.<sup>96</sup> The plaintiff alleged that the defendant had promised to license its patents on a RAND basis as part of having its patented technology adopted as an international standard and then failed to honor its RAND commitment.<sup>97</sup> The *Broadcom* court made no mention of the FTC's opinion in *Rambus II*, and although its order was peppered with antitrust epithets,<sup>98</sup> no serious antitrust analysis was attempted. On the authority of *ISO* and *Townshend*, the court dismissed the complaint, declaring that "[a]ntitrust

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91. 15 U.S.C. § 45(a)(1) (2000) ("Unfair methods of competition in or affecting commerce, and unfair or deceptive acts or practices in or affecting commerce, are hereby declared unlawful.").

92. 15 U.S.C. § 2 (2000) (punishing "[e]very person who shall monopolize, or attempt to monopolize, or combine or conspire . . . to monopolize any part of the trade or commerce among the several States, or with foreign nations").

93. *Rambus II*, F.T.C. Docket No. 9302, at 118-19.

94. See *infra* Part IV.A for additional discussion of the Commission's *Rambus II* opinion.

95. No. 05-3350, 2006 WL 2528545 (D.N.J. Aug. 31, 2006).

96. *Id.* at \*2-3.

97. *Id.* at \*2.

98. See, e.g., *id.* at \*7 (quoting *Verizon Communications Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 415 (2004), for the proposition that a court should not impose an antitrust "duty to deal that it cannot explain or adequately and reasonably supervise"). However, the *Trinko* case involved telephone industry interconnection obligations which, by statute, are federally mandated and regulated. See Jonathan L. Rubin, *The Truth About Trinko*, 50 ANTITRUST BULL. 725, 737 (2005) ("[T]he regulatory context in which *Trinko* arose may be as important to the reasoning and outcome of the decision as the antitrust law under which the case was brought, or perhaps more so."). See generally Brief of Amici Curiae American Antitrust Institute & Consumer Federation of America in Support of Neither Party, *Broadcom Corp. v. Qualcomm Inc.*, No. 06-4292 (3d Cir. Dec. 20, 2006), available at <http://www.antitrustinstitute.org/archives/files/564.pdf> (criticizing district court's decision).

liability cannot flow from conduct that is permissible under the patent laws.”<sup>99</sup>

While it is generally well understood that the legitimacy and lawfulness of the activities of trade associations—groups comprised of “firms with horizontal and vertical business relations,” including SSOs—are governed in the first instance by the antitrust laws,<sup>100</sup> it is notable how antitrust in the foregoing examples has been completely eclipsed by legal reasoning informed solely by patent law. Consider the astonishing display of indifference to the competitive context in which the parties before it interacted by the court’s conclusion in *Broadcom* that:

Qualcomm’s alleged inducement by false promise may give rise to a cause of action based on another legal theory, but they do not provide an antitrust cause of action. The terms upon which Qualcomm chooses to license its patents since their incorporation into the standard may be considered restrictive and unfair to companies, such as *Broadcom*, desiring such licenses, but such terms cannot eliminate competition in a technology market that is devoid of competition by virtue of a standard.<sup>101</sup>

Professor First, critical of the property rights perspective of modern patent law, counsels instead to approach patent law issues “not from the point of view of protecting the private rights of an ‘innovator,’ but from the point of view of protecting the public policy behind intellectual property law,”<sup>102</sup> i.e., the incentive to innovate.<sup>103</sup> Doing so in the context of standard-setting would turn the inquiry from whether or how much a legal rule or policy related to standard-setting affects the property rights of patent holders, to whether and how much the legal rule or policy promotes or undermines the incentive to innovate. This would require courts confronted with hold-up allegations to look beyond the narrow confines of patent law.

