CHAPTER 2

COMPETITION CONCERNS WHEN PATENTS ARE INCORPORATED INTO COLLABORATIVELY SET STANDARDS

I. BACKGROUND AND INTRODUCTION

Industry standards are widely acknowledged to be one of the engines driving the modern economy. Standards can make products less costly for firms to produce and more valuable to consumers.[1] They can increase innovation, efficiency, and consumer choice; foster public health and safety; and serve as a "fundamental building block for international trade."[2] Standards make networks, such as the Internet and wireless telecommunications, more valuable by allowing products to interoperate.[3] The most successful standards are often those that provide timely, widely adopted, and effective solutions to technical problems.[4]

The process by which industry standards are set varies. Commonly, businesses collaborate to establish standards by working through standard-setting organizations ("SSOs") to develop a standard that all firms, regardless of whether they participate in the process, then can use in making products.[5]

[1] The two primary types of standards are (1) interoperability standards, which guarantee that products made by different firms can interoperate, and (2) performance standards, which set minimum requirements for all products in a general product category. Gregory Tassey, *Standardization in Technology-Based Markets*, 29 RES. POL'Y 587, 589-90 (2000).

[2] Amy A. Marasco, *Standards-Setting Practices: Competition, Innovation and Consumer Welfare* (Apr. 18, 2002 Hr'g R.) at 3-4, http://www.ftc.gov/opp/intellect/020418marasco.pdf [hereinafter Marasco Submission]; *see also* Janice M. Mueller, *Patent Misuse Through the Capture of Industry Standards*, 17 BERKELEY TECH. L.J. 623, 631-32 (2002).

[3] Michael L. Katz & Carl Shapiro, *Systems Competition and Network Effects*, J. ECON. PERSP., Spring 1994, at 93, 109 [hereinafter Katz & Shapiro, *Systems Competition*]; *see also* Apr. 18, 2002 Hr'g Tr., Standard-Setting Practices: Competition, Innovation and Consumer Welfare at 85-86 (Cargill), http://www.ftc.gov/opp/intellect/020418trans.pdf [hereinafter Apr. 18 Tr.].

[4] *See* Andrew Updegrove, *Standard Setting and Consortium Structures* (Apr. 18, 2002 Hr'g R.) at 1-2, http://www.ftc.gov/opp/intellect/020418updegrove2.pdf [hereinafter Updegrove Submission I].

[5] Hundreds of collaborative standard-setting groups operate worldwide, with diverse organizational structures and rules. *See* Apr. 18 Tr. at 63-64 (Deutsch); Scott K. Peterson, *Patents and Standard-Setting Processes* (Apr. 18, 2002 Hr'g R.) at 9, http://www.ftc.gov/opp/intellect/020418scottkpeterson.pdf [hereinafter Peterson Submission I]; Mark A. Lemley, *Intellectual Property Rights and Standard-Setting Organizations*, 90 CAL. L. REV. 1889, 1904-06

However, standards also may be set in the marketplace where firms vigorously compete in a winner-take-all standards war[6] to establish their own technology as the *de facto* standard.[7]

Firms that choose to work through an SSO to develop and adopt standards may be competitors within their particular industry. Thus, agreement among competitors about which standard is best suited for them replaces consumer choice and the competition that otherwise would have occurred in the market to make their product the consumer-chosen standard. In many contexts, this process can produce substantial benefits. By agreeing on an industry standard, firms may be able to avoid many of the costs and delays of a standards war, thus substantially reducing transaction costs to both consumers and firms.[8]

Recognizing that collaboratively set standards can reduce competition and consumer choice and have the potential to prescribe the direction in which a market will develop,[9] courts have been sensitive to antitrust issues that may arise in the context of collaboratively set standards. They have found antitrust liability in

(2002) (discussing the wide variation in policies among standard-setting organizations ("SSOs")). They may be called standard development organizations, promoter's groups, joint ventures, special interest groups, or consortia. For ease of discussion, this Report will refer to all these standard-setting groups as SSOs, recognizing that standard-setting organizations vary widely in size, formality, operation, and scope.

[6] In a "standards war," substitute products with incompatible designs are introduced into a market, and users' purchase decisions ultimately establish one design as the dominant design or *de facto* standard, in what can effectively be a winner-take-all competition. *See* Carl Shapiro & Hal R. Varian, *The Art of Standards War*, CAL. MGMT. REV., Winter 1999, at 8 [hereinafter Shapiro & Varian, *The Art of Standards War*]. A well-known war occurred between Sony's Betamax format Video Cassette Recorder ("VCR") and Matsushita's VHS format VCR, which ultimately resulted in VHS becoming the *de facto* standard. However, not all competition among incompatible designs results in the establishment of a *de facto* standard. For example, multiple competing standards for video game consoles exist, including Sony's PlayStation®3, Microsoft's Xbox 360™, and Nintendo's Wii™. Markets in which standards wars result in a single standard are typically those in which the network effects are the greatest—i.e., those markets in which there are substantial benefits if all customers have compatible products. *Id.* at 14.

[7] Mueller, 17 BERKELEY TECH. L.J. at 633-34; Daniel J. Gifford, *Standards and Intellectual Property: Licensing Terms: Some Comments* (Apr. 18, 2002 Hr'g R.) at 1 (discussing the Windows operating system as an example of a *de facto* standard chosen by the market), http://www.ftc.gov/opp/intellect/020418danieljgifford.pdf [hereinafter Gifford Submission].

[8] Standards wars offer consumers a choice of products that incorporate alternative potential standards. During a standards war, however, some consumers may delay purchasing until the *de facto* standard is chosen because they do not want to be stuck with the costs of moving from a losing standard to the winning standard. Jeffrey Church & Roger Ware, *Network Industries, Intellectual Property Rights and Competition Policy*, *in* COMPETITION POLICY AND INTELLECTUAL PROPERTY RIGHTS IN THE KNOWLEDGE-BASED ECONOMY 230-39 (Robert D. Anderson & Nancy T. Gallini eds., 1998); *see also* Katz & Shapiro, *Systems Competition* at 105-08 (discussing the concept of consumers tipping toward a *de facto* standard). To win a standards war, a firm may have to incur significant costs or limit its assertion of market power in order to establish an installed base of users. The winner of a standards war, however, may have significant market power, often because it can enforce its patent rights to prevent others from making products that conform to the standard. *See, e.g.*, David Balto & Robert Pitofsky, *Antitrust and High-Tech Industries: The New Challenge*, 43 ANTITRUST BULL. 583, 599 (1998).

[9] *See Standard Sanitary Mfg. Co. v. United States*, 226 U.S. 20, 41 (1912); BUREAU OF CONSUMER PROTECTION, FEDERAL TRADE COMM'N, STANDARDS AND CERTIFICATION: FINAL STAFF REPORT 28, 34 (1983); Katz & Shapiro, *Systems Competition* at 105-06; Richard Gilbert, *Symposium on Compatibility: Incentives and Market Structure*, 40 J. INDUS. ECON. 1 (1992).

circumstances involving the manipulation of the standard-setting process or the improper use of the resulting standard to gain competitive advantage over rivals.[10]

This Chapter focuses on antitrust issues that may arise from collaborative standard setting when standards incorporate technologies that are protected by intellectual property ("IP") rights. These issues involve the potential for "hold up" by the owner of patented technology after its technology has been chosen by the SSO as a standard and others have incurred sunk costs which effectively increase the relative cost of switching to an alternative standard.[11]

Before, or *ex ante*,[12] multiple technologies

[10] *See Allied Tube & Conduit Corp. v. Indian Head, Inc.*, 486 U.S. 492, 509-11 (1988) (affirming court of appeals' reinstatement of a jury verdict awarding damages for a Sherman Act violation where producers and sellers of steel conduit had packed a meeting with new members whose sole function was to vote against a proposal to allow the use of equally viable plastic conduit in the building industry); *Am. Soc'y of Mech. Eng'rs v. Hydrolevel Corp.*, 456 U.S. 556, 574 (1982) (finding SSO liable for actions of its agents acting with apparent authority to discourage customers from purchasing one competitor's water boiler safety device, stating that it did not comply with the SSO's safety code, even though it did); *see also Radiant Burners, Inc. v. Peoples Gas Light & Coke Co.*, 364 U.S. 656, 659-60 (1961) (holding that complaint alleging agreement by American Gas Association members to refuse to sell gas to customers using a non-Association certified product states a claim of a *per se* violation of section 1 of the Sherman Act).

[11] This type of hold up is a variant of the classical "hold-up problem." The hold-up problem pertains to problems of relationship-specific investment, whereas the hold up contemplated here pertains to standards-specific investment. The hold-up problem indicates the prospect of under-investment in collaborations in which parties must sink investments that are specific to the collaboration, investments that may be costly to redeploy or have a significantly lower value if redeployed outside of the collaboration. The potential for one party to hold up another party that has sunk investments specific to the relationship may discourage that other party from investing efficiently in the collaboration in the first place. For further discussion of the hold-up problem, see generally Benjamin Klein, Robert G. Crawford & Armen A. Alchian, *Vertical Integration, Appropriable Rents, and the Competitive Contracting Process*, 21 J.L. & ECON. 297 (1978); OLIVER E. WILLIAMSON, THE ECONOMIC INSTITUTIONS OF CAPITALISM: FIRMS, MARKETS, RELATIONAL CONTRACTING 52-56 (1985); Sanford J. Grossman & Oliver D. Hart, *The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration*, 94 J. POL. ECON. 691, 692, 716-18 (1986); Suzanne E. Majewski & Dean V. Williamson, *Incomplete Contracting and the Structure of R&D Joint Venture Contracts*, *in* 15 ADVANCES IN THE STUDY OF ENTREPRENEURSHIP, INNOVATION, AND ECONOMIC GROWTH: INTELLECTUAL PROPERTY AND ENTREPRENEURSHIP 201-28 (Gary D. Libecap ed., 2004).

