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A MARKET RELIANCE THEORY FOR FRAND COMMITMENTS AND OTHER PATENT PLEDGES

Jorge L. Contreras*

Abstract

Patent holders are, with increasing frequency, making public promises to refrain from asserting patents under certain conditions, or to license patents on terms that are “fair, reasonable and non-discriminatory” (FRAND). These promises or “patent pledges” generally precede formal license agreements and other contracts, but are nevertheless intended to induce the market to make expenditures and adopt common technology platforms without the fear of patent infringement. But despite their increasing prevalence, current contract, property, and antitrust law theories used to explain and enforce patent pledges have fallen short. Thus, a new theory is needed to secure the market-wide benefits that patent pledges can offer.

This Article proposes a novel “market reliance” theory for the enforcement of patent pledges. Market reliance is rooted in the equitable doctrine of promissory estoppel, but adds a rebuttable presumption of reliance borrowed from the “fraud-on-the-market” theory under federal securities law. Under this approach, a patent holder’s public commitment is enforceable by any participant in the relevant market absent a showing that it knowingly rejected the commitment. The market reliance theory offers a robust means for enforcing legitimate patent pledges by third-party market participants, and it extends the effect of such pledges to downstream purchasers of patents. As such, the market reliance theory could fill a critical gap in the existing patent enforcement landscape and give greater assurance to the technology markets that depend on them.

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[T]he incorporation of patented technology into a standard induces market reliance on that patent and increases its value.¹

I. INTRODUCTION

Because patent owners are not always well positioned to commercialize their patented technology, they routinely cede all or a portion of their exclusive rights to others through contractual licenses. Under a patent license, the patent owner agrees not to enforce its rights against the licensee in exchange for some value, typically including a monetary royalty. A vast network of licensing arrangements characterizes modern markets for goods and services of all kinds, from electronics and manufactured goods to pharmaceuticals and chemicals.

But today's technology marketplaces have seen the emergence of new types of promises concerning patents. These promises are not being made in written agreements between business partners, but in public fora for the benefit of entire markets. The most common of these promises is a commitment to license patents in the future on terms that are "fair, reasonable and non-discriminatory" (FRAND).

FRAND commitments have been most widely recognized in the context of technical standards development. Standards such as Wi-Fi, USB, HTTP, and 4G ensure that devices manufactured by different vendors can communicate and interoperate with one another seamlessly and invisibly to the consumer.² Most of the standards used in the technology marketplace today are developed by groups of engineers representing different market participants who collaborate, either in person or virtually, at one or more standards development organizations (SDOs).³ Because SDO participants may obtain patents covering some or all aspects of a technical standard, and because SDOs and their participants generally wish to promote broad use and adoption of their standards, over the years SDOs have developed policies to prevent their participants from enforcing patents to block the use of the SDO's standards or making such use so costly that the standards become

¹ Analysis of Proposed Consent Order to Aid Public Comment, Motorola Mobility LLC & Google Inc., F.T.C. File No. 121-0120, at 2 (F.T.C. Jan. 3, 2013) [hereinafter *Motorola Mobility Proposed Consent Order Analysis*], available at <http://www.ftc.gov/sites/default/files/documents/cases/2013/01/130103googlemotorolaanalysis.pdf>, archived at <http://perma.cc/FG3T-CJL2>.

² For example, the 802.11 series of Wi-Fi® standards developed at the IEEE Standards Association (IEEE) enable computers, tablets, smartphones, and other devices manufactured by different vendors to communicate with each other in a manner that is essentially invisible to the end user. See Kathy Kowalenko, *IEEE 802 Committee Celebrates 30th Anniversary*, THE INSTITUTE (May 6, 2010), <http://theinstitute.ieee.org/benefits/standards/ieee-802-committee-celebrates-30th-anniversary668>, archived at <http://perma.cc/R23E-NY8X>. So long as two devices comply with the relevant 802.11 standard, they can communicate with minimal user intervention. See *id.*

³ For a more detailed discussion of SDO structures and practices, see *infra* Part II.B.