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99. *Broadcom Corp.*, 2006 WL 2528545, at \*7 (citing *Sheet Metal Duct, Inc. v. Lindab, Inc.*, No. CIV. A. 99-6299, 2000 WL 987865 (E.D. Pa. 2000); *Hoffman-La Roche Inc. v. Genpharm Inc.*, 50 F. Supp. 2d 367 (D.N.J. 1999)). The *Broadcom* court’s reliance on *Townshend* seems misplaced, given that the patent holder there disclosed specific license terms ex ante, whereas Qualcomm allegedly made only a vague ex ante RAND commitment.

100. *Allied Tube & Conduit Corp. v. Indian Head, Inc.*, 486 U.S. 492, 506-07 (1988).

101. *Broadcom Corp.*, 2006 WL 2528545, at \*9.

102. First, *supra* note 57, at 368.

103. See also Michael A. Carrier, *Cabining Intellectual Property Through a Property Paradigm*, 54 DUKE L.J. 1, 5 (2004) (finding the “proPERTIZATION of IP” to be “unfortunate” but apparently “irreversible,” and exploring, as an alternative, limitations on IP based on principles inherent within property law).

*B. The Patent Law Approach to SSO Patent Policies*

The vagueness of the meaning of a RAND commitment as formulated, for example, in ANSI's patent policy, has been widely criticized.<sup>104</sup> The vagueness of the RAND commitment, however, is less troubling to proponents of the patent law approach who view the RAND commitment either as an efficient mechanism for determining appropriate license terms in and of itself<sup>105</sup> or under certain conditions.<sup>106</sup>

One justification put forward for favoring ex ante RAND commitments is that they should require patent holders to "contract out of an injunction-backed property rule, and into a reasonable-royalty liability rule."<sup>107</sup> In other words, ex ante RAND commitments are supposed to adequately protect standard-adopters because a patentee giving such a commitment presumably relinquishes its right to enjoin the adopters' practice of the standard.<sup>108</sup> The belief apparently is that an assurance that the patentee will, at worst, sue for a high level of royalties by forswearing injunctive relief is sufficient to allow standard-setters to adopt patented technology without fear of ex post hold-up.

At least three criticisms can be leveled against this justification for making the RAND commitment the centerpiece of an SSO's patent policy. First, it applies only to patents that are known or disclosed ex ante and not to the more fundamental problem in which hold-up occurs because the

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104. See Joseph Scott Miller, *Standard Setting, Patents, and Access Lock-In: RAND Licensing and the Theory of the Firm*, 40 IND. L. REV. (forthcoming 2007) (manuscript at 6, on file with author) ("[T]here is a common refrain that the RAND promise's meaning is unclear to a troubling degree . . .").

105. *Id.* ("The consensus view mistakenly knocks as deficient a powerfully concise and effective means for restructuring the basic legal context within which SSO patent-holders and standard-adopters negotiate patent licenses.").

106. 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, 56 (2005) (noting RAND policies are suitable "as long as: competition at the pre-selection stage is effective and is facilitated by the creation of auction-like selection conditions; reasonable (though not necessarily complete or perfect) information is available to those involved in the selection process; and participants are effectively bound by the commitment to license on RAND terms.").

107. Miller, *supra* note 104 (manuscript at 10-11) ("[A]dopters' locked-in access right, rather than the patent owner's traditional right to obtain a court injunction against unauthorized use, frames all subsequent license negotiations." (footnote omitted)).

108. The injunction-waiver effect of a RAND commitment is not universally acknowledged. However, the Supreme Court recently provided significant support for the waiver effect. See *ebay Inc. v. MercExchange, L.L.C.*, 126 S. Ct. 1837 (2006) (requiring courts to weigh the equities of imposing an injunction even if a patent holder shows infringement).

existence of the patent remained unknown until after the standard had been adopted and implemented. The JEDEC policy, for example, did not prevent the hold-up that occurred in *Rambus II*.

Second, while a waiver of the injunctive remedy is certainly not meaningless, it is difficult to see how it could mean so much. Clearly, the threat of an injunction can be disruptive and may even put an immediate stop to an alleged infringer's commercial operations. But, the specter of lengthy and costly litigation, the outcome of which could alter the alleged infringer's fundamental business proposition, is not a negligible prospect for most businesses.

