

ANTITRUST IMPLICATIONS OF ABUSE OF STANDARD-SETTING

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INTRODUCTION

Modern life depends on the interoperability of countless technical devices. Electric plugs must fit into electric sockets, light bulbs must fit into lamp sockets, webpage materials must be readable on different computer systems, and cellular telephones must be able to talk to each other. As new products and new technologies develop, industries repeatedly find themselves facing the problem of disseminating new products on a wide scale while ensuring that the new products will interact with existing or future complementary products. To achieve predictable interaction, many technology-driven industries have formed standard-setting bodies that are responsible for facilitating interoperability by determining which technologies the industry will use. For example, the development of the Ethernet standard, which allows customers a wide selection of networking devices that will work with virtually any computer system, has facilitated the growth of the Internet.¹ Mobile phones and hand-held e-mail devices have also improved through the development of new standards for mobile wireless communication that allow for handsets with ever-increasing voice and data capacity.² Other industries that require consistency among products also use standard-setting, such as by establishing safety codes for materials used in housing construction.³ By codifying uniform standards, these bodies encourage competition among manufacturers of products that use new technology and also allow for accelerated development of new generations of existing technologies.

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¹ Merkem, What is Ethernet Technology?, http://www.merkem.com/edu/ethernet_technology.htm (last visited June 4, 2008).

² TechFAQ, What is the History of Cell Phones?, <http://www.tech-faq.com/history-of-cell-phones.shtml> (last visited June 18, 2008).

³ See 13 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶ 2230a-b, at 401-05 (2d ed. 2005).

The standardization process, however, necessarily entails the exclusion of alternative technologies and can lock an industry into one method of doing things for an extended period of time. In the absence of strictly enforced rules regulating the conduct of patent holders participating in the standard-setting process, this lock-in effect can lead to undue windfalls for the companies that hold intellectual property that is chosen or approved as part of a formal industry standard. Using deception in the standard-setting process to avoid such rules and win such windfalls raises issues under the antitrust laws by enabling the extraction of monopoly rents from others seeking to practice the standard and limiting the output of standard-compliant products.

This Article discusses the antitrust issues that can arise when a company gains the inclusion of its intellectual property as an essential element of a standard by avoiding the restraints built into the intellectual property policies of standard-setting bodies and then seeks to extract monopoly royalties or licensing terms for that intellectual property after the standard has been adopted. Part I begins the discussion with a description of the history of the antitrust treatment of standard-setting and deception and the legal framework within which the courts and enforcement agencies analyze standard-setting abuses. Part II then discusses a number of issues related specifically to the antitrust implications of a company's making deceptive commitments to license its technology and then failing to abide by those commitments once the technology is part of a standard. Part III addresses how standard-setting bodies and courts have dealt with these issues by acting to prevent such deceptive conduct. This Article finishes with some concluding remarks.

I. BACKGROUND

Because standard-setting at its core poses a risk of improper collusion, antitrust law has a long history of application in the context of standard-setting organizations.⁴ The role of a standard-setting organization (“SSO”) can be grossly described as a group of competitors coming together and deciding what products will or will not be allowed onto the market.⁵ In general terms, an SSO typically consists of participants in an industry who have expertise in the technologies and products at issue.⁶ These members come together and evaluate technologies, products, or methodologies to be

⁴ See Erica S. Mintzer & Logan M. Breed, *How to Keep the Fox Out of the Henhouse: Monopolization in the Context of Standard-Setting Organizations*, 19 INTELL. PROP. & TECH. L.J. 5, 5 (2007).

⁵ Mark A. Lemley, *Intellectual Property Rights and Standard-Setting Organizations*, 90 CAL. L. REV. 1889, 1892, 1896 (2002).

⁶ See 13 AREEDA & HOVENKAMP, *supra* note 3, ¶ 2230c, at 408.

included in new industry-wide standards.⁷ Such organizations exist for numerous technical fields, and the standards they define impact products throughout the economy and around the world. When confronted with competing technologies that can achieve the same goal, an SSO must choose the “winner,” whose technology will be included in the new standard, and, by necessity, the “losers,” whose technologies will be excluded from the new standard. When an SSO selects a technology covered by a patent to be an essential⁸ element of a standard, the owner of that patent can gain a vast windfall because, in order to produce standard-compliant products, other companies will have no choice but to practice the technology and will therefore require a license from the patent holder.

As a general matter, Section One of the Sherman Act prohibits “[e]very contract, combination . . . or conspiracy, in restraint of trade or commerce”⁹ Although the language of this statute could encompass nearly every contract, the courts have interpreted it more narrowly to prohibit only agreements or collusion that restrict competition unreasonably.¹⁰ In analyzing potential Section One violations, the courts have developed two approaches for gauging the “reasonableness” of an agreement in restraint of trade—the “*per se* rule” and the “rule of reason.” Under the *per se* rule, the courts condemn agreements that “would always or almost always tend to restrict competition and decrease output” as *per se* illegal and do not look into any proposed business justifications for such agreements.¹¹ The *per se* rule is used only for a small range of activities that are considered “manifestly” or “plainly” anticompetitive, such as price fixing by competitors.¹² By contrast, for conduct whose effect on competition is ambiguous, courts apply the rule of reason, under which they analyze whether the restraint’s anticompetitive effects outweigh any procompetitive benefits for which the restraint is reasonably necessary.¹³ The rule of reason entails a fact-specific inquiry into the relevant industry and the effects of the re-

⁷ See Lemley, *supra* note 5, at 1896.

⁸ SSOs occasionally promulgate non-essential standards that cover complementary aspects of the core standard or include voluntary elements within the core standard. See Ann Layne-Farrar et al., *Pricing Patents for Licensing in Standard-Setting Organizations: Making Sense of FRAND Commitments*, 74 ANTITRUST L.J. 671, 688 (2007).

⁹ 15 U.S.C. § 1 (2000).

¹⁰ See, e.g., *California Dental Ass’n v. FTC*, 526 U.S. 756, 769-81 (1999); *Standard Oil Co. of New Jersey v. United States*, 221 U.S. 1, 51-52, 60 (1911).

¹¹ *Broadcast Music, Inc. v. CBS*, 441 U.S. 1, 19-20 (1979) (citing *United States v. U.S. Gypsum Co.*, 438 U.S. 422, 441 n.16 (1978)).

¹² *Bus. Elecs. Corp. v. Sharp Elecs. Corp.*, 485 U.S. 717, 723 (1988); *Broadcast Music*, 441 U.S. at 7-8. See also *Arizona v. Maricopa County Med. Soc’y*, 457 U.S. 332, 346 (1982) (“[T]he Sherman Act, so far as price-fixing agreements are concerned, establishes one uniform rule applicable to all industries alike” (quoting *United States v. Socony-Vacuum Oil Co.*, 310 U.S. 150, 222 (1940))).