economically undesirable. One of the most prevalent of these policies requires SDO participants to license their patents on FRAND terms to any manufacturer that wishes to make a product complying with one of the SDO's standards.⁴ As discussed in more detail in Parts II.A and II.B below, FRAND commitments made in conjunction with standards development are intended to assure the market that licenses for any patents "essential" to the use of the standard will be available.⁵

While FRAND commitments today are most common in the SDO context, they are now being made with increasing frequency outside of SDOs and standard setting. Moreover, patent holders are making public promises beyond FRAND commitments. These include commitments to refrain from asserting patents against open source code and other technologies,⁶ seeking remedies such as injunctive

⁴ See generally U.S. DEPT. OF JUSTICE & FED. TRADE COMM'N, ANTITRUST ENFORCEMENT AND INTELLECTUAL PROPERTY RIGHTS: PROMOTING INNOVATION AND COMPETITION 46–47 (2007) [hereinafter 2007 DOJ/FTC ANTITRUST & IPR]; Josh Lerner & Jean Tirole, *Standard-Essential Patents 2* (Toulouse Sch. of Econ., Working Paper No. IDEI-803, 2013) ("In an attempt to curb the monopoly power that they create, most [standard-setting organizations (SSOs)] require the owners of patents covered by the standard to grant licenses on fair, reasonable and nondiscriminatory (FRAND) terms."); Jorge L. Contreras, *Fixing FRAND: A Pseudo-Pool Approach to Standards-Based Patent Licensing*, 79 ANTITRUST L.J. 47, 50–51 (2013) (stating that FRAND commitments are the "most prevalent" internal policies developed to "mitigate the[] risks" of patent holdup and stacking).

⁵ A significant literature exists regarding the determination of which patents are "essential" to implement a particular standard in a product. In many cases, SDOs permit patent holders to self-identify patents that they believe to be essential. See RUDI BEKKERS & ANDREW UPDEGROVE, A STUDY OF IPR POLICIES AND PRACTICES OF A REPRESENTATIVE GROUP OF STANDARDS SETTING ORGANIZATIONS WORLDWIDE 34–47 (2012), available at http://sites.nationalacademies.org/xpeditio/groups/pgasite/documents/webpage/pgasite_072197.pdf, archived at <http://perma.cc/U6FN-XK2E>; COMM. ON TECHNICAL STANDARDIZATION, AM. BAR ASS'N, STANDARDS DEVELOPMENT PATENT POLICY MANUAL 67–85 (Jorge L. Contreras ed., 2007) [hereinafter ABA PATENT POLICY MANUAL]; Jay P. Kesan & Carol M. Hayes, *FRAND's Forever: Standards, Patent Transfers, and Licensing Commitments*, 89 IND. L.J. 231, 294–304 (2014). But it is not necessarily the case that every patent that a patent holder believes to be "essential" to the implementation of a standard will be infringed by a product complying with the standard. In some cases, such patents may be found to be invalid. In other cases, the scope of a standard or the patent claims may have changed from the time that the patent was identified as essential by the patent holder. And in some cases, the patent holder may simply be mistaken as to the essentiality of its patent to a standard or may adopt an overly conservative strategy in declaring the essentiality of its patents. For all of these reasons, "over-declaration" of patents in the standards-setting context is pervasive. See Contreras, *supra* note 4, at 60–62.

⁶ Beginning more than a decade ago, IBM and other large firms began to pledge that they would not assert substantial portfolios of patents against open source code software. IBM, IBM STATEMENT OF NON-ASSERTION OF NAMED PATENTS AGAINST OSS (2005), available at <http://www.ibm.com/ibm/licensing/patents/pledgedpatents.pdf>, archived at <http://perma.cc/3HS7-2ELG>.

relief,⁷ and transferring patents to nonpracticing entities.⁸ This Article refers to these public, market-facing promises as “patent pledges,” and they are beginning to dominate certain large and heavily litigated sectors of the global technology marketplace.⁹

Though patent pledges are made by different means and with different outward objectives, they share one key feature: they are intended to assure the *market*, rather than specific firms, that the pledgor’s patents will not be used to block adoption of a common technology platform. With such pledges in place, market participants are more likely to make investments in the covered technology platforms.¹⁰ Accordingly, it is critical that patent pledges, which offer essential assurances to the market and its participants, be binding and enforceable.¹¹ It is also critical that when patents are transferred, existing patent pledges continue to bind the transferees.