A third reason to be troubled by reliance solely on a voluntary RAND commitment is that it tends to suppress ex ante discussions or negotiations, particularly when coupled with a prohibition that discussions of licensing terms beyond their general description as RAND is not suitable for discussion within the SSO. There is some evidence that both U.S. antitrust agencies are moving toward recognition of the procompetitive potential of ex ante discussions.<sup>109</sup> For reasons discussed below, the expansion of ex ante negotiations is likely to be procompetitive and should not be hampered by the mistaken belief that a simple RAND commitment is sufficient.<sup>110</sup>

#### IV. THE ANTITRUST PERSPECTIVE

Two general categories of conduct occupy the attention of the antitrust laws: collusion and exclusion.<sup>111</sup> However, not all collusion is

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109. See Deborah Platt Majoras, Chairman, FTC, Remarks at the Stanford University Standardization and the Law Symposium: Recognizing the Procompetitive Potential of Royalty Discussions in Standard Setting 7 (Sept. 23, 2005), available at <http://www.ftc.gov/speeches/majoras/050923stanford.pdf> (“[A]ntitrust concerns . . . may have unduly prevented [ex ante] announcements of pricing intentions or royalty discussions that may, in fact, provide procompetitive benefits.”). See also Letter from Thomas O. Barnett, Assistant Att’y Gen., Antitrust Div., DOJ, to Robert A. Skitol, Esq., Drinker, Biddle & Reath, LLP 10 (Oct. 30, 2006) [hereinafter VITA Business Review Letter], available at <http://www.usdoj.gov/atr/public/busreview/219380.pdf> (stating ex ante disclosure of each patent holder’s most restrictive licensing terms “is an attempt to preserve competition and thereby to avoid unreasonable patent licensing terms that might threaten the success of future standards and to avoid disputes over licensing terms that can delay adoption and implementation after standards are set”).

110. But see Miller, *supra* note 104 (manuscript at 17) (“It is folly to expect, much less insist upon, ex ante negotiation of detailed, tailored license terms much beyond the royalty-free and RAND options.”).

111. The categories are not mutually exclusive, e.g., when the object of the collusion is to exclude.



anticompetitive (e.g., R&D joint ventures or standard-setting), nor is all exclusion (e.g., age requirements or professional qualifications). To be unlawful, the conduct must injure competition in an economic sense. The principal task of antitrust analysis is to differentiate between lawful and unlawful conduct based on whether the conduct causes (or is likely to cause) harm to competition.

As the Supreme Court has observed, the legal validity of conduct involving standard-setting is determined by the antitrust laws.<sup>112</sup> The traditional concern has been over the potential for anticompetitive collusion among SSO participants who are horizontal competitors either behaving as a cartel,<sup>113</sup> thereby avoiding competition *inter se*, or excluding competition from third parties through concerted action.<sup>114</sup> As illustrated by the Consent Order concluding the FTC's enforcement action in *Dell Computer Corp.*<sup>115</sup> and the Commission's opinion in the *Rambus II* case, the patent hold-up scenario represents yet another "opportunity for anticompetitive activity," albeit one in which the potential victims are the SSO's participant-adopters as opposed to downstream consumers, upstream suppliers or third party competitors, the parties traditionally burdened by an antitrust violation in the standard-setting environment.

#### A. *The Antitrust Approach to the Hold-up Problem*

In the *Dell* case, where the hold-up problem first surfaced, a company representative certified to the Video Electronics Standards Association ("VESA") that Dell had no intellectual property in conflict with a proposed "VL" standard for the component in a computer known as a "bus" that passes

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112. See *Allied Tube & Conduit Corp. v. Indian Head, Inc.*, 486 U.S. 492, 505 (1988); *Am. Soc'y of Mech. Eng'rs, Inc. v. Hydrolevel Corp.*, 456 U.S. 556, 571 (1982) (noting that "a standard-setting organization . . . can be rife with opportunities for anticompetitive activity").