¹³ See, e.g., *Continental T.V., Inc. v. GTE Sylvania, Inc.*, 433 U.S. 36, 49-50 (1977).

straint,¹⁴ and it is the presumptive and most common approach for considering a Section One case.¹⁵

Alongside Section One's condemnation of concerted action, Section Two of the Sherman Act condemns unilateral monopolization and attempts to monopolize.¹⁶ A defendant will be liable for monopolization if shown to possess monopoly power and to have acquired, enhanced, or maintained that monopoly power by the use of exclusionary conduct.¹⁷ A defendant will be liable for attempted monopolization if shown to have engaged in exclusionary conduct with a specific intent to monopolize and with a "dangerous probability" of successfully achieving monopoly power.¹⁸ Section Two cases thus frequently hinge on whether a defendant's alleged wrongdoing amounts to "exclusionary" conduct and what the effect of that conduct is on the defendant's "power" in the marketplace.¹⁹ The Supreme Court has defined "monopoly power" as "the power to control prices or exclude competition."²⁰ Determining whether a defendant has such power entails an extensive, fact-specific inquiry into the scope of the relevant product and geographic market, and the actual ability of the defendants to raise prices or reduce output given the presence of any other competitors or potential entry of new competitors into the market.²¹

Within this framework of the antitrust laws, SSOs must be diligent to ensure that their actions do not run afoul of Section One and to guard against unilateral actions of any members seeking to hijack a standard in contravention of Section Two. Given the significant benefits to consumers and society that standard-setting can provide, the courts and government enforcement agencies apply the rule of reason to standard-setting activities and generally allow them to continue.²² Standard-setting can be particularly beneficial in industries with wide-ranging network effects requiring interoperability between components that are often purchased from different, competing manufacturers. Properly structured, standard-setting allows patent holders to combine their technologies to create a single solution that is greater than the sum of its parts. Such a standard may accelerate the adoption of new technologies, improve consumer welfare, and promote competition among manufacturers practicing the standard in the downstream product market.²³

¹⁴ *State Oil Co. v. Khan*, 522 U.S. 3, 10 (1997).

¹⁵ *See Texaco, Inc. v. Dagher*, 547 U.S. 1, 5 (2006).

¹⁶ 15 U.S.C. § 2 (2000).

¹⁷ *United States v. Microsoft Corp.*, 253 F.3d 34, 58 (D.C. Cir. 2001).

¹⁸ *See Spectrum Sports, Inc. v. McQuillan*, 506 U.S. 447, 456 (1993).

¹⁹ *See, e.g., Rambus Inc. v. FTC*, 522 F.3d 456, 463 (D.C. Cir. 2008).

²⁰ *United States v. E.I. duPont de Nemours & Co.*, 351 U.S. 377, 391 (1956).

²¹ WILLIAM C. HOLMES, *ANTITRUST LAW HANDBOOK* § 3:4 (1984).

²² *See* 13 AREEDA & HOVENKAMP, *supra* note 3, ¶ 2136a, at 232.

²³ *See Lemley, supra* note 5, at 1896-97.

If unrestrained, however, standard-setting may harm competition in a number of ways. These harms include the elimination of otherwise viable alternatives from the marketplace,²⁴ the disparagement of competitors' products,²⁵ and the promulgation of rules that restrict competitors' means of competing (such as restrictions on advertising and recruiting).²⁶ As technological advances continue to drive the need to create new standards for interoperable networks, the most significant cause for competitive concern is the risk that standard-setting will be misused to create unrestrained monopoly power. In *Allied Tube & Conduit Corporation v. Indian Head, Inc.*²⁷ and *American Society of Mechanical Engineers v. Hydrolevel Corp.*,²⁸ the Supreme Court acknowledged the potential risks of standard-setting as a collusive activity. However, the Court also acknowledged the benefits it can bring and explained that, so long as the exclusionary power of the standard-setting body is not usurped for the benefit of one member (or potentially just a few members), standard-setting will be permitted under the antitrust laws.²⁹

In *Allied Tube*, the Supreme Court upheld liability under Section Two of the Sherman Act for a company that stacked votes in a standard-setting body that established safety standards for building equipment to keep a rival's product from being approved as safe.³⁰ The Supreme Court explained that the benefits from collective standard-setting justified applying rule of reason analysis (rather than the per se rule) to standard-setting activities generally, though it condemned the specific defendant company's actions.³¹ The Court noted that the procompetitive advantages of standard-setting should only be considered where procedures are in place to "prevent the standard-setting process from being biased by members with economic interests in stifling product competition."³² Such procedures are necessary to ensure that the collective exclusion inherent in standard-setting does not cause undue competitive harm and to ensure that customers for downstream products can enjoy the benefits of competition that would otherwise exist if no collective standard were set. The defendant in *Allied Tube* violated Section Two because it usurped for itself the exclusionary power of

²⁴ E.g., *Allied Tube & Conduit Corp. v. Indian Head, Inc.*, 486 U.S. 492, 500 (1988).

²⁵ E.g., *Am. Soc'y of Mech. Eng'rs. v. Hydrolevel Corp.*, 456 U.S. 556, 562 (1982).

²⁶ See 7 AREEDA & HOVENKAMP, *supra* note 3, ¶ 1503, at 347 ("Product standardization might impair competition in several ways. . . . [Standardization] might deprive some consumers of a desired product, eliminate quality competition, exclude rival producers, or facilitate oligopolistic pricing by easing rivals' ability to monitor each other's prices.").

²⁷ 486 U.S. 492 (1988).

²⁸ 456 U.S. 556 (1982).

²⁹ See *Allied Tube*, 486 U.S. at 501; *Hydrolevel*, 456 U.S. at 559, 577-78.

³⁰ *Allied Tube*, 486 U.S. at 511.

³¹ *Id.* at 501.

³² *Id.*

the standard-setting body, thereby denying its competitor the opportunity to compete and depriving consumers of the benefits of competition.³³

Similarly, in *Hydrolevel*, the Court found a standard-setting organization liable under Section One of the Sherman Act where one of its members appropriated for itself the exclusionary power of the standard by misusing the organization's seal of approval to tarnish the reputation of a competitor's products.³⁴ The defendant trade association in *Hydrolevel* published safety codes and standards for various areas of engineering and industry, including standards for boiler and pressure vessel components.³⁵ Hydrolevel, a company that manufactured a certain type of safety cut-off device, showed at trial that a competitor (which made another type of cut-off device) had used its position of authority within the trade association to characterize Hydrolevel's product as unsafe.³⁶ The Supreme Court held the actions of that competitor attributable to the trade association and affirmed the liability of the trade association.³⁷

Although *Hydrolevel* and *Allied Tube* involved standard-setting organizations that evaluated products and certified them as meeting specifications for safety, the risk of one actor appropriating a standard's exclusionary power to harm or block competitors can be even more pronounced for standard-setting organizations that promulgate technical specifications for product interoperability. In that context, courts and the Federal Trade Commission ("FTC") have repeatedly held that deceptive conduct by a patent holder resulting in the misappropriation of the monopoly power created by a standard can constitute anticompetitive conduct in violation of the anti-trust laws.³⁸ This deceptive conduct has included both the failure of patent holders to disclose intellectual property to an SSO that is incorporated into a standard and the willful failure of patent holders to abide by commitments that they have made to SSOs to gain acceptance of their technologies.³⁹

The FTC has pursued several cases against patent holders who have failed to disclose their intellectual property to standard-setting bodies, had their technology incorporated into a standard as a result (and thereby had other technologies excluded), and then sued to enforce their patents against practitioners of the standard. The FTC first broached this issue in *In re Dell Computer Corp.*⁴⁰ In *Dell*, the FTC alleged that Dell had misrepresented to

³³ *Id.* at 509-10.

³⁴ *Am. Soc'y of Mech. Eng'rs v. Hydrolevel Corp.*, 456 U.S. 556, 571-72, 577 (1982).

³⁵ *Id.* at 559.

³⁶ *Id.* at 564-65.

³⁷ *Id.* at 577-78.

³⁸ See 1 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶ 203f5, at 189 & n.56 (3d ed. 2006) (collecting authorities).

³⁹ See *In re Dell Computer Corp.*, 121 F.T.C. 616, 623-25 (1996); Complaint, *In re Union Oil Co. of Cal.*, No. 9305 (F.T.C. Mar. 4, 2003) [hereinafter *Unocal* Complaint], available at <http://www.ftc.gov/os/adjpro/d9305/030304unocaladmindmncmplt.pdf>.