Despite the increasing prevalence of patent pledges and their importance to the economy, current legal theories do not adequately support the enforcement of these promises. The principal theory used to enforce patent pledges to date, particularly in the context of standards-related FRAND commitments, is rooted in the doctrine of common law contract.¹² The theory requires the conceptualization of patent pledges

⁷ In 2012, Apple, Microsoft, and Google each pledged not to seek injunctive relief against implementers of certain standardized technologies to which they had previously made FRAND commitments. David L. Newman, *Availability of Injunctive Relief in Patent Lawsuits as a Result of Standards Obligations*, THOMSON REUTERS NEWS & INSIGHT (June 19, 2012), http://www.arnstein.com/documents/Availability-of-injunctive-relief-in-patent-lawsuits_ThomsonReuters_6-19-12_Newman.pdf, archived at <http://perma.cc/S2R9-KL2X>.

⁸ See, e.g., Mark Chandler, *Good News for the Innovation Economy: The Tide’s Turning Against Patent Trolls*, FORBES (Oct. 20, 2013), <http://www.forbes.com/sites/ciocentral/2013/10/20/good-news-for-the-innovation-economy-the-tides-turning-against-patent-trolls/>, archived at <http://perma.cc/W4JF-SHAW> (“Cisco in the past sold a small number of patents to two [nonpracticing entities] But we won’t do it again.”).

⁹ See Jorge L. Contreras, *Patent Pledges*, ARIZ. ST. L. REV. (forthcoming 2016) (manuscript at 2–9); *Non-SDO Patent Statements and Commitments*, PROGRAM ON INFO. JUSTICE & INTELLECTUAL PROP., <http://www.pijip.org/non-sdo-patent-commitments/>, archived at <http://perma.cc/DR8B-BKR7> (last updated Oct. 15, 2014) (cataloging more than 150 patent pledges covering thousands of patents).

¹⁰ See *infra* Part II.D.2 (discussing pretransaction investments by market participants).

¹¹ As explained in Part IV.B.3, *infra*, I argue for the enforceability only of pledges made with the intention of affecting market behavior. I refer to these as “actionable” pledges. See Contreras, *Patent Pledges*, *supra* note 9 (manuscript at 34–35).

¹² In this Article, I refer to “contract law” as the traditional Anglo-American common law doctrine in which the existence of a contract is characterized by the presence of consideration and a bargain between two or more parties. While other doctrines such as promissory estoppel are addressed in first-year contract law courses as well as the Restatement (Second) of Contracts, I treat these equitable doctrines, which arose quite separately from formal contract doctrine, as distinct. See, e.g., E. ALLAN FARNSWORTH, *CONTRACTS* § 2.19, at 90–99 (4th ed. 2004); *infra* note 97.

as contracts between patent holders and SDOs, as to which vendors wishing to manufacture and sell products that comply with the standard (and thus infringe patents essential to the standard) are third-party beneficiaries.¹³ While a number of commentators¹⁴ and a handful of courts¹⁵ and agencies¹⁶ have adopted this contract-

¹³ See *infra* Part II.A.2.b. Though this Article characterizes patent holders and product manufacturers as the two competing constituencies in debates over patent pledges, it is often the case that single firms play both roles in these complex interactions. That is, a firm may both hold patents covering a standardized technology (thus pledging to license its own patents on FRAND terms) and manufacture products conforming to the standard (thus requiring patent licenses from other patent holders).