In the standard-setting context, firms may make sunk investments in developing and implementing a standard that are specific to particular intellectual property. To the extent that these investments are not redeployable using other IP, those developing and using the standard may be held up by the IP holders. *See* Nov. 6, 2002 Hr'g Tr., Standard Setting Organizations: Evaluating the Anticompetitive Risks of Negotiating Intellectual Property Licensing Terms and Conditions Before a Standard Is Set at 15-16 (Shapiro) ("In addition to the word 'hold-up,' opportunism is a word that's commonly used in the relevant economic literature, at least, which is [i]n transaction cost economics, the notion that somebody might wait, perhaps, until commitments were made and then seek to extract a high royalty or might try to steer things in a direction so that they would have an essential patent but not have made a firm commitment ex ante on the terms on which it would be licensed."), http://www.ftc.gov/opp/intellect/021106ftctrans.pdf [hereinafter Nov. 6 Tr.]; *see also* Timothy J. Muris, *The FTC and the Law of Monopolization*, 67 ANTITRUST L.J. 693, 704-06 (2000) (describing factual considerations as to whether a company could engage in a hold up); *cf.* Benjamin Klein, *Market Power in Franchise Cases in the Wake of* Kodak: *Applying Post Contract Hold-Up Analysis to Vertical Relationships*, 67 ANTITRUST L.J. 283 (1999). Moreover, this hold up may cause firms to sink less investment in developing and implementing standards.

[12] Whether and at what point hold up can occur will vary, depending on a variety of factors. For hold up to occur, the cost of switching to the best alternative standard must be greater than the benefits of

may compete to be incorporated into the standard under consideration.[13] Afterwards, or *ex post*, the chosen technology may lack effective substitutes[14] precisely because the SSO chose it as the standard.[15] Thus, *ex post*, the owner of a patented technology necessary to implement the standard may have the power to extract higher royalties or other licensing terms that reflect the absence of competitive alternatives.[16] Consumers of the products using the standard would be harmed if those higher royalties were passed on in the form of higher prices.[17]

To mitigate this type of hold up, some SSOs require participants to disclose the existence of IP rights that may be infringed by the potential users of a standard in development. SSOs also may require SSO members to commit to license any of their IP that is essential to an SSO standard on "reasonable and nondiscriminatory" ("RAND") terms.[18] Some SSOs and SSO members would like to further mitigate hold up by requiring IP holders to commit to specific licensing terms before selecting a particular technology as part of a standard.

Two questions that can arise from these efforts to mitigate hold up involve quite different competition concerns. The first question involves unilateral conduct. It asks whether an SSO member harms competition by failing to disclose, or by engaging in deceptive conduct regarding, the existence of intellectual property rights during the standard-setting process and later alleging that implementation of the standard infringes that member's IP, and thus, requires a license and the payment of royalties. The FTC has alleged violations of section 5 of the Federal Trade Commission Act in three matters involving such conduct in different factual settings,[19] and the Commission

switching to the best alternative standard.

[13] Daniel G. Swanson, *Evaluating Market Power in Technology Markets when Standards Are Selected in Which Private Parties Own Intellectual Property Rights* (Apr. 18, 2002 Hr'g R.) at 2-3, http://www.ftc.gov/opp/intellect/020418danielswanson.pdf [hereinafter Swanson Submission] (discussing the possibility of available substitutes).

[14] *See, e.g.*, CARL SHAPIRO & HAL R. VARIAN, INFORMATION RULES: A STRATEGIC GUIDE TO THE NETWORK ECONOMY 103-34 (1999).

[15] Collaborative *de jure* standards sometimes face a market test for acceptance, just as *de facto* standards do. If a standard chosen by an SSO must compete with rival standards, then the owner of any patented technology necessary to implement the SSO's standard may have little market power. *See, e.g.*, Apr. 18 Tr. at 76 (Lemley). The opportunity for users of the SSO's standard to move to a rival standard if the royalty rates are too high may limit the owner to a competitive royalty rate.

[16] Nov. 6 Tr. at 15 (Shapiro) ("So, the notion of hold-up would be that ex post there are very few choices, and a company that controls an essential patent is in a very strong bargaining position to extract royalties or other concessions from people who want to comply with the standard. Ex ante, the bargaining positions are very different because, let's suppose, there would be maybe lots of choices . . . .").

[17] For consumer harm to occur, it is not necessary that hold up result in higher marginal costs for producers. For example, higher lump sum or fixed royalties might discourage entry among firms that would produce the standardized product. The reduction in competition at the downstream level, and possible reduction in product adoption, might harm consumers.

[18] *See infra* note 72-73 and accompanying text.

[19] Complaint, *In re Dell*, 121 F.T.C. 616, 616-18 (1996) (No. C-3658) (resolved by consent order, 121 F.T.C. at 618-26), *available at* http://www.ftc.gov/os/decisions/vol121.htm [hereinafter *Dell* Complaint]; Complaint, *In re Rambus, Inc.*, No. 9302 (F.T.C. 2002), *available at* http://www.ftc.gov/os/adjpro/d9302/020618admincmp.pdf; Complaint, *In re Union Oil Co. of Cal.*, No. 9305 (F.T.C. Mar. 4, 2003), *available at* http://www.ftc.gov/ os/2003/03/unocalcp.htm

recently found a violation of section 5 in one of these proceedings, following a full adjudicative trial.[20]

The second question involves joint conduct and asks whether *ex ante* negotiation of licensing terms by SSO participants constitutes a *per se* violation of section 1 of the Sherman Act because competitors would be acting jointly to negotiate licensing terms with each of the firms whose technology may be considered for inclusion in the SSO's standard.[21] In the Agencies' view, a *per se* approach fails to recognize that negotiating licensing terms during the standard-setting process may increase competition between technologies that are being considered for inclusion in a standard. In light of these potential procompetitive benefits, the Agencies would generally expect to apply the rule of reason to evaluate conduct such as multilateral *ex ante* licensing negotiations or SSO requirements to disclose model licensing terms.[22]

In announcing this policy guidance, the Agencies seek to resolve open questions about the Agencies' enforcement intentions that may have discouraged SSOs from attempting to mitigate the threat of licensing hold up by evaluating licensing terms and conditions before hold up can occur. The Agencies recognize that the evaluation of licensing terms before the standard is set can present substantial practical challenges and costs for an SSO, so even with this guidance there may be non-antitrust reasons for an SSO not to engage in such evaluations. When making this decision, SSOs and their members should bear in mind that the Agencies will still condemn as *per se* illegal activities designed to reduce or eliminate competition among members of an SSO—such as bid rigging by members who otherwise would compete in licensing technologies for adoption by the SSO or naked price fixing on downstream products by members who otherwise would compete in selling downstream products compliant with the standard—even if these activities are cloaked by multilateral *ex ante* licensing negotiations for the purported purpose of setting a standard.

II. HOLD UP IN THE CONTEXT OF JOINT STANDARD SETTING

Panelists reported that after a standard has been adopted and switching to an alternative standard would require significant additional costs, the holder of a patent that covers technology needed to implement the standard can force users of the technology to choose between two unpleasant options: "You either don't make the standard or you accede to the –

[hereinafter *Unocal* Complaint], *resolved by consent order*, No. 9305 (F.T.C. July 27, 2005), *available at* http://www.ftc.gov/os/adjpro/d9305/050802do.pdf.

[20] *In re Rambus, Inc.*, No. 9302 (F.T.C. July 31, 2006), *available at* http://www.ftc.gov/os/adjpro/d9302/060802commissionopinion.pdf., *remedy ordered*, *In re Rambus, Inc.*, No. 9302 (F.T.C. Feb. 2, 2007), *available at* http://www.ftc.gov/os/adjpro/d9302/070205opinion.pdf and http://www.ftc.gov/os/adjpro/d9302/070205finalorder.pdf.

[21] The term "negotiation" is used in this Chapter to encompass a range of activities relating to the consideration of the price of a technology input for a standard, including disclosure of most restrictive licensing terms, discussion of the relative costs of alternative technology inputs, or negotiation of licensing terms leading to a licensing agreement.

[22] *Infra* Parts V-VI.

I don't want to say blackmail, but that's [what it] tends to be in that environment."[23] Anointing a patented technology as the standard improves the bargaining position of the owner of the needed technology in licensing negotiations because "[i]f you are the owner of one of the rights to one of those many equally valuable [technologies], then it is the standard-setting process that will reduce the substitution, possibly eliminate the substitutes, and elevate your technology to [be] the most valuable."[24]

A holder of IP incorporated into a standard can exploit its position if it is costly for users of the standard to switch to a different technology after the standard is set. Making such a change would require abandoning that standard and developing a new one, but developing an alternative standard could be costly and may delay the introduction of a new product. The profits lost by such a delay may represent a significant portion of the cost of developing the alternative standard. In addition, to implement an alternative standard for an existing product that requires compatibility and interoperability, the SSO members might incur switching costs in redesigning components that had been based on the old standard and might have to subsidize consumers' migration from a standard based on one technology to a standard based on another technology.[25] Generally, the greater the cost of switching to an alternative standard, the more an IP holder can charge for a license.

[23] Apr. 18 Tr. at 56-57 (Cargill).

[24] Apr. 18 Tr. at 47-48 (Rapp); *see also id.* at 248-51 (Peterson) (discussing the "anointing" phenomenon); *id.* at 76-77 (Lemley).

[25] The most direct source of switching costs is the difference between the costs of acquiring new infrastructure to implement a new standard and the salvage value of current infrastructure that is supporting the existing standard but would not be used to support a new standard. In the absence of network effects, this switching cost can be viewed as an upper bound on the extent to which the underlying technology's patent owner can hold up firms using the standard. A second source of switching costs can be network effects such as compatibility. It may be impractical to change the existing standard for one piece of infrastructure if that piece must be compatible with other pieces of infrastructure. Thus, for example, a person wanting to upgrade his word processing software may be locked in to his current software if there is a large benefit to maintaining compatibility with the software of other colleagues.