⁴⁰ *In re Dell Computer Corp.*, 121 F.T.C. 616 (1996).

the Video Electronics Standards Association (“VESA”) that it did not hold any intellectual property rights that would be infringed by a new standard for a computer bus.⁴¹ After VESA adopted the standard, the industry implemented the design, and it was “included in over 1.4 million computers sold in the eight months immediately following its adoption”⁴² Shortly thereafter, Dell began to assert a patent it held over a portion of the bus design.⁴³ The FTC challenged Dell’s surprise efforts to enforce this patent as a violation of Section Two of the Sherman Act, explaining that Dell’s deceptive conduct constituted a misappropriation of the market power conveyed by the standard:

The Commission has reason to believe that once VESA’s VL-bus standard had become widely accepted, the standard effectively conferred market power upon Dell as the patent holder. This market power was not inevitable: had VESA known of the Dell patent, it could have chosen an equally effective, non-proprietary standard. If Dell were able to impose a royalty on each VL-bus installed in 486-generation computers, prices to consumers would likely have increased.⁴⁴

Dell entered into a consent decree with the FTC under which Dell agreed not to enforce the patent at issue against anyone implementing the VESA standard.⁴⁵

Several years later, the FTC pursued another antitrust challenge to a willful failure to disclose intellectual property rights to an SSO and to abide by a commitment to the SSO not to assert any patents rights incorporated into a standard for reduced-emissions gasoline. In *In re Union Oil Company of California* (“Unocal”), the FTC challenged Unocal’s misrepresentations to the California Air Resources Board (“CARB”)⁴⁶ and to competing gasoline refiners that Unocal lacked or would not assert patent rights over reformulated gasoline standards that CARB was considering.⁴⁷ In fact, Unocal had intellectual property rights that it later asserted, as well as a pending patent application, which Unocal amended after the standard was adopted to ensure that its claims more closely matched the standard.⁴⁸ After the new standard for reformulated gasoline issued and competing refiners had altered their production facilities to comport with the new standard, Unocal

⁴¹ *Id.* at 617-18.

⁴² *Id.* at 617.

⁴³ *Id.* at 617-18.

⁴⁴ *Id.* at 626 n.2.

⁴⁵ *Id.* at 620.

⁴⁶ CARB is a standard-setting body created by the California state government to set standards related to emissions and fuel efficiency. California Air Resources Board, <http://www.arb.ca.gov/html/mission.htm> (last visited June 5, 2008).

⁴⁷ See *Unocal* Complaint, *supra* note 39, ¶¶ 50-59.

⁴⁸ *Id.* ¶ 60.

began to enforce its intellectual property rights implicated by the standard.⁴⁹ The FTC commenced administrative proceedings, alleging that Unocal's fraudulent conduct led to Unocal's acquiring market power in both the technology market and the downstream product market for standard-compliant "summer-time" gasoline.⁵⁰ After a trial, an FTC administrative law judge dismissed the case, ruling that the FTC's claims were barred by the *Noerr-Pennington* doctrine⁵¹ in light of the fact that the standard was established by a governmental body and that the FTC otherwise lacked jurisdiction because the case involved questions arising under patent law that are reserved for the exclusive jurisdiction of the federal courts.⁵²

On appeal, a unanimous Commission reversed the administrative law judge, holding that a fraud exception to the *Noerr-Pennington* doctrine applied to Unocal's actions and, in any event, the *Noerr-Pennington* doctrine would not apply to Unocal's misrepresentations to non-governmental groups, including two gas-refining industry groups.⁵³ The Commission also held that "misrepresentations to the industry groups would be actionable if they caused substantial competitive harm from their 'own force in the marketplace.'" ⁵⁴ The Commission noted that "the Complaint [averred] that Unocal induced other oil companies to make technology adoption decisions premised on the reasonable belief that Unocal had no relevant patent rights or no intention to enforce such rights" and such inducement led Unocal's competitors to lock themselves into specific refinery configurations.⁵⁵ The Commission remanded the case, with instructions for the administrative law judge to establish facts as to the actual competitive impact of Unocal's actions.⁵⁶ The matter was ultimately resolved through a consent decree issued as part of Chevron's acquisition of Unocal.⁵⁷ Under that decree, Chevron and Unocal agreed to make no further efforts to enforce the patents at issue.⁵⁸

⁴⁹ *Id.* ¶ 6.

⁵⁰ *Id.* ¶ 91.

⁵¹ See *United Mine Workers of Am. v. Pennington*, 381 U.S. 657 (1965); *Eastern R.R. Presidents Conference v. Noerr Motor Freight, Inc.* 365 U.S. 127 (1961). Under the *Noerr-Pennington* doctrine, private efforts to influence government decision-making (including the legislative process, administrative actions, and court proceedings) are generally immune from antitrust liability. *Prof'l Real Estate Investors v. Columbia Pictures Indus.*, 508 U.S. 49, 56 (1993). One common exception to this doctrine arises where such efforts are merely a "sham" to achieve anticompetitive ends. *Id.*

⁵² Initial Decision at 31, 64-65, *In re Union Oil Co. of Cal.*, No. 9305 (F.T.C. Nov. 25, 2003), available at <http://www.ftc.gov/os/adjpro/d9305/031125aljsinitialdecision.pdf>.

⁵³ Opinion of the Commission at 45, *In re Union Oil Co. of California*, No. 9305 (F.T.C. July 6, 2004), available at <http://www.ftc.gov/os/adjpro/d9305/040706commissionopinion.pdf>.

⁵⁴ *Id.* at 47.

⁵⁵ *Id.*

⁵⁶ *Id.* at 54-55.

⁵⁷ Decision and Order at 1-3, *In re Union Oil Co. of California*, No. 9305 (F.T.C. June 10, 2005), available at <http://www.ftc.gov/os/adjpro/d9305/050610do9305.pdf>.

⁵⁸ *Id.* at 3.

The FTC brought an administrative complaint on a similar theory of antitrust liability in *In re Rambus, Inc.*⁵⁹ Rambus was accused of intentionally failing to disclose to the Joint Electron Device Engineering Council (“JEDEC”) patents and patent applications that covered designs under consideration for adoption as new standards for computer memory chips.⁶⁰ Rambus was also accused of amending its pending patent applications to ensure that the eventually issued patents would closely match the contours of the standards.⁶¹ Following trial, an FTC administrative law judge ruled in favor of Rambus.⁶² However, on appeal, a unanimous Commission reversed and held that Rambus’s deceptive conduct violated Section 5 of the Federal Trade Commission Act and Section Two of the Sherman Act.⁶³ The Commission held that Rambus intentionally created the misimpression that it was not seeking relevant patents on the technologies under consideration and thereby misled JEDEC’s members about the actual price of the technology to be included in the new standards, which prevented them from being able to make informed choices.⁶⁴ The Commission noted that the standard-setting context is one in which participants expect each other to act cooperatively and that Rambus’s conduct ran afoul of this expectation, even though it may not have been a technical violation of JEDEC’s disclosure policies.⁶⁵ Specifically, the Commission found that “Rambus engaged in representations, omissions, and practices that were likely to mislead JEDEC members acting reasonably under the circumstances, to their substantial detriment” and that “Rambus intentionally and willfully engaged in deceptive conduct.”⁶⁶ This deception led to Rambus’s gaining monopoly power over four technology markets—power that the Commission opined either would not have existed (because JEDEC could have chosen alternative technologies) or would have been restrained by ex ante negotiations that would have been conducted before the adoption of the standard if not for the deception.⁶⁷

Rambus appealed the FTC’s decision to the Court of Appeals for the District of Columbia Circuit, and on April 22, 2008, the D.C. Circuit re-

⁵⁹ Complaint, *In re Rambus Inc.*, No. 9302 (F.T.C. June 18, 2002), available at <http://www.ftc.gov/os/adjpro/d9302/020618admincomp.pdf>.