¹⁴ See, e.g., Roger G. Brooks & Damien Geradin, *Interpreting and Enforcing the Voluntary FRAND Commitment*, 9 INT'L J. IT STANDARDS & STANDARDIZATION RES. 1, 3 (2011) (stating that “a FRAND obligation is solely the result of a voluntary contract entered into by the patent owner on an identifiable date”); Damien Geradin & Miguel Rato, *Can Standard-Setting Lead to Exploitative Abuse? A Dissonant View on Patent Hold-Up, Royalty-Stacking and the Meaning of FRAND*, 3 EUR. COMPETITION J. 101, 119 (2007) (“The enforceability of the FRAND obligation results from the fact that it forms part of a private agreement between an IPR owner and an SSO.”); Cassandra Maldonado, *Breaching RAND and Reaching for Reasonable: Microsoft v. Motorola and Standard-Essential Patent Litigation*, 29 BERKELEY TECH. L.J. 419, 420 (2014) (arguing that *Microsoft v. Motorola* “demonstrates the usefulness of contract law as the enforcement mechanism for the [F]RAND commitment”); Joseph Scott Miller, *Standard Setting, Patents, and Access Lock-In: RAND Licensing and the Theory of the Firm*, 40 IND. L. REV. 351, 360 (2007) (stating that “the [F]RAND promise, embedded in SSO bylaws to which participants agree, is primarily a matter of contract law”). Even Professor Mark A. Lemley, who offers several other theories under which to analyze FRAND commitments, ultimately concedes that contract law, though not without its drawbacks, is likely the dominant analytical framework for FRAND. See Mark A. Lemley, *Intellectual Property Rights and Standard-Setting Organizations*, 90 CAL. L. REV. 1889, 1923–25 (2002).

¹⁵ See *Apple, Inc. v. Motorola Mobility, Inc.*, No. 11-cv-178-bbc, 2012 WL 5416931, at *4 (W.D. Wis. Nov. 2, 2012) (evaluating a dispute over a FRAND commitment as a breach of contract); *Microsoft Corp. v. Motorola, Inc.*, 854 F. Supp. 2d 993, 999 (W.D. Wash. 2012) (“The court agrees with Microsoft that . . . Motorola has entered into binding contractual commitments to license its essential patents on RAND terms.”); *Research In Motion Ltd. v. Motorola, Inc.*, 644 F. Supp. 2d 788, 797 (N.D. Tex. 2008) (declining to dismiss RIM’s breach of contract claim that Motorola failed to offer FRAND terms as promised to ETSI and IEEE); *Ericsson Inc. v. Samsung Elecs. Co.*, No. 2:06-CV-63, 2007 WL 1202728, at *1 (E.D. Tex. Apr. 20, 2007) (acknowledging that licensing obligations made to SDO were contractual in nature and binding on all members). *But see TruePosition, Inc. v. LM Ericsson Tel. Co.*, 977 F. Supp. 2d 462, 470 (E.D. Pa. 2013) (finding that the working procedures of the 3GPP standards group were “too indefinite to support the formation of a contract”).

¹⁶ *Motorola Mobility Proposed Consent Order Analysis*, *supra* note 1, at 3 (“These commitments created express and implied contracts with the SSOs and their members.”). *But see Certain Wireless Devices with 3G and/or 4G Capabilities & Components Thereof*, No. 337-TA-868, 2014 WL 2965327 (U.S.I.T.C. June 13, 2014) (Final) [hereinafter *ITC InterDigital Initial Determination*] (finding that the standards body’s FRAND commitment was not a contract).

based theory, it falls short on a number of practical and theoretical grounds. Among its shortcomings are its failure to account for the diversity of structures through which patent pledges are made, and the inherent mismatch between the traditional bilateral contract paradigm and the market-wide scope of such pledges. Relying on contract theory as the framework for patent pledges stretches contract doctrine well beyond its natural contours, leading both to under- and overinclusion of promises that ought to be enforced and to a potential distortion of contract theory itself. Common law contract is thus a poor framework for the analysis and enforcement of patent pledges.

Antitrust law, too, has been proposed as a means for analyzing and enforcing patent pledges. The U.S. Federal Trade Commission (FTC) in particular has investigated and brought actions against several firms suspected of violating their FRAND commitments.¹⁷ But, as discussed in Part III.C below, harm to competition (as opposed to harm to particular competitors) may not always occur when patent pledges are violated. And proving an antitrust injury has been challenging in the few cases in which such theories have been tested.