There is a vast literature on network effects and the role of standards in network effects. Much of it was developed in between the mid-1980s and early 1990s by Joseph Farrell, Richard Gilbert, Michael Katz, Garth Saloner, and Carl Shapiro. Other major contributors to this field have been Timothy Bresnahan, Jeff Church, Neil Gandal, and Nicholas Economides. For an overview of the literature, see Bertrand V. Quélin, Tamym Abdessemed, Jean-Philippe Bonardi & Rodolphe Durand, *Standardisation of Network Technologies: Market Processes or the Result of Inter-firm Co-operation?*, 15 J. ECON. SURVS. 543 (2001). *See generally* Dennis W. Carlton & J. Mark Klamer, *The Need for Coordination Among Firms, with Special Reference to Network Industries*, 50 U. CHI. L. REV. 446 (1983); Katz & Shapiro, 8 J. ECON. PERSP. at 93; Michael L. Katz & Carl Shapiro, *Technology Adoption in the Presence of Network Externalities*, 94 J. POL. ECON. 822 (1986); Joseph Farrell & Garth Saloner, *Installed Base and Compatibility: Innovation, Product Preannouncements, and Predation*, 76 AM. ECON. REV. 940 (1986); Joseph Farrell & Garth Saloner, *Converters, Compatibility and the Control of Interfaces*, 40 J. INDUS. ECON. 9 (1992); Michael L. Katz & Carl Shapiro, *Product Introduction with Network Externalities*, 40 J. INDUS. ECON. 55 (1992); Jeffrey Church & Neil Gandal, *Network Effects, Software Provision, and Standardization*, 40 J. INDUS. ECON. 85 (1992); Nicholas Economides, *The Economics of Networks*, 14 INT'L J. INDUS. ORG. 673 (1996).

It is useful to distinguish between the licensing terms a patent holder could obtain solely based on the merits of its technology and the terms that it could obtain because its technology was included in the standard. This distinction can be cast as differentiating two sources of potential market power, defined as "the ability to raise prices above those that would be charged in a competitive market."[26] The mere existence of a patent or other intellectual property right does not necessarily create market power for the IP holder, although it may in some cases.[27] If the intellectual property right does convey market power "it would be worthwhile . . . to distinguish between the market power that comes from the technology on its own and the market power that comes just from the standard, the act of setting a standard that elevates a technology above the competitors."[28] Of course, an analysis of potential harm arising from failure to disclose relevant IP would focus on the market power of the IP holder that was acquired through the standard-setting process. In contrast, any claim that *ex ante* licensing discussions violate section 1 of the Sherman Act would focus on the exercise of market power by the SSO members as a group, not on the market power of the IP holder.

Panelists at the Hearings discussed a range of related practical, legal, and economic issues regarding hold up within SSOs, including the extent to which hold up occurs.[29] Some panelists said hold up

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[26] *Nat'l Collegiate Athletic Ass'n v. Bd. of Regents of the Univ. of Okla.*, 468 U.S. 85, 109 n.38 (1984).

[27] *Ill. Tool Works Inc. v. Indep. Ink, Inc.*, 126 S. Ct. 1281, 1284 (2006) ("[T]he mere fact that a tying product is patented does not support [a market power] presumption."); U.S. DEP'T OF JUSTICE & FEDERAL TRADE COMM'N, ANTITRUST GUIDELINES FOR THE LICENSING OF INTELLECTUAL PROPERTY § 2.2 (1995), *reprinted in* 4 Trade Reg. Rep. (CCH) ¶ 13,132 ("The Agencies will not presume that a patent, copyright, or trade secret necessarily confers market power upon its owner."), *available at* http://www.usdoj.gov/atr/public/guidelines/0558.pdf [hereinafter ANTITRUST-IP GUIDELINES].

[28] Apr. 18 Tr. at 321-22 (Stiroh); *see* Nov. 6 Tr. at 39-40 (Farrell) ("[T]he core point is the extent to which an IP holder acquires additional bargaining power through the SDO having completed its – or gone a certain distance in its standard[s] option process."); Mark R. Patterson, *Inventions, Industry Standards, and Intellectual Property*, 17 BERKELEY TECH. L.J. 1043, 1044 (2002) ("When an industry standard incorporates a patented invention, the legal challenge is to distinguish several market effects. Some of the demand for products that comply with the standard may be for the inherent technical advantages of the invention. A patentee is generally entitled to revenues attributable to this demand. But some of the demand may also be created by the adoption of the standard. The patentee is not entitled to revenues attributable to this demand.") (footnotes omitted).

[29] Panelists discussed these topics at several sessions of the Hearings. The first session was held on April 18, 2002 and was divided into two parts. The morning session was titled "Disclosure of Intellectual Property in Standards Activities." The panelists included: Michael Antalics, Partner, O'Melveny & Myers, L.L.P.; Carl Cargill, Director of Standards, Sun Microsystems, Inc.; Donald R. Deutsch, Vice President, Standards Strategy and Architecture, Oracle Corp.; Ernest Gellhorn, Professor of Law, George Mason University School of Law; Peter Grindley, Senior Managing Economist, LECG, Ltd., London; Mark Lemley, Professor of Law, and Director, Berkeley Center for Law & Technology, Boalt Hall School of Law, University of California, Berkeley, Of Counsel, Keker & Van Nest; Amy A. Marasco, Vice President and General Counsel, American National Standards Institute; Richard T. Rapp, President, National Economic Research Associates; David J. Teece, Mitsubishi Bank Professor of International Business and Finance, Haas School of Business, University of California, Berkeley; and Dennis A. Yao, Associate Professor of Business and Public Policy, The Wharton School, University of Pennsylvania. The panel was moderated by Gail Levine, then-Deputy Assistant General Counsel for Policy Studies, Federal Trade Commission; Tor Winston, Economist, U.S. Department of Justice; and Robert W. Bahr, then-Deputy Solicitor, U.S. Patent and Trademark Office. The afternoon session was

was the rare exception in a system that otherwise works well.[30] Other panelists questioned this assertion, suggesting that hold up may be more widespread. They posited that, although litigation involving hold up may be rare, market participants often may have little incentive to complain about hold up because they can pass on the hidden costs of hold up to consumers or because there is no venue for resolving complaints.[31]

III. FACTORS OTHER THAN SSO RULES THAT MAY MITIGATE HOLD UP

Panelists suggested several factors, independent of specific SSO rules or practices, that may deter some IP holders from holding up licensees. First, IP holders that are frequent participants in standard-setting activities may incur "reputation and business costs . . . that could be sufficiently large as to be the primary deterrent [of fraudulent non-disclosure] as opposed to whatever legal remedies [the antitrust community] comes up with."[32] One panelist stated:

titled "Licensing Terms in Standards Activities" and the panelists were: Stanley M. Besen, Vice President, Charles River Associates; Daniel J. Gifford, Robins, Kaplan, Miller & Ciresi Professor of Law, University of Minnesota School of Law; Richard Holleman, Industry Standards Consultant; Allen M. Lo, Director of Intellectual Property, Juniper Networks, Inc.; Mark R. Patterson, Associate Professor of Law, Fordham University School of Law; Scott K. Peterson, Corporate Counsel for Intellectual Property, Hewlett-Packard Company, Chair, American National Standards Institute Patent Committee; Lauren J. Stiroh, Vice President, National Economics Research Associates; Daniel Swanson, Partner, Gibson, Dunn & Crutcher LLP; Andrew Updegrove, Partner, Lucash, Gesmer & Updegrove, LLP; and Daniel J. Weitzner, Director of Technology and Society Activities, World Wide Web Consortium. The panel was moderated by Carolyn Galbreath, then-Attorney, U.S. Department of Justice; Tor Winston, Economist, U.S. Department of Justice; Gail Levine, then-Deputy Assistant General Counsel for Policy Studies, Federal Trade Commission; and Robert Bahr, then-Deputy Solicitor, U.S. Patent and Trademark Office. Apr. 18 Tr. at 2-5.

The second session was held on the morning of November 6, 2002, titled "Standard-Setting Organizations: Evaluating the Anticompetitive Risks of Negotiating Intellectual Property Licensing Terms and Conditions Before a Standard Is Set." The panelists included: Joseph Farrell, Professor of Economics and Chair of the Competition Policy Center, University of California, Berkeley; Joseph Kattan, Partner, Gibson, Dunn & Crutcher; Scott K. Peterson, Corporate Counsel for Intellectual Property, Hewlett-Packard Company; Carl Shapiro, Transamerica Professor of Business Strategy, Haas School of Business, Director and Professor of Economics, Institute of Business and Economic Research, University of California, Berkeley; Earle Thompson, Intellectual Asset Manager and Senior Counsel, Texas Instruments, Inc.; and Paul Vishny, Member, D'Ancona & Pflaum, LLC, General Counsel, Telecommunications Industry Association. The panel was moderated by Carolyn Galbreath, then-Attorney, U.S. Department of Justice; Gail Levine, then-Deputy Assistant General Counsel for Policy Studies, Federal Trade Commission; and Tor Winston, Economist, U.S. Department of Justice. Nov. 6 Tr. at 3-13.

[30] Apr. 18 Tr. at 236-37 (Holleman) (stating that the extent to which patent holders try to extract unreasonable terms is *de minimis*); Nov. 6 Tr. at 80 (Kattan); *id.* (Thompson); *id.* at 21 (Kattan).

[31] Nov. 6 Tr. at 26-27 (Farrell) ("I think it's also relevant to observe that to the extent that the people paying royalties are competing against each other and are all – or believe that they're all paying roughly the same royalty, there's a lot of pass-through, so it's the final consumer rather than these competitors who end up paying."); *accord id.* at 18 (Thompson) ("[T]hat may be a tax on the industry, and . . . it doesn't hurt me worse than anybody else."). *But see id.* at 56 (Kattan) (companies without cross licenses have a higher cost position and therefore an incentive to complain about high royalty rates).