113. SSO participants could cartelize as either sellers or buyers. See *Mandeville Island Farms, Inc. v. Am. Crystal Sugar Co.*, 334 U.S. 219, 235 (1948) ("It is clear that the agreement is the sort of combination condemned by the [Sherman] Act, even though the price-fixing was by purchasers, and the persons specially injured under the treble damage claim are sellers, not customers or consumers." (footnotes omitted)). For purposes of this discussion "buyers' cartel" includes group boycotts, i.e., concerted refusals to buy.

114. See, e.g., *Radiant Burners, Inc. v. Peoples Gas Light & Coke Co.*, 364 U.S. 656, 659-60 (1961) ("The conspiratorial refusal 'to provide gas for use in the plaintiff's Radiant Burner[s] [because they] are not approved by AGA' therefore falls within one of the 'classes of restraints which from their 'nature or character' [are] unduly restrictive, and hence forbidden . . .'" (alterations in original) (citation omitted)).

115. 121 F.T.C. 616 (1996).

information between the central processing unit and certain peripheral devices. The FTC alleged that the standard was adopted in part because of Dell's certification.<sup>116</sup> After the VL-bus standard had become widely accepted, Dell sought to enforce its patent, whereupon the FTC commenced an action under section 5 of the Federal Trade Commission Act.<sup>117</sup> In its statement accompanying the Consent Order, the Commission said that its enforcement action was "appropriate to prevent harm to competition and consumers."<sup>118</sup> Although Dell admitted no wrongdoing, the company agreed not to enforce its patent against manufacturers practicing the VL-bus standard.

According to the FTC's statement the enforcement action was motivated by the evidence that Dell's failure to disclose the patent was not inadvertent and that the association would have implemented a different non-proprietary design had the patent been disclosed.<sup>119</sup> But, the Commission also made clear that its order "should not be read to create a general rule that inadvertence in the standard-setting process provides a basis for enforcement action" nor that the action contains "a general suggestion that standard-setting bodies should impose a duty to disclose."<sup>120</sup> The Commission engaged in no antitrust analysis beyond asserting that its enforcement action would "prevent harm to competition" and that "the standard effectively conferred market power upon Dell" that it would not have attained but for the false certification.<sup>121</sup>

In *Rambus I*, although Complaint Counsel relied in part on *Dell* to support the antitrust theory of its prosecution, the ALJ did not consider itself bound by the *Dell* Consent Order.<sup>122</sup> Given the absence of a detailed antitrust analysis and the narrowness of the facts, even had the ALJ been bound by *Dell*, the circumstances in *Rambus I* were distinguishable. Whereas *Dell* involved an express falsehood uttered as part of a standards approval process in which participants were under an obligation to certify that they did not possess relevant intellectual property, the ALJ found that the JEDEC participants in the *Rambus I* case were under no such compulsion and

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116. *Id.* at 624.

117. 15 U.S.C. § 45(a)(1) (2000) ("Unfair methods of competition in or affecting commerce, and unfair or deceptive acts or practices in or affecting commerce, are hereby declared unlawful.").

118. *Dell Computer Corp.*, 121 F.T.C. at 624.

119. *Id.* at 625-26.

120. *Id.* at 626.

121. *Id.* at 624 & n.2.

122. *Rambus I*, F.T.C. Docket No. 9302, at 257 (Feb. 23, 2004), available at <http://www.ftc.gov/os/adjpro/d9302/040223initialdecision.pdf> ("Consent decrees provide no precedential value.").

Rambus had uttered no such false certification.<sup>123</sup> Rambus merely stood mute, and even withdrew as a JEDEC participant after the *Dell* decree was publicized.