⁶⁰ *Id.* ¶¶ 70-75.

⁶¹ *Id.* ¶ 86.

⁶² Initial Decision at 6-7, *In re Rambus Inc.*, No. 9302 (F.T.C. Feb. 24, 2004), available at <http://www.ftc.gov/os/adjpro/d9302/040223initialdecision.pdf>.

⁶³ Opinion of the Commission at 3, *In re Rambus Inc.*, No. 9302, (F.T.C. Aug. 2, 2006) [hereinafter *Rambus Opinion*], available at <http://www.ftc.gov/os/adjpro/d9302/060802commissionopinion.pdf>.

⁶⁴ *Id.* at 67.

⁶⁵ *Id.* at 66. See also *Rambus, Inc. v. Infineon Techs. AG*, 318 F.3d 1081, 1096-1105 (Fed. Cir. 2003) (holding Rambus’s activities not to amount to fraud under Virginia state law because Rambus did not owe a duty to JEDEC to disclose under the terms of JEDEC’s policies).

⁶⁶ *Rambus Opinion*, *supra* note 63, at 68.

⁶⁷ *Id.* at 72-79.

versed the FTC, holding that the FTC had not proven that Rambus's conduct violated the antitrust laws.⁶⁸ The court explicitly recognized the problem of lock-in that occurs in the standard-setting process and that may allow patent holders to gain monopoly power through the inclusion of their technologies in a standard.⁶⁹ However, it overturned the FTC's decision because the FTC had failed to find that, absent Rambus's alleged deception, an alternative to Rambus's technology would have been selected by the SSO.⁷⁰ The D.C. Circuit read the FTC's decision on remedy as an acknowledgement that Rambus's technology may have been selected by the SSO over alternatives irrespective of its alleged deception.⁷¹ Based on this reading of the FTC's decision, the D.C. Circuit reasoned that Rambus's alleged deception may not have increased Rambus's monopoly power beyond the usual right of a patent holder to refuse to license its patents.⁷²

The court stressed that, at the remedy phase of the proceedings, the FTC had not found sufficient evidence to conclude that an alternative to Rambus's technology existed and would have been adopted.⁷³ Relying on that finding, the court concluded that the existence of alternatives was likewise not established for the purpose of evaluating whether Rambus's actions were exclusionary and thus improper under Section Two of the Sherman Act.⁷⁴ Because the FTC had not proven that Rambus's actions were exclusionary, the court went on to hold that under the antitrust laws, Rambus's allegedly deceptive behavior was not objectionable.⁷⁵ Relying on *NYNEX Corp. v. Discon, Inc.*,⁷⁶ the court explained that because Rambus may have been a lawful monopolist, deceptive conduct leading to higher prices alone was not sufficient to establish liability under Section Two.⁷⁷

⁶⁸ *Rambus Inc. v. FTC*, 522 F.3d 456, 459 (D.C. Cir. 2008).

⁶⁹ *Id.* ("Before an SSO adopts a standard, there is often vigorous competition among different technologies for incorporation into that standard. After standardization, however, the dynamic typically shifts, as industry members begin adhering to the standard and the standardized features start to dominate.").

⁷⁰ *Id.* at 466.

⁷¹ *Id.* at 462.

⁷² *Id.* at 466-67. The D.C. Circuit also expressed "serious concerns" about the sufficiency of the FTC's evidence on (1) what JEDEC's disclosure policies required Rambus to disclose; and (2) whether Rambus actually violated those disclosure policies. *Id.* at 462.

⁷³ *Rambus*, 522 F.3d at 462.

⁷⁴ *Id.*

⁷⁵ *Id.* at 466-67.

⁷⁶ 525 U.S. 128 (1998). In *NYNEX*, the defendant (a lawful monopolist telephone company) was accused of violating Section 2 by deceptively avoiding price regulations through a scheme of shifting costs to its regulated business from its non-regulated business, which led to its regulator approving higher prices for customers. *Id.* at 131-32. The Supreme Court held that NYNEX did not violate the antitrust laws through realizing the higher prices because the U.S. antitrust laws permit a lawful monopolist to charge what it chooses. *Id.* at 135-36.

⁷⁷ *Rambus*, 522 F.3d at 466.

The Third Circuit also addressed the potential for antitrust liability arising out of abuses of the standard-setting process in *Broadcom Corp. v. Qualcomm Inc.*⁷⁸ The court addressed the pleading requirements for a private complaint alleging violations of Section Two in the form of false promises made to an SSO that a patent holder would license its patents on fair, reasonable, and nondiscriminatory (“FRAND”) terms if they were incorporated into the standard.⁷⁹ Broadcom alleged that Qualcomm had monopolized various markets for technology used in the operation of mobile telephones by intentionally making a false promise to the European Telecommunications Standards Institute (“ETSI”) and other SSOs to offer FRAND licensing to licensees seeking to practice a new standard for third generation mobile wireless devices.⁸⁰ Broadcom also claimed that Qualcomm had violated Section Two by leveraging its newfound monopoly power in these technology markets to impose discriminatory licensing terms in an attempt to monopolize a downstream market for standard-compliant chipsets.⁸¹

The district court dismissed Broadcom’s monopolization claims on the theory that the creation of the standard, not Qualcomm’s alleged deception, eliminated competition in the relevant markets.⁸² Noting that the district court had not addressed “the possibility that the FRAND commitments that [the SSOs] required of vendors were intended as a bulwark against unlawful monopoly,” the Third Circuit reversed, holding that Broadcom had alleged a viable monopolization claim under Section Two.⁸³ The court established the following four-part test:

- (1) [I]n a consensus-oriented private standard-setting environment, (2) a patent holder’s intentionally false promise to license essential proprietary technology on FRAND terms, (3) coupled with an [SSO]’s reliance on that promise when including the technology in a standard, and (4) the patent holder’s subsequent breach of that promise, is actionable anticompetitive conduct.⁸⁴

The Third Circuit acknowledged that a patent holder that makes a false promise to license its patents on FRAND terms is engaged in the willful and anticompetitive acquisition of monopoly power, not competition on the merits:

Deception in a consensus-driven private standard-setting environment harms the competitive process by obscuring the costs of including proprietary technology in a standard and increas-

⁷⁸ 501 F.3d 297 (3d Cir. 2007). The authors represent Broadcom in this matter.

⁷⁹ *Id.* at 315.

⁸⁰ *Id.* at 304.

⁸¹ *Id.*

⁸² *Id.* at 305.

⁸³ *Id.* at 305, 317-19.

⁸⁴ *Broadcom*, 501 F.3d at 314.

ing the likelihood that patent rights will confer monopoly power on the patent holder . . . [Thus, Broadcom's claim that Qualcomm falsely promised to license its patents on FRAND terms] adequately allege[s] that Qualcomm obtained and maintained its market power willfully, and not as a consequence of a superior product, business acumen, or historic accident.⁸⁵

As the Third Circuit's decision makes clear, "[d]eceptive FRAND commitments, no less than deceptive nondisclosure of IPRs, may result in . . . [competitive] harm" and therefore warrant antitrust scrutiny.⁸⁶