[32] Apr. 18 Tr. at 122 (Yao); *see also* Stanley M. Besen, *Standard Setting and Intellectual Property: An Outline of the Issues* (Apr. 18, 2002 Hr'g R.) at 2 n.5 ("[T]he license fee that a winning [patentee] will demand may be constrained by its desire to develop a reputation for reasonableness, in order to increase the likelihood that its technology will be chosen in future standards competitions . . . ."), http://www.ftc.gov/

"You fool people two or three times and the next time you go back to play with them they don't like you. And that hurts more than the actual [legal] remedy. . . . People start to mistrust you after that."[33] Yet even that panelist acknowledged that this market cure has its limits: "[T]he next time you may be allied with [the firm that failed to disclose its IP] and have to support them no matter what. So it's not really deep penalties. I mean we play too quickly, too fast."[34]

Second, one panelist suggested that in some cases a licensor may try to affect the SSO's technology choice by informally indicating the terms under which it intends to license intellectual property incorporated into a standard.[35] A licensor also might make bilateral *ex ante* licensing commitments outside the formal standard-setting process.[36] This panelist stated that information filters back to the standards committee fairly quickly if it becomes apparent that an IP holder is not being forthcoming about terms during bilateral negotiations. Upon receiving such confirmation, the committee can consider alternative technologies before the standard is set, he noted.[37]

Third, an IP holder might enjoy a first-mover advantage if its technology is adopted as the standard. IP holders that produce and sell a product using the standard sometimes may find it more profitable to offer attractive licensing terms in order to promote the adoption of the product using the standard, increasing demand for its product rather than extracting high royalties.[38] As one panelist put it, "if you in fact have your technology accepted as a standard you have a tremendous competitive advantage . . . because you are the first mover, you are the most competent."[39]

Fourth, IP holders that have broad cross-licensing agreements with the owner of the selected IP might be protected from hold up.[40] Of course, this protection is not available to firms that have little IP to offer in cross-licensing deals.[41]

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opp/intellect/020418stanleymbesen.pdf [hereinafter Besen Submission].

[33] Apr. 18 Tr. at 124 (Cargill).

[34] *Id.* at 124-25 (Cargill).

[35] *See* Richard J. Holleman, *Comments on Standards Setting and Intellectual Property* (Apr. 18, 2002 Hr'g R.) at 3, http://www.ftc.gov/opp/intellect/020418richardjholleman.pdf [hereinafter Holleman Submission I].

[36] Apr. 18 Tr. at 194-95 (Holleman); Nov. 6 Tr. at 52-53 (Vishny).

[37] Apr. 18 Tr. at 194-95 (Holleman).

[38] Apr. 18 Tr. at 225-26 (Updegrove) ("So the first thing is that most people who are going to respond to a call [for a standard] aren't people who want to make that product and collect royalties on it. They are people who want a head start from already being at that starting point. They don't want to saddle competitors with royalties because what they want is a big market for that product. And they're satisfied with a head start.").

[39] *Id.* at 58 (Cargill).

[40] Nov. 6 Tr. at 18 (Thompson); *cf. id.* at 27-28 (Farrell) (asking whether institutions using "mutual assured destruction or portfolio cross-licensing" can solve licensing hold up, and inquiring about the limits of these solutions).

[41] Apr. 18 Tr. at 242-43 (Lo).

IV. CURRENT SSO METHODS TO AVOID OR MITIGATE HOLD UP

Many SSOs have developed policies to mitigate hold up. The provisions of such SSO policies fall, broadly speaking, into two nonexclusive categories: disclosure rules and licensing rules. Disclosure rules require SSO participants to disclose patents (and, sometimes, patent applications and other intellectual property or confidential information) related to a standard under consideration. Licensing rules restrict the terms that holders of such intellectual property can demand. The most common licensing rule requires that IP holders license to users of the standard on RAND terms. Some SSOs require the incorporated IP to be licensed on royalty-free terms.

A. Use of Disclosure Rules to Deter Hold Up

Panelists noted that disclosure rules can help avoid hold up by informing SSO members about relevant intellectual property held by those participating in the standard-setting process, thus allowing SSO members jointly to decide whether to incorporate the patented technology in a standard.[42] Some SSOs have no disclosure requirements. The disclosure policies of those that do are diverse.[43] Some policies state express disclosure obligations, while others impose implied obligations; the policies may cover existing patents, pending patents, or other IP rights; and they also may require an SSO member to search its own inventory for patents.[44]

1. Benefits and Costs of SSO Disclosure Policies

Panelists said that SSO policies to mitigate hold up confer substantial procompetitive benefits.[45] One panelist stated that such policies serve to clear patent thickets, and he found it "significant that they exist primarily in industries in which it looks like patent hold-up is the biggest problem."[46] Panelists opined that "the fundamental reason that drives most disclosure rules is that people want to make informed decisions. . . . It's really designed to avoid the hold-up situation where they create a standard without knowing that there is intellectual property incorporated into it."[47]

Panelists suggested that disclosure rules also have costs and limitations, however. For example, compliance with disclosure rules may slow down standards development, which could be particularly costly in fast-paced markets with short product life cycles.[48]

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[42] *Id.* at 42-43 (Antalics).

[43] Lemley, 90 CAL. L. REV. at 1904.

[44] *Id.* at 1904-05.

[45] Apr. 18 Tr. at 35-36 (Lemley); *Id.* at 86 (Cargill) ("[D]isclosure is a method of achieving a risk reduction goal."). *See generally* Nov. 6 Tr. at 50 (Peterson) (stressing that costs should be known); *Id.* at 85 (Shapiro) (same).

[46] Apr. 18 Tr. at 36 (Lemley).

[47] *Id.* at 42 (Antalics); *see id.* at 108-09 (Lemley) (stating that the system can be gamed the most when disclosure is required but licensing is not).

[48] Richard J. Holleman, *A Response: Government Guidelines Should Not Be Used in Connection with Standard Setting* (Apr. 18, 2002 Hr'g R.) at 2

Complying with differing disclosure policies in different SSOs can be costly to IP holders,[49] especially for those with large patent portfolios who participate in many SSOs.[50] The cost of compliance may cause some IP holders to opt out of some collaborative standard setting.[51] As a result, "whatever they might have had to contribute to the process is going to be lost."[52] Furthermore, IP holders that choose not to participate in an SSO are not bound by the SSO's disclosure rules.[53] Finally, disclosure rules that are not well-crafted may not help prevent hold up. Panelists said that disclosure rules drafted by engineers and business people may reflect their authors' laudable ethos—to work collaboratively toward a standard—but sometimes fail to consider carefully the intellectual property and antitrust issues.[54]

2. FTC Challenges to Hold Ups Based on the Failure to Disclose IP Rights

In the past ten years, the FTC has brought three cases challenging alleged hold ups based on failures to disclose the existence of IP rights as unfair competition under section 5 of the FTC

(mandatory patent disclosure rule could slow down the standardization process), http://www.ftc.gov/opp/intellect/020418richardjholleman2.pdf [hereinafter Holleman Submission II]; *see* Apr. 18 Tr. at 101-02 (Teece) (noting that if lawyers must insert themselves into the market-building work of the technical and marketing people who generally run certain SSOs and other consortia, the standard-setting process will become slower and "more deliberate"); *id.* at 73 (Antalics) ("[Y]ou could have good products that are delayed coming to market if this whole process is taking longer.").

[49] Institute of Electrical and Electronics Engineers ("IEEE"), *Comments Regarding Competition and Intellectual Property* (Public Comments Hr'g R.) at 2-3 (noting costs of disclosure rules, including costs of potential searches for relevant patents), http://www.ftc.gov/os/comments/intelpropertycomments/ieee.pdf [hereinafter IEEE Submission]. Simply learning the disclosure and other obligations of each SSO a firm has joined is no small job, one panelist noted, and not all firms take on the task of educating themselves about the intellectual property policies of the SSOs they have joined and how those policies interact. Apr. 18 Tr. at 30-31 (Lemley). This leads to "a recipe for maximum confusion when complex systems standards are invoked. And, unfortunately, that is exactly where we are today." Carl Cargill, *Intellectual Property Rights and Standards Setting Organizations: An Overview of Failed Evolution* (Apr. 18, 2002 Hr'g R.) at 8, http://www.ftc.gov/opp/intellect/020418cargill.pdf.

[50] *See* Apr. 18 Tr. at 84-85 (Cargill) ("There is not an organization in the [Information Technology] industry I believe that doesn't belong to at least 30, 40, or 50 consortia, standards organizations, [or] alliances. We play against ourselves sometimes.").

[51] Apr. 18 Tr. at 95-96 (Marasco) (describing costs of conducting a patent portfolio search); *id.* at 63-64 (Deutsch) (stating that if an SSO's disclosure policy is too burdensome, IP holders won't come to the table because of the high cost); Mar. 20, 2002 Hr'g Tr., Business Perspectives on Patents: Hardware and Semiconductors at 62-63 (McCurdy) (noting costs of educating firm's SSO delegates about firm's patents or patent applications), http://www.ftc.gov/opp/intellect/020320trans.pdf; *see also id.* at 64 (Zanfagna) (acknowledging such challenges at "a company the size of Honeywell"); *In re Dell*, 121 F.T.C. at 633 (Azcuenaga, Comm'r, dissenting) (noting that imposing burdens on SSO members, including antitrust liability, may dissuade some firms from participating in the standards-setting process).

[52] Apr. 18 Tr. at 73 (Antalics).

[53] *See id.* at 63 (Deutsch).

[54] Apr. 18 Tr. at 202-03 (Updegrove) (explaining that companies founding consortia ask their business marketing or technical experts to start them, and "their acquaintance with intellectual property policies may be slim to nil"); *id.* at 29-30 (Lemley) (stating that some SSOs establish their intellectual property rules ad hoc in response to issues that happen to arise, and not in a comprehensive, forward-looking way); *id.* at 90, 92-93 (Cargill) (stating that the engineers who draft SSO disclosure rules do not know when they are being misled about legal issues, and that SSO intellectual property policies have always been an afterthought).