Another theory that has been proposed to support the enforcement of patent pledges is promissory estoppel.¹⁸ Estoppel, rooted in principles of equity, focuses on the *promise* made by a patent holder and a market participant's detrimental reliance thereon, even if the other attributes of a common law contract (mutual assent and consideration) are not present.¹⁹ Promissory estoppel is an attractive theory because it emphasizes the patent holder's reliance-inducing *promise* rather than a hypothetical *bargain* between parties. Estoppel thus overcomes many of the difficulties that contract doctrine faces in its application to patent pledges. Nevertheless, a claim of promissory estoppel requires a showing that the promisee actually and justifiably relied on the patent holder's promise,²⁰ a requirement that is difficult to make in complex technology markets characterized by thousands of patents and dozens of patent holders.

When courts and market participants adopt these theories for lack of anything better, the result is an unstable foundation for these crucial commitments, an incomplete conceptualization of the theoretical basis for their enforcement, and a commitment structure that is vulnerable to opportunism and legalistic gamesmanship.²¹ Thus, a new theory is needed. The theoretical framework supporting the enforcement of patent pledges should (a) be broad enough to work across a diverse range of organizations and commitment types, (b) recognize the

¹⁷ See *infra* Part III.C.

¹⁸ See, e.g., Bryan James Mechell, *Understanding Patent Non-Assertion Agreements: The Enforceability of Microsoft's Open Specification Promise*, 36 AIPLA Q.J. 179, 197–99 (2008); Lemley, *supra* note 14, at 1915.

¹⁹ See *infra* Part III.B.

²⁰ See RESTATEMENT (SECOND) OF CONTRACTS § 90 (1981); *infra* Part IV.B.1.

²¹ Opportunistic parties may attempt to couch their pledges in language intended to refute the application of common law contract principles by, for example, stating that no third-party beneficiaries are intended. See *infra* notes 130–132 and accompanying text.

centrality of the promise made by the patent holder, and (c) reflect the public character of patent pledges as fundamental elements of the broader technology infrastructure. Accordingly, this Article proposes a new “market reliance” theory for patent pledges that begins with the equitable doctrine of promissory estoppel and adds to it a rebuttable presumption of reliance adopted from the “fraud-on-the-market” theory under federal securities law. In short, a patent holder’s public commitment either to refrain from enforcing its patents or to license its patents on FRAND terms should be enforceable by any participant in the relevant market, absent a showing that the commitment was knowingly rejected.²²

The market reliance approach, which focuses on a patent holder’s promise to the market at large, avoids the need to search for the formal attributes of contract formation and specific reliance where none may be found. Shedding this doctrinal baggage and recognizing patent pledges as the market-wide assurances they are intended to be, whether through judicial interpretation or legislative enactment, will create a stronger and more defensible foundation for the enforcement of these crucial commitments.

This Article proceeds in three principal parts. Part II reviews the justification for patent pledges and why they should be enforced as a matter of policy. The diverse settings in which patent pledges are made, including FRAND and other commitments made within and outside the standards-setting context, are also reviewed. Part III assesses the theories that have been advanced to justify the enforcement of patent pledges, including common law contract, promissory estoppel, antitrust law, and equitable servitude, and discusses each of their shortcomings as a general framework for analyzing patent pledges. Part IV develops a novel market reliance theory for the enforcement of patent pledges that draws on elements of promissory estoppel and the fraud-on-the-market theory recognized in federal securities law. This Part also suggests how this theory can be implemented in existing law.

²² This Article addresses the doctrinal “glue” that gives effect to FRAND commitments and other patent pledges without attempting to solve the complex question of the “meaning” of a FRAND commitment. This question has been debated extensively in the literature, including in the author’s previous work. For recent academic commentary on the content and substance of FRAND commitments, see, for example, PATENT CHALLENGES FOR STANDARD-SETTING IN THE GLOBAL ECONOMY 52–69 (Keith Maskus & Stephen A. Merrill eds., 2013) [hereinafter NAS REPORT]; Dennis W. Carlton & Allan L. Shampine, *An Economic Interpretation of FRAND*, 9 J. COMPETITION L. & ECON. 531, 532–34 (2013); Contreras, *supra* note 4, at 51–54, 92; Richard J. Gilbert, *Deal or No Deal? Licensing Negotiations in Standard-Setting Organizations*, 77 ANTITRUST L.J. 855, 858–59 (2011); Anne Layne-Farrar et al., *Pricing Patents for Licensing in Standard-Setting Organizations: Making Sense of FRAND Commitments*, 74 ANTITRUST L.J. 671, 672 (2007); Doug Lichtman, *Understanding the RAND Commitment*, 47 HOUS. L. REV. 1023, 1032–35 (2010); Miller, *supra* note 14, at 357–61; J. Gregory Sidak, *The Meaning of FRAND, Part I: Royalties*, 9 J. COMPETITION L. & ECON. 931, 951–54 (2013); Daniel G. Swanson & William J. Baumol, *Reasonable and Nondiscriminatory (RAND) Royalties, Standards Selection, and Control of Market Power*, 73 ANTITRUST L.J. 1, 5–7, 16 (2005);.