Although the D.C. Circuit's decision in *Rambus* and the Third Circuit's decision in *Broadcom* led to different outcomes for the defendants in each case, the two rulings are not necessarily in tension, as the D.C. Circuit expressly recognized.⁸⁷ The *Rambus* decision was based on specific shortcomings in a fully-developed record and on the shortcomings of the FTC's findings based on that record, while the *Broadcom* decision dealt only with pleading requirements and left the plaintiff to establish its evidence through further proceedings. In *Broadcom*, the Third Circuit noted that the plaintiff's complaint alleged that the defendant's false promise "was an essential part of [the defendant's] competitive effort to win inclusion of its patented technology in the . . . standard" and that the establishment of the standard (as alleged in the complaint) "significantly expanded Qualcomm's market power by eliminating alternatives . . ." ⁸⁸ In contrast, the D.C. Circuit reversed the FTC in *Rambus* on the grounds that the FTC failed to prove that an alternative technology could have been adopted and therefore left open the possibility that Rambus's technology would have been incorporated into the standard even if Rambus had not engaged in deception.⁸⁹ The D.C. Circuit acknowledged the distinction between the facts in *Broadcom* and the facts in *Rambus*, and noted that the *Broadcom* decision was consistent with its *Rambus* decision to the extent that the Third Circuit "rested on the argument that deceit lured the SSO away from non-proprietary technology."⁹⁰

Although the *Rambus* and *Broadcom* decisions are distinguishable, the *Rambus* decision has at least two fundamental flaws in its application of Section Two of the Sherman Act. First, the D.C. Circuit's reliance on *NYNEX* was misplaced and should not be followed in cases involving deception in the standard-setting context. The decision in *NYNEX* was premised on the fact that the defendant was a legal monopolist *before* it engaged in the alleged deceptive behavior.⁹¹ *NYNEX* is therefore consistent with the well-established principle that merely being a monopolist does not violate

⁸⁵ *Id.* at 314-15.

⁸⁶ *Id.* at 314.

⁸⁷ *Rambus Inc. v. FTC*, 522 F.3d 456, 466 (D.C. Cir. 2008).

⁸⁸ *Broadcom*, 501 F.3d at 317.

⁸⁹ *Rambus*, 522 F.3d at 463-64.

⁹⁰ *Id.* at 466.

⁹¹ *NYNEX Corp. v. Discon, Inc.*, 525 U.S. 128, 136 (1998).

Section Two of the Sherman Act without the use of exclusionary conduct to acquire or maintain that monopoly.⁹² The alleged deception in the *Rambus* case, however, occurred before adoption of the standards at issue.⁹³ *NYNEX* has no bearing on the use of deception to obtain monopoly power in the first instance, which was the heart of both the *Rambus* and *Broadcom* cases.⁹⁴

Second, the D.C. Circuit's decision disregards the economic importance of alternative choices any SSO can make before it finalizes a standard. The D.C. Circuit "assume[d] without deciding" that if JEDEC would have adopted a "different (open, non-proprietary) standard" but for Rambus's deception, then Rambus's deception would have been anticompetitive.⁹⁵ Its holding, though, creates a distinction between the scenario in which Rambus disclosed and was not chosen and the scenario in which Rambus disclosed and was required to commit to license on reasonable and non-discriminatory terms. The court did not, however, address at least two other alternatives available to most SSOs in circumstances similar to the *Rambus* case. If a patent holder discloses its intellectual property but declines to commit to license on reasonable and non-discriminatory terms, the SSO could adopt a solution covered by a patent held by another firm that has made such a commitment. Alternatively, the SSO could decide to delay adopting a standard or not to adopt a standard at all. In these alternative scenarios, the patent holder in Rambus's position would not obtain the market power that Rambus obtained as a result of the inclusion of its technologies in the JEDEC standards, and any patent holder whose technology is adopted in the standard would be constrained from controlling prices or excluding competitors. Deceptive actions that avoid any or all of these alternatives could be anticompetitive. From an economic perspective, the relevant "alternatives" to be considered in evaluating whether conduct is exclusionary should include anything that would have constrained the monopolist before its alleged wrongful conduct but does not constrain it afterwards. Such alternatives may be straightforward (such as competitors' products that are directly interchangeable and create downward price pressure) or may be more nuanced (such as complex supply structures that keep a producer from being able to raise prices). Under a proper Section Two

⁹² See *Verizon Commc'ns, Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 407 (2004) ("To safeguard the incentive to innovate, the possession of monopoly power will not be found unlawful unless it is accompanied by an element of anticompetitive conduct.").

⁹³ *Rambus*, 522 F.3d at 459-60.

⁹⁴ Furthermore, *NYNEX* did not involve the collective action of nearly an entire industry deciding to exclude rivals' technologies from the market. *Allied Tube, Hydrolevel*, and the other standard-setting cases discussed above demonstrate the need for vigilant application of the antitrust laws when one company's actions create the risk of the consolidated exclusionary power of an industry being used to harm consumers and competition. See generally *Allied Tube & Conduit Corp. v. Indian Head, Inc.*, 486 U.S. 492 (1988); *Am. Soc'y of Mech. Eng'rs v. Hydrolevel Corp.*, 456 U.S. 556, 572 (1982).

⁹⁵ *Rambus*, 522 F.3d at 463.

analysis, all such alternatives should be evaluated when determining whether challenged conduct that avoids any of these constraints is anticompetitive. The D.C. Circuit acknowledged that being able to charge higher royalties than would otherwise have been attainable is likely to lead to higher downstream prices but dismissed this as an antitrust concern by relying on *NYNEX*.⁹⁶ As noted above, reliance on *NYNEX* in the *Rambus* scenario is misplaced because the alleged deception by Rambus led to the acquisition of monopoly power rather than being simply an exploitation of monopoly power that existed prior to any deception.⁹⁷ Without the D.C. Circuit's reading of *NYNEX*, there is no basis for treating the scenario in which Rambus would have been required to limit itself to charging competitive royalties⁹⁸ differently than the scenario in which it would have been excluded entirely. By treating alternative results from the standard-setting process differently, the D.C. Circuit has used an unduly narrow concept of relevant alternatives that is neither justified in economics nor required by case law.⁹⁹

II. THE IMPACT OF DECEPTIVE PRACTICES IN STANDARD-SETTING: HARM TO COMPETITION AND CONSUMERS

Ex ante competition—the competition that occurs between the different technologies competing for incorporation into a standard prior to its adoption—may be harmed if a patent holder fails to disclose that it owns technology believed by the SSO to be nonproprietary and cost-free to licensees practicing the standard. Similarly, ex ante competition may also be harmed if a patent holder makes FRAND commitments that it does not intend to honor ex post and the SSO relies on those commitments when selecting the patent holder's technology over competing technologies for incorporation into the standard. This harm occurs because ex ante a patent

⁹⁶ *Rambus*, 522 F.3d at 466.

⁹⁷ *NYNEX*, 525 U.S. at 136; *Rambus*, 522 F.3d at 459-60.

⁹⁸ See *infra* Part II for an explanation of the reasons why a commitment to license on reasonable and non-discriminatory terms requires licensing on competitive terms.

⁹⁹ The D.C. Circuit also seems to misread the FTC's remedy decision in regard to the "but for" scenario where Rambus gives a RAND commitment by apparently assuming that alternatives to Rambus's technology did not exist under that scenario. In its remedy decision, the FTC made clear that the RAND commitment would have constrained Rambus to a royalty rate that reflected the value of its technology relative to others that were available prior to adoption of the standard. Opinion of Commission on Remedy at 17, *In re Rambus Inc.*, No. 9302, (F.T.C. Feb. 5, 2007), available at <http://www.ftc.gov/os/adjpro/d9302/070205opinion.pdf>. The FTC's determination that Rambus was entitled to far less than it demanded after the standard was adopted and the industry was locked in was also a determination that ex ante alternatives existed that would have constrained Rambus's pricing to around the levels set by the FTC. *Id.* at 22-24. Indeed, the FTC's remedy decision expressly noted that it was taking account of evidence that "[a]lternative technologies were available" and that "it likely would have been possible for members to design around Rambus's patents . . ." *Id.* at 18.