Act.[55] The first FTC matter, *In re Dell*,[56] highlighted to industry the possibility of antitrust liability for deceiving SSOs and their members.[57] In that case, the FTC alleged that during an SSO's deliberations about a certain standard, Dell, a member of the SSO, had twice certified that it had no intellectual property relevant to the standard, and that the SSO adopted the standard based, in part, on Dell's certifications. After the SSO adopted the standard, Dell allegedly demanded royalties from those using its technology in connection with that standard. The Commission accepted a consent agreement under which Dell agreed not to enforce the patent in question against firms using it as part of the standard.[58]

In a recent case, *In re Rambus*, the Commission determined that Rambus had acquired monopoly power through deceptive, exclusionary conduct in connection with its participation in an SSO. According to the Commission's opinion, Rambus engaged in a course of conduct "calculated to mislead [SSO] members by fostering the belief that Rambus neither had, nor was seeking, relevant patents that would be enforced" against products compliant with the SSO's standards.[59] The Commission found that "Rambus's course of conduct constituted deception under Section 5 of the FTC Act."[60] The Commission further found that Rambus's course of conduct contributed significantly to the SSO's technology selections and that the SSO's choice of standard contributed significantly to Rambus's acquisition of monopoly power.[61] According to the Commission, the switching costs that developed as manufacturers became increasingly committed to the standard locked the industry in and rendered Rambus's monopoly power durable.[62] The Commission concluded that Rambus unlawfully monopolized the markets for four technologies incorporated into the SSO's standards in violation of section 5 of the FTC Act.[63]

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[55] A variety of other mechanisms may be available to challenge hold up in the context of an SSO. Some have used actions for fraud. *See, e.g., Rambus, Inc. v. Infineon Techs. AG*, 164 F. Supp. 2d 743, 750-58 (E.D. Va. 2001) (upholding jury verdict finding actual fraud based on firm's non-disclosure of patents related to a standard), *rev'd in part*, 318 F.3d 1081 (Fed. Cir. 2003) (reversing a denial of judgment for defendant as a matter of law upon determining that the record showed no breach of SSO disclosure duty). Others recommend using contract actions to enforce disclosure policies. *See* Mark A. Lemley, *Intellectual Property Rights and Standard Setting Organizations* (Apr. 18, 2002 Hr'g R.) at 38-42, http://www.ftc.gov/opp/intellect/020418lemley.pdf [hereinafter Lemley Submission]. Some have used the doctrine of equitable estoppel to enforce disclosure policies. *See Symbol Techs., Inc. v. Proxim Inc.*, No. Civ. 01-801-SLR, 2004 WL 1770290 (D. Del. July 28, 2004) (rejecting an estoppel defense when the firm had no duty to disclose its patent rights). Others have suggested the doctrines of implied license or patent misuse to enforce disclosure policies. *See, e.g.*, Lemley Submission at 51-56; David R. Steinman & Danielle S. Fitzpatrick, *Antitrust Counterclaims in Patent Infringement Cases: A Guide to* Walker Process *and Sham-Litigation Claims*, 10 TEX. INTELL. PROP. L.J. 95, 96 & n.2, 106 (2001).

[56] 121 F.T.C. 616.

[57] Apr. 18 Tr. at 32-33 (Lemley); *see also* Feb. 28 Hr'g Tr., Business Perspectives on Patents: Hardware and Semiconductors (Afternoon Session) at 742 (Telecky), http://www.ftc.gov/opp/intellect/020228ftc.pdf [hereinafter Feb. 28 Tr.].

[58] *See* Decision and Order, *In re Dell*, 121 F.T.C. at 618-23.

[59] *In re Rambus, Inc.*, No. 9302, slip op. at 67.

[60] *Id.*

[61] *Id.* at 74-79.

[62] *Id.* at 98-114.

[63] *Id.* at 3-5, 118-19. Private litigation has also

One other FTC case resulted in a consent order. In 2003, the FTC filed an administrative complaint against the Union Oil Company of California ("Unocal") for allegedly misrepresenting information involving proposed low-emissions gasoline standards in state regulatory proceedings. According to the complaint, Unocal presented research results in these proceedings that it had represented as non-proprietary, and the state regulating board used these results in setting its standards. At the same time, Unocal was pursuing patent rights to cover these research results. The FTC's complaint asserted that Unocal misrepresented its proprietary interest in the standard until members of the refining industry had spent billions of dollars modifying their refineries to become compliant with the new standards. Unocal then alleged that the new standards infringed its patents. This conduct allegedly enabled Unocal to charge substantial royalties, costing consumers hundreds of millions of dollars per year.[64] An initial ALJ decision dismissed the complaint on *Noerr-Pennington*[65] and jurisdictional grounds,[66] but the full Commission reversed, holding that Unocal's alleged misleading statements to the state regulatory board were not protected as a matter of law by the *Noerr-Pennington* doctrine, and that the FTC had ample jurisdiction to consider whether Unocal's actions caused competitive harm.[67] The Unocal matter settled as part of a larger dual consent agreement that allowed Chevron Corporation to acquire Unocal. Under the terms of the settlement, Unocal will not enforce its patents related to the reformulated gasoline standard set by the state board.[68]

B. Use of Licensing Rules to Deter Hold Up

Even if SSO members are informed about the existence of patented technologies through disclosure during a standard-setting process, hold up over licensing terms may still be a concern. One panelist identified six "ways that

challenged Rambus's actions before the SSO. *E.g.*, *Samsung Elecs. Co. v. Rambus, Inc.*, 439 F. Supp. 2d 524 (E.D. Va. 2006); *Hynix Semiconductor Inc. v. Rambus Inc.*, 441 F. Supp. 2d 1066 (N.D. Cal. 2006); *Micron Tech., Inc. v. Rambus Inc.*, 189 F. Supp. 2d 201 (D. Del. 2002); *Infineon*, 164 F. Supp. 2d 743, *rev'd in part*, 318 F.3d 1081 (Fed. Cir. 2003). A district judge on remand dismissed Rambus's infringement claims against Infineon in light of Rambus's failure to retain certain documents related to the case; in lieu of pursuing an appeal, Rambus settled the case and all other claims against Infineon related to the memory chip technology. Under the agreement, Infineon has agreed to pay Rambus royalties for the use of its technology and to grant Rambus a perpetual license for Infineon's memory interfaces. *See Licensing Settlement Ends Patent Suit by Rambus*, N.Y. TIMES, Mar. 22, 2005, at C15.

[64] *See Unocal* Complaint paras. 1-10.

[65] *E. R.R. Presidents Conference v. Noerr Motor Freight, Inc.*, 365 U.S. 127 (1961); *United Mine Workers v. Pennington*, 381 U.S. 657 (1965).

[66] *In re Union Oil Co. of Cal.*, No. 9305, slip op. at 67 (F.T.C. Nov. 25, 2003), *available at* http://www.ftc.gov/os/2003/11/031126unionoil.pdf, *rev'd*, No. 9305 (F.T.C. July 7, 2004), *available at* http://www.ftc.gov/os/adjpro/d9305/040706commissionopinion.pdf [hereinafter *Unocal* Commission Opinion].

[67] *Unocal* Commission Opinion, slip op. at 25 ("[T]he decided weight of precedent concludes that deliberate misrepresentation that cuts to the core of an administrative proceeding's legitimacy can fall outside *Noerr-Pennington* protections.").

[68] *See* Statement of the Federal Trade Commission: In the Matter of Union Oil Company of California, Dkt. No. 9305 and Chevron/Unocal, File No. 051-0125 (June 10, 2005), *available at* www.ftc.gov/os/adjpro/d9305/050802statement.pdf.

patent license terms revealed only after the standard is adopted can generate conflict and impair many parties' abilit[ies] to compete in the affected market."[69] Some SSOs use licensing rules, such as requiring IP holders to commit to licensing on RAND terms, to mitigate hold up.[70] Others, particularly those focused on Internet-based industries, actively promote the development of standards that are licensed on a royalty-free basis.[71]

1. Use of RAND Licensing

Some believe that commitments by IP holders to license IP incorporated into a standard on RAND terms is an effective means for SSOs to avoid hold up.[72] Others believe that "a commitment to offer a license on terms that are merely specified as 'RAND' is not an adequate safeguard against abusive use of a patent that has become essential to a standard."[73]

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[69] Peterson Submission I at 8 (the patentee: (1) "seeks a royalty that is . . . greater than the average profit margin of all of the parties who will need licenses"; (2) "seeks a broad grantback that appears even-handed but [which has] significantly disparate effects on different parties, perhaps forcing particular licensees to forfeit the value of their own major innovation investments, but patentee refuses to deviate from its 'standard' agreement for any reason"; (3) "demands a minimum annual royalty based on 'administrative costs' but [has] the effect of locking out smaller rivals and new entrants"; (4) "seeks royalties from downstream providers (e.g., manufacturers of finished goods) and refuses to license suppliers of upstream inputs"; (5) "requires admissions of infringement and validity, and/or retains the right to immediately terminate a license if the licensor challenges infringement or validity"; (6) "requires acceptance of venue in a 'home court' which might be fine for large companies but a major problem for small companies or foreign competitors"); *see also* Nov. 6 Tr. at 34 (Vishny) (stating that "looking at the licensing process as relating to fees, is terribly simplistic").

[70] Lemley, 90 CAL. L. REV. at 1906; *Standards-Setting and United States Competitiveness: Hearing Before the H. Subcomm. on Environment, Technology, and Standards of the H. Comm. on Science*, 107th Cong. 62, 88 n.22 (2001) (statement of Carl Cargill) (asserting that RAND terms must be offered for intellectual property to be included in an International Organization for Standardization standard) [hereinafter Cargill Congressional Submission]. Recently courts and commentators have been addressing the meaning and application of RAND terms. *E.g.*, *Broadcom Corp. v. Qualcomm Inc.*, No. CIV A 05-3350 MLC, 2006 WL 2528545 (D.N.J. Aug. 31, 2006) (dismissing allegation that SSO participant had violated antitrust law by reneging on a commitment to license on fair, reasonable, and nondiscriminatory terms), *appeal docketed*, No. 06-4292 (3d Cir. Oct. 4, 2006); *United States v. Microsoft Corp.*, 231 F. Supp. 2d 144, 193 (D.D.C. 2002) (requiring licenses to be offered on RAND terms and recognizing that "'reasonableness' is generally an objective standard"); *ESS Tech., Inc. v. PC-Tel, Inc.*, No. C-99-20292 RMW, 2001 WL 1891713, at *3-*6 (N.D. Cal. 2001) (applying the fifteen criteria announced in *Georgia-Pacific Corp. v. U.S. Plywood Corp.*, 318 F. Supp. 1116 (S.D.N.Y. 1970), as appropriate to determine RAND calculation in context of a patent license). Some scholars have proposed alternative methodologies for determining appropriate licensing terms. *See, e.g.*, Patterson, 17 BERKELEY TECH. L.J. at 1056-73 (proposing that benefits to which the patentee is entitled be calculated by determining portion of demand attributable to the patentee's invention); Daniel G. Swanson & William J. Baumol, *Reasonable and Nondiscriminatory (RAND) Royalties, Standards Selection, and Control of Market Power*, 73 ANTITRUST L.J. 1, 25-45 (2005) (advocating the use of the "efficient component pricing rule" to determine a competitively neutral licensing fee).