II. FORM AND FUNCTION OF PATENT PLEDGES

This Part offers a brief description of patent pledges and their function in technology-driven markets. Part II.A outlines the public welfare benefits that such pledges create, supporting the argument that patent pledges should be legally recognized and enforced. Parts II.B and II.C describe the spectrum of forms that patent pledges, particularly FRAND commitments, take. Part II.D addresses the need for patent pledges to be legally enforceable, both against the original pledger and subsequent owners of pledged patents.

A. *The Public Character of Patent Pledges*

The patent system as authorized by the U.S. Constitution is endowed with a public character: “To promote the Progress of Science and useful Arts.”²³ Its primary purpose is not to reward individual inventors, but to benefit the public as a whole. A growing number of scholars have recognized the social welfare benefits of the patent system as dominant over the private rewards that patents may afford to patent holders.²⁴ Likewise, the making and enforcement of patent pledges is not simply of concern to the individual patent holder and its prospective licensee, but to the market more broadly. Because of the market-wide nature of patent pledges, they take on a public character that must be considered when analyzing their enforceability. This public character, and the need to enforce patent pledges, is often discussed in terms of efficiency and social welfare, covered in Part II.A.1, but also implicates broader notions of justice and fairness, which are described in Part II.A.2.

1. *Market-Wide Benefits and Network Effects*

Though patent pledges are made by different means with different outward objectives, they share one key feature: they are intended to assure the *market*, rather than specific firms, that the pledgor’s patents will not be used to block adoption of a common technology platform. The most direct application of this principle arises

²³ U.S. CONST. art. I, § 8, cl. 8.

²⁴ See, e.g., WILLIAM M. LANDES & RICHARD A. POSNER, THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW 326–30 (2003); Megan M. La Belle, *Patent Law as Public Law*, 20 GEO. MASON L. REV. 41, 42–47 (2012) (arguing that patent litigation, in general, has a public character); Ted Sichelman, *Purging Patent Law of “Private Law” Remedies*, 92 TEX. L. REV. 517, 519 (2014) (“Patent law . . . is not designed to remedy private wrongs. Rather, its major aim is to promote innovation.”); Stephen Yelderman, *Coordination-Focused Patent Policy* 3–4 (Aug. 15, 2014) (unpublished manuscript), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2481025, archived at <http://perma.cc/E4LM-A6C7> (“In recent years, . . . [s]cholars have . . . observed a variety of other purposes that may be served by the patent system beyond simply rewarding inventive accomplishment.”).

in the case of interoperability standards, which enable different vendors' products and services to work together. Interoperability standards, when widely adopted, can give rise to positive externalities known as network effects that benefit not only the vendors of standardized products but also consumers, competitors, and innovators.²⁵ As observed by Professors John Palfrey and Urs Gasser, "[S]ome degree of interoperability is necessary if a product is to thrive in the information technology marketplace."²⁶ Interoperability, they argue, enhances consumer choice, enables user creativity, fosters competition in the marketplace, and promotes innovation.²⁷

Courts and regulators have also recognized the public welfare benefits of technical interoperability standards.²⁸ As explained in a joint report by the U.S. Department of Justice (DOJ) and the FTC, "Industry standards are widely acknowledged to be one of the engines of the modern economy. Standards can make products less costly for firms to produce and more valuable to consumers."²⁹ As