In reversing and vacating the ALJ's decision, the FTC did not let an ambiguous JEDEC policy that failed to impose a clear, contractually binding duty to disclose prevent a finding that Rambus, by standing mute about its patents, had violated the antitrust laws.<sup>124</sup> The Commission refused "to allow Rambus to exercise monopoly power gained through exclusionary conduct"<sup>125</sup> by ignoring the expectation by participants in JEDEC's standard-setting process (the literal terms of the patent policy notwithstanding) that conflicting patents would be disclosed. Thus, under *Rambus II*, the applicability of an SSO policy that mandates disclosure is not required for a patent holder's silence to be deemed actionable deception under the antitrust laws.<sup>126</sup>

The Commission's decision in *Rambus II* takes appropriate antitrust cognizance of the anticompetitive effect of the patent holder's deceptive conduct by tying it to the illegitimate acquisition of market power to reach a result in accord with well-settled principles of antitrust law.<sup>127</sup> The harm to competition that supports the antitrust violation in *Rambus II* is the distortion of the ex ante rivalry between alternatives, which ultimately justifies the adoption of one specification to the exclusion of all others. Such rivalry obviously suffers when the proponent of a standard fails to disclose a relevant patent.

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123. *Id.*; see also *Rambus Inc. v. Infineon Techs. AG*, 318 F.3d 1081, 1098 (Fed. Cir. 2003) (reversing a jury verdict for fraud against Rambus on the principal ground that JEDEC policy "actually does not impose any direct duty on members. . . . [and there was] no indication that members ever legally agreed to disclose information"). Note that the FTC's *Rambus* proceeding remains pending as of this writing and appellate review may yet alter the conclusion in the text.

124. See *Rambus II*, F.T.C. Docket No. 9302, at 118-19 (Aug. 2, 2006), available at <http://www.ftc.gov/os/adjpro/d9302/060802commissionopinion.pdf>.

125. *Id.* at 119.

126. Indeed, it is difficult to contemplate a contrary rule. See Robert A. Skitol, *Concerted Buying Power: Its Potential for Addressing the Patent Holdup Problem in Standard Setting*, 72 ANTITRUST L.J. 727, 733 (2005) ("Why should an anticompetitive outcome be reachable under the antitrust laws in circumstances where the patent owner violates a private body's voluntarily adopted rule while the exact same anticompetitive outcome is beyond reach merely because the same or another private body chooses to ignore the whole problem?").

127. See, e.g., *Caribbean Broad. Sys., Ltd. v. Cable & Wireless PLC*, 148 F.3d 1080, 1087 (D.C. Cir. 1998) (finding a dominant radio station liable under section 2 for misrepresenting to advertisers the signal coverage of its competitor).

The same type of competitive harm occurs when a patent holder disregards commitments made in exchange for standardizing the patent. Greater insight into this sense in which injury to competition may occur would have prevented the court in *Broadcom* from concluding that the hold-up conduct before it was harmless because the market was “devoid of competition.” It is in the unique nature of standard-setting that the two components of market competition, rivalry and the allocation of resources toward supply and demand, are separated in time in order to achieve a more efficient means of converging on a single standard. Undermining or manipulating this convergence is no less of an antitrust violation because it occurs in consensus-based standard-setting rather than in a market-based selection process in which incompatibilities arise and resources are wasted because alternative standards are implemented that the market ultimately rejects.

*B. The Antitrust Approach to SSO Patent Policies*

As illustrated by cases such as *Dell*, *Rambus II*, and *Broadcom*, a hold-up harms competition by polluting the rivalry that should take place in the standard-setting process. To anticipate and avoid such outcomes, SSOs should implement procedures that express and promote ex post openness. Perversely, however, antitrust law may be inhibiting procompetitive ex ante discussions of license terms or royalty rates among patent holders and SSO participants because of the potential that such conduct will be regarded as an unlawful buyers’ cartel.<sup>128</sup> This potential liability is behind the prohibition in the ANSI patent policy against discussions of licensing terms as part of standard-setting proceedings,<sup>129</sup> and the exclusion of certain activities from the definition of “standards development activit[ies]” under the SDOAA.<sup>130</sup>