[71] *See* Apr. 18 Tr. at 23-24 (Lemley); *id.* at 207-08 (Updegrove); *id.* at 266-67 (Weitzner).

[72] Nov. 6 Tr. at 22-23 (Vishny) (stating that hold up is resolved in a reasonable period of time within the Telecommunications Industry Association and that other standard development organizations, such as the IEEE, the American National Standards Institute ("ANSI"), and the Alliance for Telecommunications Industry Solutions, have not had complaints arise about RAND terms); *see also* Apr. 18 Tr. at 270-72 (Updegrove) (explaining that competition from other consortia promotes willingness to license on RAND terms).

[73] *E.g.*, Scott K. Peterson, *Consideration of Patents During the Setting of Standards* (Nov. 6, 2002 Hr'g R.) at 6, http://www.ftc.gov/opp/intellect/

Some panelists attributed the potential inadequacy of a RAND commitment to the difficulty of defining the terms "reasonable" and "nondiscriminatory."[74] Few SSOs give "much explanation of what those terms mean or how licensing disputes [are to] be resolved,"[75] and courts may be reluctant to determine what is a "reasonable" price.[76] The meaning of "nondiscriminatory" may be similarly unclear.[77]

Some panelists raised concerns about the extent to which commitments to license on RAND terms succeed in mitigating hold up and whether SSOs are able to assess the full extent of RAND failures. Supporting those who believe that hold up is more widespread than it appears, one panelist said that "[licensees are] not going to come back to the SDO [standard development organization] and complain [about RAND licensing terms]. The SDOs have made it very clear that they don't want to hear about this stuff."[78] The absence of a good forum for potential licensees to complain about RAND licensing terms may enhance licensors' ability to hold up licensees.[79]

2. Royalty-Free Licensing Standards

A few SSOs require IP holders to commit to royalty-free licensing before incorporating the IP into a standard.[80] The evolution of the Internet may present the best opportunity to study market experiments in royalty-free licensing. For example, the World Wide Web Consortium requires all participants to commit to royalty-free licensing terms.[81]

021106peterson.pdf [hereinafter Peterson Submission II].

[74] Nov. 6 Tr. at 63 (Shapiro) ("[S]ince reasonable is so vague, it doesn't amount to anything."); *id.* at 64 (Thompson) ("RAND [is] an empty term . . . ."); *id.* at 64 (Vishny) ("[T]he people who are negotiating for the establishment . . . of a standard don't know what [RAND] mean[s].").

[75] Lemley, 90 CAL. L. REV. at 1906; *see also id.* at 1954 n.272 ("[T]here has not been much in the way of judicial explication of [RAND licensing terms] so far . . . .").

[76] One panelist explained: "[T]he insights of modern economics tell us that prices are determined in markets and are the result of supply and demand. It's not something that's typically easy for a [c]ourt sitting as a regulatory body to determine and to effectively administer. Courts are very, very loath to take the role of markets. . . . So from the standpoint of imposing constraints on the possible subsequent development of market power as the result of anointment or selection as a part of a standard, obviously one wants to give incentives to standard setting organizations. One wants to bestow them with the power to put limits, effective limits that will restrain that exercise after the technology is chosen. And the whole trick is doing that in a way that's consistent with antitrust law." Apr. 18 Tr. at 286-87 (Swanson).

[77] *See id.* at 302-03 (Holleman) (stating that licensing is nondiscriminatory if licenses are made available to everyone who requests a license although there is no guarantee that the terms and conditions of each license will be identical); *see also id.* at 272 (Updegrove).

[78] Nov. 6 Tr. at 28 (Peterson).

[79] *See id.* at 27-28 (Farrell).

[80] *See, e.g.*, Lemley, 90 CAL. L. REV. at 1905 (identifying only four standards groups of the forty-three studied that require royalty-free licensing of patents incorporated in a standard); Apr. 18 Tr. at 257-69 (Weitzner) (discussing the World Wide Web Consortium and the Platform for Privacy Preferences). In practice, however, a royalty-free license may not eliminate the need for agreement concerning the other terms and conditions under which the license is offered. Apr. 18 Tr. at 191 (Holleman).

[81] *See, e.g.*, Press Release, World Wide Web Consortium, World Wide Web Consortium Approves Patent Policy (May 21, 2003) (announcing finalized royalty-free patent policy), http://www.w3.org/2003/05/patentpolicy-pressrelease.html.en.

Some panelists endorsed royalty-free licenses as the best means for limiting licensing hold up and for growing markets.[82] Some asserted that giving a royalty-free license might be of little competitive consequence to an intellectual property holder that is a market player. Such might be the case because the intellectual property holder could retain a first-mover advantage and be in the best position to implement the standard, or the IP holder could license its other protected technologies that are complements to those incorporated in the standard.[83] Others raised concerns about royalty-free licensing and argued that royalty-free licenses, even those infused with a first-mover advantage, might not provide an efficient incentive for research and development ("R&D").[84] One panelist stated, "economists generally know[,] and antitrust lawyers generally suspect[,] that zero is rarely a reasonable price."[85] Panelists debated whether mandatory royalty-free licenses might represent the ultimate monopsony by collectively depriving the licensor of the ability to extract economic benefit from its intellectual property.[86]

Neither Agency advocates that SSOs adopt any specific disclosure or licensing policy, and the Agencies do not suggest that any specific disclosure or licensing policy is required.

[82] Apr. 18 Tr. at 294-96 (Lo); *see also* Andrew Updegrove, *Observations on the Current Dynamics of Consortium Standard Setting* (Apr. 18, 2002 Hr'g R.) at 3-4, http://www.ftc.gov/opp/intellect/020418updegrove3.pdf [hereinafter Updegrove Submission II] (permitting intellectual property holders to charge royalties in the context of the Internet could cripple it, while forbidding royalties in a more limited commercial area might "unnecessarily deprive a member of the full economic value" of its intellectual property). Others discussed the value of "open" standards. *See, e.g.*, Cargill Congressional Submission at 21-22; Apr. 18 Tr. at 137 (Cargill).

[83] Apr. 18 Tr. at 225-26 (Updegrove); David J. Teece & Edward F. Sherry, *Standards Setting and Antitrust*, 87 MINN. L. REV. 1913, 1954 (2003) ("[A] patent holder may be willing to license its patents royalty-free to all interested parties . . . . [T]his is most likely to occur . . . when the patent holder will benefit from others' adoption of its patented technology as a standard because the patent holder has other complementary capabilities that will enable it to profit from its innovation in a manner other than collecting royalties.").

[84] *E.g.*, Apr. 18 Tr. at 221-22 (Besen).

[85] *Id.* at 288 (Swanson); *id.* at 289 ("[I]n the intellectual property realm obviously the reason why we have intellectual property protection is to give those who have engaged in costly efforts to create intellectual property sufficient protection to give them the expectation that they will get a return for that, some return greater than zero.").

[86] *Compare* Nov. 6 Tr. at 66-67 (Farrell) ("[I] think that [a royalty-free license] raises the technology monopsony concern much more sharply than ex ante negotiation . . . . I also think that the way these things are often structured, they're as duties on member participants. And to the extent that . . . might create an incentive not to join, it seems like that could be a real concern."), *with id.* at 67-68 (Kattan) ("[I] think [Farrell is] beginning from a faulty factual premise. The way that the organizations that provide for royalty-free licensing work is not by requiring members to commit up front to royalty-free licensing. It is rather by agreeing that there will be a license, which will be royalty-free. If you want to take advantage of the license and get a royalty-free license from all the other members who agree to sign the license, then you have to agree to give them a reciprocal license. So, it doesn't create a monopsony problem, it gives you a choice. What is more valuable to me? Getting a royalty-free license from everybody else or paying everybody else the royalties that they may ask for and at the same time charging royalties for my patents. So, it's fundamentally different from the kind of hold-up that [Farrell] is talking about."). For a discussion of group buying power, see *infra* Part V.B.2.

V. USING *EX ANTE* LICENSING NEGOTIATIONS TO MITIGATE HOLD UP

In some cases, market factors, IP disclosures, and commitments to license on RAND terms may not sufficiently mitigate the potential for licensing hold up.[87] Some SSO members have suggested that SSOs should be permitted to require IP holders to make specific licensing commitments that are better defined than RAND terms. These well-defined licensing commitments could be introduced into the standard-setting process through *ex ante* unilateral announcements of licensing terms by IP holders or through *ex ante* multilateral licensing negotiations between IP holders and the group of SSO members.

An economist at the hearings noted that "[i]t is efficient [for standard setters] to choose the technology that involves the lowest cost of producing [the] product," so they would likely prefer to be able to combine the selection of technology for a standard with the negotiation of licensing terms for that technology.[88] Another panelist explained: "A truly informed and intelligent decision [that] . . . would best serve all parties' interests – including the public's interest in competitive market conditions – cannot be made without knowing what the patent holder would extract from all users as the price for admission into the affected market."[89]

To illustrate this point, the economist described a stylized setting in which an SSO needed to select one of multiple alternative protected technologies.[90] He suggested that the SSO could hold an auction and require the holders of the IP to submit "bids" describing the licensing terms to which they would agree if their technology were incorporated into the standard. He explained that, under his simplifying assumptions, one would expect such an auction to result in the SSO selecting the efficient technology, and that the terms of the licensing agreement would reflect the relative benefit of the selected technology.[91] Several panelists expressed concern that such auctions or negotiations could slow down the standard-setting process, raise the costs of participation, and potentially result in antitrust liability.[92] For these reasons, many SSOs and companies strictly prohibit discussions of licensing terms within SSOs.[93]

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[87] Peterson Submission II at 6; Peterson Submission I at 9-12; *see also* Nov. 6 Tr. at 59-60 (Farrell).

[88] Apr. 18 Tr. at 214-15 (Besen); *accord* Nov. 6 Tr. at 50-51 (Peterson).

[89] Peterson Submission I at 11; *accord* Lemley, 90 CAL. L. REV. at 1947 ("[Monopsony problems do] not mean that members of the SSO should be prohibited from discussing price. Finding out what a 'reasonable and nondiscriminatory' license will actually cost will help determine the true value of a proposed standard and how it compares to possible alternatives.").