holder may face, among other constraints, competitive challenges from competing technologies. However, ex post (after the standard has been adopted) the patent holder faces no such competing technologies and may be able to appropriate the monopoly power created by the standard by demanding consideration far in excess of what it could have negotiated in an ex ante environment. In both cases, it is the deceptive conduct, not a superior product, business acumen, or historical accident, that results in the SSO's incorporating the patent holder's technology into the standard without being able to assess accurately the relative costs and benefits of the competing alternatives.¹⁰⁰

Recognition of the fact that deceptive conduct in the standard-setting process may be an antitrust violation is consistent with antitrust precedent outside of the standard-setting context. For example, in *Conwood Co. v. U.S. Tobacco Co.*, the Sixth Circuit held that U.S. Tobacco violated Section Two of the Sherman Act by, among other things, providing retailers with false sales data that convinced the retailers to stock U.S. Tobacco's products over those of its competitors.¹⁰¹ Likewise, it is well established that a Section Two violation can arise from enforcing intellectual property rights that have been obtained by fraud in order to exclude competitors from the market,¹⁰² submitting a false listing to the Federal Drug Administration to exclude competitors from bringing lower-priced generic drugs to the market,¹⁰³ or engaging in other forms of deception that lead to monopoly power.¹⁰⁴

Protecting competition and consumers from the abuse of market power by a company usurping the full exclusionary power of an industry standard is also recognized in patent law. Under patent law, intentional failure to disclose essential patents may lead to a waiver of the right to enforce those patents against practitioners of the standard. For instance, in *Qualcomm Inc. v. Broadcom Corp.*, the United States District Court for the Southern District of California found that Qualcomm waived its right to enforce certain patents when it intentionally failed to disclose those patents to a body that promulgates digital video standards with the anticipation that a forthcoming standard would infringe those patents, making Qualcomm an indispensable

¹⁰⁰ See *Broadcom Corp. v. Qualcomm Inc.*, 501 F.3d 297, 315 (3d Cir. 2007).

¹⁰¹ 290 F.3d 768, 783 (6th Cir. 2002).

¹⁰² See, e.g., *Walker Process Equip., Inc. v. Food Mach. & Chem. Co.*, 382 U.S. 172, 174 (1965); *Knickerbocker Toy Co. v. Winterbrook Corp.*, 554 F. Supp. 1309, 1321 (D.N.H. 1982).

¹⁰³ See, e.g., *In re Buspirone Patent Litigation*, 185 F. Supp. 2d 363, 376-77 (S.D.N.Y. 2002); Complaint ¶¶ 34-58, 135-39, *In re Bristol-Myers Squibb Co.*, No. C-4076 (F.T.C. Apr. 18, 2003), available at <http://www.ftc.gov/os/2003/04/bristolmyerssquibbcmp.pdf>.

¹⁰⁴ See, e.g., *United States v. Microsoft Corp.*, 253 F.3d 34, 76-77 (D.C. Cir. 2001); *Caribbean Broad. Sys. Ltd. v. Cable & Wireless PLC*, 148 F.3d 1080, 1087 (D.C. Cir. 1998); *Int'l Travel Arrangers, Inc. v. Western Airlines, Inc.*, 623 F.2d 1255, 1262-63, 1270-72 (8th Cir. 1980).

licensor to anyone in the world seeking to produce a standard-compliant product.¹⁰⁵

Likewise, the Federal Trade Commission Act's prohibition of unfair competition prohibits gaining the exclusionary power of a standard by buying a patent already included in a standard and then avoiding licensing commitments made by a prior owner to an SSO in order to get the patent included in the standard.¹⁰⁶ The FTC pursued such a case against Negotiated Data Solutions LLC ("N-Data"), which bought certain patents related to the Ethernet standard.¹⁰⁷ In the early 1990s, when the IEEE¹⁰⁸ was developing a new "Fast Ethernet" standard, National Semiconductor had a patent application pending for technology that would allow new Fast Ethernet equipment to be automatically compatible with older, slower devices.¹⁰⁹ In the course of the IEEE's deliberations on whether to include this technology in the new standard, National Semiconductor committed to make licenses available to any licensee on a nondiscriminatory basis for a one-time fee of \$1,000.¹¹⁰ The patent eventually issued, and National Semiconductor later transferred its patent rights to Vertical Networks, Inc.¹¹¹ After acquiring the patent rights, Vertical Networks notified IEEE that it would license the technology on a nondiscriminatory basis but on "reasonable terms and conditions including its then current royalty rates" and demanded per-unit licenses from companies producing Fast Ethernet equipment.¹¹² Vertical Networks eventually sold the patents to N-Data and went out of business.¹¹³ N-Data continued Vertical Networks' policy of demanding per-unit licenses. The FTC filed a simultaneous complaint and settlement under which N-Data is obliged to abide by National's initial commitment to the IEEE.¹¹⁴ The FTC alleged that N-Data's failure to abide by the original commitment violated Section Five of the FTC Act¹¹⁵ "[e]ven if [N-Data's and Vertical Networks'] actions do not constitute a violation of the

¹⁰⁵ Qualcomm Inc. v. Broadcom Corp., 539 F. Supp. 2d 1214, 1227 (S.D. Cal. 2007).

¹⁰⁶ See Analysis of Proposed Consent Order to Aid Public Comment at 5, *In re Negotiated Data Solution LLC*, No. 051-0094 (F.T.C. Jan. 23, 2008) [hereinafter *Negotiated Data Analysis of Proposed Consent Order*], available at <http://www.ftc.gov/os/caselist/0510094/080122analysis.pdf>.

¹⁰⁷ Complaint ¶ 33, *In re Negotiated Data Solutions LLC*, No. 051-0094 (F.T.C. Jan. 23, 2008) [hereinafter *Negotiated Data Complaint*], available at <http://www.ftc.gov/os/caselist/0510094/080122complaint.pdf>.

¹⁰⁸ Originally named the "Institute of Electrical and Electronics Engineers," the IEEE promulgates standards in a wide range of fields, including computers and telecommunications. See About IEEE, <http://www.ieee.org/web/aboutus/home/index.html> (last visited June 4, 2008).

¹⁰⁹ *Negotiated Data Complaint*, *supra* note 107, ¶¶ 6-15.

¹¹⁰ *Id.* ¶ 12.

¹¹¹ *Id.* ¶ 23.

¹¹² *Id.* ¶ 27.

¹¹³ *Id.* ¶ 33.

¹¹⁴ Agreement Containing Consent Order ¶ 10, *In re Negotiated Data Solutions LLC*, No. 051-0094 (F.T.C. Jan. 23, 2008), available at <http://www.ftc.gov/os/caselist/0510094/080122agreement.pdf>.

¹¹⁵ 15 U.S.C. § 45 (2000).

Sherman Act”¹¹⁶ The Commission noted two harms likely to result from N-Data’s acts. First, N-Data threatened to raise prices for an entire industry unilaterally.¹¹⁷ N-Data’s higher licensing rates would raise the cost of practicing the IEEE Fast Ethernet standard and would lead to reduced output of standard-compliant products.¹¹⁸ Second, the Commission opined that “N-Data’s conduct also threatens to reduce the incentive for firms to participate in IEEE and in other standard-setting activities, and to rely on standards established by standard-setting organizations.”¹¹⁹

As this long history of antitrust enforcement in the standard-setting arena demonstrates, standard-setting abuse can pose a significant threat to competition. It forecloses competitive alternatives and gives essential patent holders the ability to command prices far above the rates that would have prevailed in competitive conditions. Once a standard is set, an industry can quickly become “locked in” to using that standard, for example through investment in infrastructure or product designs built around the specifications of the standard.¹²⁰ This lock-in effect decreases the ability of licensees to switch to an alternative standard or adopt a non-standardized solution. Once lock-in settles over an industry, the holders of essential patents gain a potential stranglehold on the entire industry.¹²¹ This stranglehold does not derive from the patent holder’s patents. Instead, it comes from the adoption of the standard, which precludes any other technology from being used to accomplish the same functionalities while still adhering to the standard.¹²² Before the standard was adopted, the patent holder had to offer licenses on competitive terms on the assumption that licensees could choose to use a different technology to achieve the same goals, or refrain from participating in the market altogether. Once the standard is in place, and investments sunk, that option no longer exists for licensees.