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128. See Majoras, *supra* note 109, at 6; see also John J. Kelly & Daniel I. Prywes, *A Safety Zone for the Ex Ante Communication of Licensing Terms at Standard-Setting Organizations*, ANTITRUST SOURCE, Mar. 2006, at 1, 5 (“The mere possibility of an antitrust challenge, even under the rule of reason standard, inhibits many SSOs from allowing most forms of ex ante royalty communications.”). *But see* Skitol, *supra* note 126, at 734-35 (“This concern rests on a fundamentally erroneous understanding of current antitrust law. . . . [because t]here is nothing . . . resembling cartel activity in the general idea of standard-setting participants’ consideration of—or . . . even negotiation over—proposed license terms for a patent on technology that may be written into a proposed standard.”).

129. See *supra* note 43 and accompanying text.

130. See 15 U.S.C.A. § 4301(c) (West 1998 & Supp. 2006) (excluding “(1) Exchanging information among competitors relating to cost, sales, profitability, prices, marketing, or distribution of any product, process, or service that is not reasonably required

To the extent that more complete ex ante knowledge of ex post licensing terms would mitigate the risk of hold-up, greater clarification of the boundaries of lawful ex ante discussions would be desirable. The difficulty is that criteria for differentiating between permissible ex ante discussions and conduct that exposes SSO participants to potential antitrust liability are not immediately available. One solution to this problem is to draw the line in unambiguously safe territory. This is the approach taken in the VITA Business Review Letter,<sup>131</sup> in which the Antitrust Division of the DOJ is permissive toward a proposed SSO policy that requires each patent holder to reveal its most restrictive licensing terms while at the same time prohibiting any joint negotiation or discussion of terms.<sup>132</sup> Some proposals would go even further by, for example, proposing a “safety zone” that would extend antitrust immunity to ex ante negotiations.<sup>133</sup>

A better approach would be to analyze standard-setting conduct within a rule of reason framework that permits any ex ante conduct reasonably necessary to achieve indicia of ex post openness sought by the SSO and its participants. Such an approach would leave considerable room for experimentation by SSOs while preserving the legitimate role of antitrust to deter manipulation of standard-setting rivalry and to promote procompetitive conduct.

## V. CONCLUSION

A plenary patent and antitrust law approach to standard-setting not only navigates between prohibited SSO or participant conduct on one side and anticompetitive hold-up on the other. It also comes to grips with the more fundamental tension between exclusionary patent rights and ex post

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for the purpose of developing or promulgating a voluntary consensus standard, or using such standard in conformity assessment activities. (2) Entering into any agreement or engaging in any other conduct that would allocate a market with a competitor. (3) Entering into any agreement or conspiracy that would set or restrain prices of any good or service.”).

131. See VITA Business Review Letter, *supra* note 109, at 4-5.

132. Although the approach in the VITA Business Review Letter is described in the text as occupying unambiguously safe *antitrust* territory, as of this writing it remains to be seen whether ANSI, as the U.S. SDO accrediting authority, will accept this approach or choose instead to de-accredit the VITA SDO on the grounds that its patent policy violates ANSI’s requirements.

133. See Kelly & Prywes, *supra* note 128, at 8 (“[W]e suggest that a safety zone should be allowed for ex ante communications that go beyond the mere disclosure of a potential licensor’s royalty demands.”). *But see* Skitol, *supra* note 126, at 739 (“rule of per se legality” unnecessary).

openness. Doing so requires legal rules that simultaneously tie ex ante conduct and policies to ex post openness, the preservation of innovation, and the promotion of transparent rivalry between alternative proposed standards. While such a result is achievable by applying the rule of reason to the unique features of standard-setting within a broader market context, open-standard-friendly legislation ultimately may prove necessary to fulfill the promise of procompetitive voluntary consensus standard-setting governed by robust antitrust principles.