[90] Dr. Besen made several other simplifying assumptions: the alternative technologies are equally capable of performing in the standard, but they have different manufacturing costs and the holders of the relevant intellectual property rights are not members of the SSO. He also discussed how relaxing the various assumptions would complicate this analysis. Apr. 18 Tr. at 217-24 (Besen); Besen Submission at 1-3.

[91] *See* Apr. 18 Tr. at 214 (Besen); Besen Submission.

[92] *See, e.g.*, Nov. 6 Tr. at 33 (Thompson).

[93] Peterson Submission I at 9-10 & n.2; Apr. 18 Tr. at 171 (Lemley); *see also id.* at 153 (Cargill).

A. Practical Reasons for the Lack of *Ex Ante* Licensing Negotiations

There was a general consensus among panelists that a more transparent process for setting licensing terms is desirable. Nonetheless, the increased administrative costs and delays associated with such transparency led many panelists to disfavor *ex ante* discussions for practical reasons, independent of antitrust considerations.[94]

Several panelists stated that *ex ante* licensing negotiations would require firms to completely overhaul how they participate in SSOs. Currently, firms are typically represented at SSOs by technical experts who focus on selecting the best technology for a standard, not on negotiating licensing terms.[95] Multilateral *ex ante* negotiations would likely require lawyers and business and marketing personnel to also participate in the process.[96] Such participation would likely increase the costs and lengthen the already significant amount of time that it takes to adopt a standard, which may dissuade some firms from participating.[97]

B. Antitrust Concerns About *Ex Ante* Licensing Negotiations

Panelists raised concerns about two categories of antitrust liability that could result from *ex ante* negotiation of licensing terms: (1) naked agreements to restrain trade by intellectual property holders or SSO members, and (2) the exercise of group buying power by those that participate in the standard-setting process.

1. Naked Restraints of Trade by Intellectual Property Holders or SSO Members

As discussed above, standard-setting activities were the subject of several U.S. Supreme Court decisions between the 1960s and 1980s that dealt principally with exclusionary practices and the "capture" of an SSO by a group of competitors.[98] These cases have influenced the strict antitrust compliance rules and procedures adopted by many SSOs.[99]

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[94] *See, e.g.*, Nov. 6 Tr. at 79-80 (Vishny) (asserting that *ex ante* discussions are "highly unworkable and impractical"); Apr. 18 Tr. at 193-94 (Holleman) (stating that committees do not want to discuss terms and conditions of licenses).

[95] Apr. 18 Tr. at 173 (Marasco); *id.* at 195 (Holleman).

[96] Nov. 6 Tr. at 33 (Thompson) (asserting that Texas Instruments does not have enough "rare breed" licensing attorney/engineers to engage in *ex ante* negotiations with all of the standards bodies in which Texas Instruments participates).

[97] *Id.* at 87 (Thompson) ("At some point [*ex ante* discussions are] either going to add to my cost, which, by the way, gets passed on to the consumer at some point, or it's going to be we don't participate in certain groups. To me, it's a major longer term concern and I'm not sure if the thing that we're trying to fix, which doesn't seem to be a real problem, is worth presenting another problem down the road."); *see id.* at 25-26 (Farrell). However, one panelist labeled the stated concerns about extra administrative costs as a "red herring" because Agency guidance permitting *ex ante* negotiations would not require participants to undertake them; it would merely allow participants to decide for themselves whether it was worth the costs. *Id.* at 65-66 (Shapiro).

[98] *Radiant Burners*, 364 U.S. 656; *Nat'l Soc'y of Prof'l Eng'rs v. United States*, 435 U.S. 679 (1978); *Am. Soc'y of Mech. Eng'rs*, 456 U.S. 556; *Allied Tube*, 486 U.S. 492.

[99] In 2004, Congress enacted legislation to limit the potential antitrust liability of SSOs that meet certain open-process standards. The Standards Development Organization Advancement Act of 2004 provides that the antitrust rule of reason applies to these SSOs

Some panelists extrapolated from the usual antitrust "presumption that when competitors get into the same room together[,] as Adam Smith said, little good can come out of it."[100] In the opinion of those panelists, standard setting that involves intellectual property rights raises the potential for section 1 *per se* liability for individuals and firms participating in *ex ante* multilateral licensing negotiations.[101]

Sham multilateral licensing negotiations certainly may offer an opportunity for SSO members to reach naked price-fixing agreements that lack plausible and cognizable justifications, restraints that the Agencies and courts summarily condemn.[102] For example, if manufacturers use the cover of multilateral licensing negotiations to reach naked agreements on the prices of the products they sell downstream, summary condemnation is warranted.[103] Meeting to discuss royalty rates within an SSO may give manufacturers an opportunity to discuss downstream prices with less risk of detection, making collusion less expensive.[104] Likewise, summary condemnation would be justified if IP holders were to reach naked agreements on the licensing terms they will propose to an SSO that permits multilateral licensing negotiations, thus,

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while they are engaged in standards development activities. It also provides special rules for attorney fees in any antitrust case challenging the standards development activity of an SSO. In addition, qualifying SSOs may limit their antitrust liability for standards development activities to actual, as opposed to treble, damages if they file a proper notification with the Agencies. 15 U.S.C. §§ 4301-4305 (Supp. 4 2006).

[100] Apr. 18 Tr. at 127 (Gellhorn).

[101] *See, e.g.*, Nov. 6 Tr. at 43-47 (Vishny); *Sony Elecs., Inc. v. Soundview Techs., Inc.*, 157 F. Supp. 2d 180 (D. Conn. 2001) (denying a motion to dismiss an antitrust claim against a group of standard setters based on allegations of price-fixing and group boycott). Soundview alleged that the group sought to fix the licensing fee for its patent that was likely infringed by the standard and then refused to accept a license, choosing instead to challenge the patent's validity. Although some cite *Soundview* for the proposition that antitrust liability may attach in the *ex ante* licensing context, the reliance is somewhat misplaced. The conduct allegedly giving rise to antitrust liability in *Soundview* occurred *ex post*, after the standard had been adopted. *See also Golden Bridge Tech., Inc. v. Nokia, Inc.*, 416 F. Supp. 2d 525 (E.D. Tex. 2006) (denying defendants' motion to dismiss plaintiff's claim that members of the Third Generation Partnership Project conspired to remove plaintiff's Common Packet Channel technology from a Wideband Code Division Multiple Process wireless communications standard set by the organization in violation of section 1 of the Sherman Act and various state laws).

[102] ANTITRUST-IP GUIDELINES § 3.4 ex.7 (describing likely Agency challenge under the *per se* rule of "a sham intended to cloak [the] true nature" of a particular licensing agreement); *Addamax Corp. v. Open Software Found., Inc.*, 152 F.3d 48, 52 & n.5 (1st Cir. 1998) (stating that joint ventures are generally reviewed under rule of reason "unless they amount to complete shams").

[103] *See United States v. Socony-Vacuum Oil Co.*, 310 U.S. 150, 223-24 (1940).

[104] ROGER D. BLAIR & JEFFREY L. HARRISON, MONOPSONY: ANTITRUST LAW AND ECONOMICS 124 (1993) ("[S]ince the parties are permitted to gather for the purpose of determining a uniform purchase price, it would be more difficult to detect when they had crossed over to at least a tacit agreement on selling price. This decreased likelihood of detection lowers the risk associated with the price fixing collusion."); *see also* Peterson Submission II at 7 (discussing risk of collusion on product prices, development, or marketing). For similar reasons, some fear that information-sharing among buyer-members of business-to-business electronic marketplaces could facilitate downstream coordination. FEDERAL TRADE COMM'N, ENTERING THE 21ST CENTURY: COMPETITION POLICY IN THE WORLD OF B2B ELECTRONIC MARKETPLACES pt. 3, at 4 (2000), *available at* http://www.ftc.gov/os/2000/10/b2breport.pdf; Blair & Harrison, Monopsony at 159 ("'[P]ermission' to collude as buyers creates a huge danger that collusion as sellers will also occur.").

in effect, rigging their selling bids.[105]

2. Group Buying Power

Standards set by SSOs, like all types of standards, can promote competition by lowering prices, increasing consumer choice, or improving quality. In the absence of nakedly anticompetitive restraints by an SSO or by its members, it is appropriate to determine whether an SSO's efforts to reduce opportunities for IP holders to hold up future users of a standard violates the antitrust laws pursuant to the rule of reason. Relying on the rule of reason when analyzing the competitive harm that might arise from implementation of an SSO policy promoting *ex ante* licensing negotiations is appropriate because *ex ante* negotiations may mitigate the market power of patent holders created by SSO members when they incorporate a particular technology in a standard that creates or expands a market for that technology. As one panelist explained, "to talk about per se liability is to disregard the integrative effort that takes place in developing the standard and in creating the demand for the technology."[106]

In most cases, it is likely that the Agencies would find that joint *ex ante* activity undertaken by an SSO or its members to establish licensing terms as part of the standard-setting process is likely to confer substantial procompetitive benefits by avoiding hold up that could occur after a standard is set, and this would be an important element of a rule of reason analysis. *Ex ante* licensing discussions may lead to price competition, in effect allowing for broader competition among alternative technologies vying for inclusion in the standard.[107] Patent holders choosing to participate in the standard-setting process would compete against other patent holders, as well as against public domain technologies, on the basis of technical merit and on price and other licensing terms in order to have their technology included in the standard. *Ex ante* licensing discussions can thus preserve the benefits of competition that exist by increasing the *ex ante* knowledge of SSO decision-makers about licensing terms and may improve the quality of their decisions, enabling them to make tradeoffs between price and technical

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[105] *See Socony-Vacuum Oil Co.*, 310 U.S. at 223 ("Under the Sherman Act a combination formed for the purpose and with the effect of raising, depressing, fixing, pegging, or stabilizing the price of a commodity in interstate or foreign commerce is illegal *per se*."); 12 HERBERT HOVENKAMP, ANTITRUST LAW ¶ 2005, at 65-71 (1999).