III. ADDRESSING ABUSES OF STANDARD-SETTING

The anticompetitive risks underlying the historic condemnation of standard-setting abuse has led many SSOs to adopt intellectual property rights (“IPR”) policies geared towards preserving the benefits of the ex ante

¹¹⁶ See *Negotiated Data Analysis of Proposed Consent Order*, *supra* note 106, at 4.

¹¹⁷ *Id.*

¹¹⁸ *Id.*

¹¹⁹ *Id.*

¹²⁰ See *Broadcom Corp. v. Qualcomm Inc.*, 501 F.3d 297, 310 (3d Cir. 2007) (“Industry participants who have invested significant resources developing products and technologies that conform to the standard will find it prohibitively expensive to abandon their investment and switch to another standard. They will have become ‘locked in’ to the standard.”).

¹²¹ See *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 476 (1992).

¹²² *Broadcom*, 501 F.3d at 314.

competitive situation that standard-setting supplants.¹²³ These policies strike a balance between allowing patent holders to be paid for their innovations and protecting the implementers of standards from abuse of standardization's exclusionary power. With these IPR policies in place, the holder of an essential patent gains the benefit of licensing to the full universe of implementers of a standard on competitive terms and conditions.¹²⁴ At the same time, these IPR policies protect those implementers from the anti-competitive effects that may otherwise result from collusive standard-setting.¹²⁵ Thus, SSOs' IPR policies, in essence, reflect a commitment by the SSOs' members to adopt a mutual restraint in order to preserve the efficiency of the standard and encourage the growth of competitive markets for standard-compliant products. Even the best intended of policies, though, are subject to manipulation or violation.

The IPR policies of many of the world's SSOs are in place to help preserve the benefits of the competitive conditions that exist before the standard is set and the industry becomes locked-in (i.e., the "ex ante" situation).¹²⁶ In that ex ante scenario, the patent holder would only be able to charge licensees a price that reflects the incremental value of its technology over the next best alternative technology for achieving the same goal.¹²⁷ For example, assume that an SSO is choosing essential technologies for the next generation widget. The SSO has three options—proprietary technologies A, B, and C—that can all be used to achieve the essential functions of the new widget.¹²⁸ If no SSO existed, then A, B, and C would compete in the marketplace for adoption by widget makers and users. The patent holders for A, B, and C would license their technologies at competitive rates and on competitive terms. In such a scenario, the competitive rate for any of the three would be one that reflects the incremental benefit of one technology over another.¹²⁹ For example, assume a user could achieve the same results using technology A, B, or C, but with technology A the user would incur non-licensing costs of \$50, with B \$45, and with C \$40. The owner of technology C in a competitive environment would be able to charge a maximum royalty of less than \$5 (i.e., the incremental inherent advantage of its technology over the next cheapest alternative). It is this ex ante licensing sce-

¹²³ See *id.* at 309 (“[P]rivate standard-setting—which might otherwise be viewed as a naked agreement among competitors not to manufacture, distribute, or purchase certain types of products—need not, in fact, violate antitrust law.”).

¹²⁴ *Id.* at 309 n.4.

¹²⁵ See *id.* at 312 (“Private standard-setting occurs in a consensus-oriented environment, where participants rely on structural protections, such as rules requiring the disclosure of IPRs, to facilitate competition and constrain the exercise of monopoly power.”).

¹²⁶ See *id.* at 309 n.4.

¹²⁷ See Joseph Farrell et al., *Standard-Setting, Patents, and Hold-Up*, 74 ANTITRUST L.J. 603, 611-15 (2007).

¹²⁸ The SSO also always has the fourth option of adopting no standard.

¹²⁹ See Farrell et al., *supra* note 127, at 611-15.

nario, in which the lock-in and exclusionary effects of a standard do not exist, that FRAND commitments and other IPR policies adopted by SSOs are intended to preserve.

With standard-setting, the patent holders of A, B, and C (together with the rest of the industry) agree that only one technology will remain in the marketplace. The constraints of competition are removed. Without some other constraint, the “winning” technology will now be licensed at monopoly rates and on monopolistic terms, allowing one technology holder to reap the full benefits of the standard’s exclusion of its erstwhile competitors. If the owner of the winning technology is also a manufacturer of components or products that implement the standard, the winning owner will be able to impair competition in downstream markets by discriminating against licensees that purchase components from its rivals. Thus, effective IPR policies are necessary to prevent collective standard-setting from resulting in harm to competition and higher prices to consumers.

There is no prescribed formula for an IPR policy for every SSO, and each industry must determine for itself what policy will effectively balance the need to preserve competition with the specific demands of that industry. In many industries, SSOs have adopted, as a minimum requirement, rules requiring members to disclose any IPR that is under consideration for inclusion as an essential element of a standard.¹³⁰ Many SSOs require that holders of essential or potentially essential patents commit to license those patents either on a no-cost basis or on FRAND terms.¹³¹ If an essential patent holder refuses to make a FRAND commitment, the SSO may have rules requiring that an alternative technology (one either without a patent burden or covered by FRAND commitments) be chosen for the standard or that no standard be adopted at all.¹³² In each case, the obligations imposed by SSOs are intended to vindicate the same interest: protecting against the anticompetitive appropriation and misuse of the ex post monopoly power created by the standard.¹³³ The disclosure requirement ensures that an SSO is informed of the competing technologies when selecting among alternatives. This may enable an SSO to craft a standard that avoids the infringement of a patent holder’s IPRs in favor of nonproprietary technology, and thereby avoid endowing the patent holder with ex post monopoly power that did not exist ex ante. In addition, disclosure enables parties to negotiate ex ante licenses, if they choose. Likewise, a FRAND obligation ensures that the licensing terms and royalties charged by an essential patent holder ex post are commensurate with the competitive terms that would have applied ex ante,

¹³⁰ See Lemley, *supra* note 5, at 1904.

¹³¹ See *id.* at 1905-06.

¹³² See, e.g., European Telecommunications Standards Institute (ETSI), Intellectual Property Rights Policy ¶¶ 8.1.1-8.1.2, available at http://www.etsi.org/WebSite/document/Legal/ETSI_IPR-Policy.pdf.

¹³³ See Lemley, *supra* note 5, at 1901-03.

when the technology faced competition from alternatives for incorporation into the standard.¹³⁴ FRAND obligations also seek to ensure the technology at issue is disseminated on an even-handed basis so that the patent holder cannot unilaterally exclude others from the markets for downstream products.¹³⁵

Thus, the content of a patent holder's FRAND obligation should be determined in light of the FRAND obligation's purpose, preserving ex ante conditions and avoiding the ex post exploitation of the monopoly power derived from inclusion in the standard. This means that a "reasonable" royalty should be determined based on an assessment of the competitive environment before the creation of the standard locked an industry into a technology that is covered by a particular patent. In such an environment, a fair and reasonable royalty reflects primarily the incremental value of a technology relative to next best alternative. It also reflects the fact that the total royalties charged to licensees practicing the standard must not be so high as to render the adoption of the standard inefficient, such that the relevant industry would be discouraged from making the investments necessary to implement the standard and license the required technology.