[106] Nov. 6 Tr. at 45-46 (Kattan) (referencing Gail F. Levine, *B2Bs, E-Commerce & the All-Or-Nothing Deal*, 28 RUTGERS COMPUTER & TECH. L.J. 383 (2002)); *see also Broad. Music, Inc. v. Columbia Broad. Sys., Inc.*, 441 U.S. 1, 20, 23-24 (1979) (holding that blanket license agreements are not "naked restraints of trade" that would constitute *per se* price fixing and should be examined under the rule of reason); Robert A. Skitol, *Concerted Buying Power: Its Potential for Addressing the Patent Holdup Problem in Standard Setting*, 72 ANTITRUST L.J. 727, 739 (2005) (examining how the effects of monopsony power fall within the rule of reason); *cf.* Patterson, 17 BERKELEY TECH. L.J. at 1078 ("[The SSO itself] should be treated as a single entity when involved in negotiations related to the standard. . . . In such circumstances, the individual members are not pooling their market shares to gain greater power, but are using the power of the standard.").

[107] *Chi. Bd. of Trade v. United States*, 246 U.S. 231, 238 (1918) ("The true test of legality is whether the restraint imposed is such as merely regulates and perhaps thereby promotes competition or whether it is such as may suppress or even destroy competition.").

merit that are not possible unless the price of patented technological inputs is known before the standard is set. This *ex ante* knowledge may place an upper bound on a patent holder's RAND commitment, and it lowers the risk that users of a standard will face demands for more restrictive licensing terms after the standard is set than SSO members expected when they chose to include the patented technology in the standard. Reducing this risk may speed adoption of the standard in the marketplace.

Nonetheless, joint *ex ante* licensing negotiations may raise competition concerns in some settings.[108] For example, such negotiations might be unreasonable if there were no viable alternatives to a particular patented technology that is incorporated into a standard, the IP holder's market power was not enhanced by the standard, and all potential licensees refuse to license that particular patented technology except on agreed-upon licensing terms. In such circumstances, the *ex ante* negotiation among potential licensees does not preserve competition among technologies that existed during the development of the standard but may instead simply eliminate competition among the potential licensees for the patented technology.

[108] *See, e.g.*, Deborah Platt Majoras, Chairman, Federal Trade Comm'n, Recognizing the Procompetitive Potential of Royalty Discussions in Standard Setting, Remarks at Standardization and the Law: Developing the Golden Mean for Global Trade 8-9 (Sept. 23, 2005), *available at* http://www.ftc.gov/speeches/majoras/050923stanford.pdf (noting that joint *ex ante* bargaining could, in theory, reduce incentives for innovation but questioning whether that risk would be a frequent practical concern).

VI. AGENCY POLICY CONCLUSIONS ABOUT ANTITRUST CONCERNS ASSOCIATED WITH *EX ANTE* LICENSING NEGOTIATIONS

Some SSOs, and their participants, have hesitated to allow the question of price to be part of the formal standard-setting process in any form. They have allowed neither *ex ante* unilateral announcements of licensing terms by firms that own the protected technology nor joint discussions about licensing terms between these firms and the SSO members.[109] To the extent such prohibitions are based on concerns about *per se* illegality of *ex ante* agreements on licensing terms, they fail to account for the procompetitive reasons SSO members have to broaden *ex ante* competition between technologies beyond the traditional selection criteria, such as technical merit.[110] Such *ex ante* knowledge about licensing terms could help mitigate hold up that is not resolved in the first instance by the existence of SSO rules requiring disclosure of IP or by requirements that SSO members license

[109] Marasco Submission at 7, 11; Skitol, 72 ANTITRUST L.J. at 728-29; Peterson Submission II at 6 ("Some participants in standards development activities have refused to permit license terms to be taken into consideration in the selection of a standard because of a concern about antitrust risks."); Lemley, 90 CAL. L. REV. at 1965 ("[S]ome SSOs expressly forbid discussion of [the terms on which licenses must be granted beyond the vague requirement that they be reasonable] when a standard is under consideration, presumably for fear of antitrust liability."); *see also* Besen Submission at 2 n.2.

[110] *Cf.* Patterson, 17 BERKELEY TECH. L.J. at 1056 ("Antitrust law can and should distinguish . . . between collective action that facilitates negotiation in the patent-standard context and anticompetitive collusion among potential licensees.").

on RAND terms. Because of the strong potential for procompetitive benefits, the Agencies will evaluate joint *ex ante* activity to establish licensing terms under the rule of reason. The Agencies' general approach to these issues is outlined below.

First, an IP holder's voluntary and unilateral disclosure of its licensing terms, including its royalty rate, is not a collective act subject to review under section 1 of the Sherman Act. Further, a unilateral announcement of a price before "selling" the technology to the standard-setting body (without more) cannot be exclusionary conduct and therefore cannot violate section 2.[111]

Second, bilateral *ex ante* negotiations about licensing terms that take place between an individual SSO member and an individual intellectual property holder (without more) outside the auspices of the SSO also are unlikely to require any special antitrust scrutiny because IP rights holders are merely negotiating terms with individual buyers.[112]

Third, *per se* condemnation is not warranted for joint SSO activities that mitigate hold up and that take place before deciding which technology to include in a standard.[113] Rather, the Agencies will apply the rule of reason when evaluating joint activities that mitigate hold up by allowing the "buyers" (members of the SSO who are potential licensees of the standard) to negotiate licensing terms with the "sellers" (the rival IP holders) before competition among the technologies ends and potentially confers market power (or additional market power) on the holder of the chosen technology. Such joint activities could take various forms, including joint *ex ante* licensing negotiations or an SSO rule that requires intellectual property holders to announce their intended (or maximum)[114] licensing terms for technologies being considered for adoption in a standard. The Department recently analyzed an SSO's proposal to require member firms to disclose their intended most restrictive licensing terms for patents essential to a standard. Pursuant to the rule of reason, the Department concluded that it would not take enforcement action if the policy were adopted because the policy

[111] Michael A. Carrier, *Why Antitrust Should Defer to the Intellectual Property Rules of Standard-Setting Organizations: A Commentary on Teece & Sherry*, 87 MINN. L. REV. 2019, 2036-37 (2003) (stating that announcing licensing terms before a standard is adopted is not an antitrust violation); *cf.* Marasco Submission at 11 ("Certainly nothing in the ANSI Policy prohibits a patent holder from voluntarily disclosing its proposed licensing terms and conditions.").

[112] Bilateral negotiations between individual SSO members and individual patent holders already take place on occasion. Apr. 18 Tr. at 194-95 (Holleman); Holleman Submission II at 4 ("[O]utside of the activities of the SDO, individual standards participants are able to approach the patent holder to inquire [about] available licensing terms.").

[113] *See* Majoras, Recognizing the Procompetitive Potential of Royalty Discussions in Standard Setting at 7; R. Hewitt Pate, Assistant Attorney Gen., U.S. Dep't of Justice, Competition and Intellectual Property in the U.S.: Licensing Freedom and the Limits of Antitrust, Remarks at the 2005 EU Competition Workshop 9-10 (June 3, 2005), *available at* http://www.usdoj.gov/atr/public/speeches/209359.pdf.

[114] A patent holder may wish to announce a maximum royalty rate, rather than a single rate applicable to all licensees if it anticipates that licensing arrangements with some SSO members might involve cross licensing, which could lower the royalty rate appropriate for particular SSO members.

preserved competition between technologies during the standard-setting process.[115]

If intellectual property holders turn joint *ex ante* licensing discussions into a sham to cover up naked agreements on the licensing terms each IP holder will offer the SSO, *per se* condemnation of such agreements among "sellers" of IP rights may be warranted. Similarly, *ex ante* discussion of licensing terms within the standard-setting process may provide an opportunity for SSO members to reach side price-fixing agreements that are *per se* illegal. The Agencies will almost certainly treat as *per se* illegal any effort by manufacturing rivals to fix the price of the standardized products they "sell" instead of discussing the price of the terms on which they will "buy" a technology input that is needed to comply with the standard. However, such risks are not sufficient to condemn *all* multilateral *ex ante* licensing negotiations, particularly given the fact that "[t]hose developing standards already have extensive experience managing this risk."[116]

The Agencies do not suggest that SSOs are required to sponsor such discussions during the standard-setting process. Concerns about legitimate licensing discussions spilling over into dangerous antitrust territory may dissuade some groups from conducting them in the first place. Moreover, it is fully within the legitimate purview of each SSO and its members to conclude that *ex ante* licensing discussions are unproductive or too time consuming or costly.[117] An SSO may also fear that requiring *ex ante* commitments to licensing terms would deter some IP holders from participating in the standard-setting process, depriving the standard-setting process of the expertise of those IP holders.

The Agencies take no position as to whether SSOs should engage in joint *ex ante* discussion of licensing terms but recognize that joint *ex ante* activity to establish licensing terms as part of the standard-setting process will not warrant *per se* condemnation. Such activity might mitigate the potential for IP holders to hold up those seeking to use a standard by demanding licensing terms greater than they would have received before their proprietary technology was included in the standard. Given the strong potential for procompetitive

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[115] Letter from Thomas O. Barnett, Assistant Attorney Gen., U.S. Dep't of Justice, to Robert A. Skitol, Esq., Drinker Biddle & Reath LLP (Oct. 30, 2006), *available at* http://www.usdoj.gov/atr/public/busreview/219380.pdf.

[116] Peterson Submission II at 7; *see also Vogel v. Am. Soc'y of Appraisers*, 744 F.2d 598, 603 (7th Cir. 1984) ("[T]he danger that abolishing an anticompetitive fee system will lead to adoption of an equally or more anticompetitive one in its place is . . . too speculative to bring the per se rule into play."). *See generally* U.S. DEP'T OF JUSTICE & FEDERAL TRADE COMM'N, STATEMENTS OF ANTITRUST ENFORCEMENT POLICY IN HEALTH CARE (1996), *reprinted in* 4 Trade Reg. Rep. (CCH) ¶ 13,153, at 20,812-14, 20,813 n.20 (clarifying that certain joint purchasing agreements do not raise antitrust concerns, but that attendant anticompetitive activities remain unlawful), *available at* http://www.usdoj.gov/atr/public/guidelines/1791.pdf.

[117] *See, e.g.*, IEEE Submission at 5 ("The standard-setting process is designed to develop the best technical standard, as independent of marketing and intellectual property rights issues as possible."); Holleman Submission II at 4-5 ("Discussions [within SSOs about which technology to support] should be focused on technical issues – not licensing terms and conditions.").

benefits, the Agencies will evaluate joint *ex ante* negotiation of licensing terms pursuant to the rule of reason.