This approach, of course, means a licensor who made a FRAND commitment and then faces a challenge to its licensing practices may defend its licensing practices by demonstrating that the licensor's ex post licensing demands are consistent with the competitive position that it held ex ante.¹³⁶ For example, the licensor may argue there were no competitive alternatives to its technology, that the competitive alternatives that did exist were cost prohibitive, or that the competitive alternatives also infringed the licensor's patents. Such arguments may be rebutted, however, if it is demonstrated that the licensor is exploiting monopoly power acquired ex post and the SSO would not have adopted the standard but for the licensor's FRAND commitment.¹³⁷

The "non-discriminatory" aspect of a FRAND obligation must also be defined in light of the obligation's purpose. This requirement serves to promote the implementation of the standard and production of standard-compliant products by promoting competition among manufacturers of those products. With competing alternative technologies, one patent holder would typically have no incentive to deny a license to a manufacturer willing to take a license on competitive terms. Thus, the "ND" in FRAND

¹³⁴ See Daniel G. Swanson & William J. Baumol, *Reasonable and Nondiscriminatory (RAND) Royalties, Standards Selection, and Control of Market Power*, 73 ANTITRUST L. J. 1, 10-11 (2005).

¹³⁵ *Id.*

¹³⁶ *Id.*

¹³⁷ See, e.g., *Broadcom Corp. v. Qualcomm Inc.*, 501 F.3d 297, 316 (3d Cir. 2007) (noting that ETSI's standard-setting rules were such that "even if Qualcomm's WCDMA technology was the only candidate for inclusion in the standard, it still would not have been selected by the relevant [SSOs] absent a FRAND commitment").

should preclude essential patent holders from appropriating the monopoly power of the standard to impose terms on licensees that either provide the patent holder with an unfair competitive advantage in a product market or provide such an advantage to only select licensees. Limiting the availability of licenses to a select group would allow the essential patent holder to restrict product competition, resulting in increased prices or reduced output, in a way it would not and could not have done *ex ante*. If the licensor is also a participant in standard-compliant product markets, its ability to withhold licenses for its essential technology could result in its gaining a monopoly in the relevant standard-compliant product. By thereafter charging above competitive prices for that product, the licensor is able to extract additional profits from the standard, thereby skirting the FRAND limitation reflective of the *ex ante* competitive environment.¹³⁸

A FRAND commitment does not generally prevent patent holders from requiring cross licenses for other essential patents or from offering reduced licensing fees in exchange for cross licenses of otherwise valuable IPRs, particularly given that the cross licensing of patents essential to a standard may have procompetitive benefits.¹³⁹ A FRAND obligation does require, though, that cross licensing demands not be used as a method of competitive discrimination and that licensees receive fair consideration for the value of their cross licenses. Under FRAND, the holder of an essential patent must at a minimum offer to license the essential patent to anyone for a common base price that reflects only the *ex ante* value of the patent.¹⁴⁰

Although evaluation of FRAND commitments and licensing terms can be complex and fact-intensive, there should be no doubt that the courts and enforcement agencies are competent to apply antitrust law to deceptive FRAND commitments. Assessing whether a licensor has complied with its FRAND obligations does not require courts or agencies to make any determinations that they do not already commonly make in antitrust and intellectual property cases. Courts routinely calculate “reasonable royalties” in the patent litigation context¹⁴¹ and compare the “but for” competitive market to the market in which a restraint of competition exists in order to determine damages in the antitrust context.¹⁴² In assessing whether a licensor has met its FRAND obligations, a court would engage in similar calculations; it would compare the royalties charged in the *ex post* market to its assessment

¹³⁸ The anticompetitive effects of such discrimination are analogous to the effects from firms that avoid rate regulation through vertical integration into non-regulated markets. *See, e.g.*, 1984 Merger Guidelines § 4.23, 49 Fed. Reg. 26823, 26836 (June 29, 1984).

¹³⁹ *See* Farrell et al., *supra* note 127, at 640.

¹⁴⁰ *Id.* at 642.

¹⁴¹ *E.g.*, *Georgia-Pacific Corp. v. U.S. Plywood Corp.*, 318 F. Supp. 1116, 1117 (S.D.N.Y. 1970). Of course, any assessment of what is “reasonable” in a standard-setting context must take full account of the purposes that the FRAND commitment is designed to accomplish (i.e., limit royalty demands to terms that reflect the *ex ante* competitive result and protect competition in standard-compliant parts).

¹⁴² *See, e.g.*, *Concord Boat Corp. v. Brunswick Corp.*, 207 F.3d 1039, 1055 (8th Cir. 2000).

of what royalties would have prevailed in the competitive ex ante market.¹⁴³ In determining what royalties would have prevailed ex ante, a court would likely consider, among other things, the available alternatives to the technology at issue, the royalties charged to licensees practicing other standards for comparable technologies, and the royalties charged to licensees for comparable technologies in industries where there are no standards or FRAND commitments. Although this may be a demanding task in some cases, it is necessary because the alternative—concluding that FRAND obligations cannot be defined or enforced by the courts—would render FRAND obligations meaningless, would allow unfettered exercise of monopoly power by essential patent holders, and would cause debilitating uncertainty in the standard-setting process.

Redress of deceptive FRAND commitments should not be limited to theories of contract and tort law. Advocates of such a limitation ignore that antitrust law properly applies where there is misconduct resulting in anti-competitive effects and where a party has acquired monopoly power as a result of that misconduct.¹⁴⁴ It is for this reason that courts have traditionally applied antitrust law to attempts to exclude competition through deceptive conduct both within and outside of the standard-setting context.¹⁴⁵ If there are anticompetitive effects flowing from misconduct, the public should have recourse under the antitrust laws, even if it does not have standing to pursue a contract or tort claim. This is particularly true because participants in the standard-setting process who most likely would have contract or tort claims may not have sufficient incentives to vindicate the public interest in preserving the benefits of competition, particularly when their own technology has also been incorporated in the standard.

CONCLUSION

Antitrust law has an important role to play in governing both collusive and unilateral misconduct in the standard-setting process. Such misconduct can cause extensive harm to consumer welfare by undermining the reliability and viability of standard-setting, raising the costs of goods, and slowing innovation. Given the degree and extent of the potential harm, the consequences for such misconduct should be severe, including the award of

¹⁴³ See Swanson & Baumol, *supra* note 134, at 10-11.

¹⁴⁴ See *Verizon Commc'ns, Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 407 (2004) (“To safeguard the incentive to innovate, the possession of monopoly power will not be found unlawful unless it is accompanied by an element of anticompetitive conduct.”).

¹⁴⁵ See *Spectrum Sports, Inc. v. McQuillan*, 506 U.S. 447, 456 (1993); *Allied Tube & Conduit Corp. v. Indian Head, Inc.*, 486 U.S. 492, 509 (1988) (“Thus in this case the context and nature of petitioner’s efforts to influence the Code persuade us that the validity of those efforts must, despite their political impact, be evaluated under the standards of conduct set forth by the antitrust laws that govern the private standard-setting process.”).

treble damages to injured parties and the loss of the right to enforce the IPRs at issue. Courts and federal agencies addressing standard-setting abuses have recognized this fact in a long string of antitrust cases that have sought to punish patent holders for misappropriating the monopoly power created by the standard-setting process.¹⁴⁶ As the need for standardization increases with each new generation of technological advances, applying antitrust law to address such misconduct is crucial to protecting consumer welfare and fostering innovation.

¹⁴⁶ See *Broadcom v. Qualcomm*, 501 F.3d 297, 308 (3d Cir. 2007) (citing *Allied Tube*, 486 U.S. at 500); *Am. Soc’y of Mech. Eng’rs, Inc. v. Hydrolevel Corp.*, 456 U.S. 556, 571 (1982) (“Private standards-determining organizations, in contrast to legislative or quasi-legislative bodies, have historically been subject to antitrust scrutiny.”).