²⁵ See Michael L. Katz & Carl Shapiro, *Network Externalities, Competition, and Compatibility*, 75 AM. ECON. REV. 424, 424–25 (1985) (noting that "[t]here are many products for which the utility that a user derives from consumption of the good increases with the number of other agents consuming the good"); BRETT M. FRISCHMANN, *INFRASTRUCTURE: THE SOCIAL VALUE OF SHARED RESOURCES* 87–90 (2012); CARL SHAPIRO & HAL R. VARIAN, *INFORMATION RULES: A STRATEGIC GUIDE TO THE NETWORK ECONOMY* 45–46 (1999); see also Richard S. Whitt, *A Deference to Protocol: Fashioning a Three-Dimensional Public Policy Framework for the Internet Age*, 31 CARDOZO ARTS & ENT. L.J. 689, 722 (2013) (stating that "the technical standards and protocols . . . that define how the Internet and World Wide Web function—all constitute exclusively public goods, free for everyone to use without access restrictions").

²⁶ JOHN PALFREY & URS GASSER, *INTEROP: THE PROMISE AND PERILS OF HIGHLY INTERCONNECTED SYSTEMS* 28 (2012).

²⁷ *Id.* at 58–59, 70–72, 89–90, 111.

²⁸ See, e.g., *Microsoft Corp. v. Motorola, Inc.*, No. C10-1823JLR, 2013 WL 2111217, at *5–7 (W.D. Wash. Apr. 25, 2013) ("Standards lower costs by increasing product manufacturing volume, and they increase price competition by eliminating switching costs for consumers who want to switch from products manufactured by one firm to those manufactured by another."); FED. TRADE COMM'N, *THE EVOLVING IP MARKETPLACE: ALIGNING PATENT NOTICE AND REMEDIES WITH COMPETITION* 191 (2011) [hereinafter *FTC, EVOLVING IP MARKETPLACE*] ("In many IT industries, interoperability among products and their components is critical to developing and introducing innovative products that satisfy a range of consumer needs."); Renata B. Hesse, Deputy Assistant Attorney Gen., U.S. Dep't of Justice, Address at the 2nd Annual Antitrust Law Leaders Forum: IP, Antitrust and Looking Back on the Last Four Years 16 (Feb. 8, 2013), available at <http://www.justice.gov/atr/public/speeches/292573.pdf>, archived at <http://perma.cc/AY6N-9VW6> ("[S]tandards serve the public interest in many ways and collaboratively-set industry standards may substantially reduce transaction costs [And] standards offer our economy great efficiencies and offer consumers and businesses new, advanced products . . .").

²⁹ 2007 DOJ/FTC ANTITRUST & IPR, *supra* note 4, at 6–7; see also Herbert Hovenkamp, *Standards Ownership and Competition Policy*, 48 B.C. L. REV. 87, 89–91 (2007) (describing various social welfare benefits provided by standards).

such, interoperability standards have become indispensable infrastructural elements of the modern technology ecosystem.³⁰

Similar arguments have been made with respect to the adoption of open source software. The broad availability of common open source platforms can give rise to significant market-wide cost savings and efficiencies.³¹ Widely available open source platforms such as the Linux and Android operating systems, promoted by many patent holders' commitments not to assert their rights against these technologies, have led to the emergence of robust new markets for compatible software and hardware product offerings.³² In this sense, pledges in which patent

³⁰ Professor Brett Frischmann describes infrastructural resources as those that (1) may be consumed nonrivalrously over an appreciable range of demand, (2) are subject to demand driven primarily by downstream productive activities that require the resource as an input, and (3) may be used as an input into a wide range of goods and services. FRISCHMANN, *supra* note 25, at 61. Technical interoperability standards, which are used in a wide range of downstream products, but are not themselves the end goal of consumption, fit this description. Professor Frischmann also distinguishes among commercial, public, and social infrastructural elements. *Id.* at 67–71. While technical standards are generally provisioned by the private sector, they have the character of public goods (a characterization supported by Dieter Ernst, *America's Voluntary Standards System—A "Best Practice" Model for Innovation Policy?* 29–30 (East-West Ctr. Working Papers, No. 128, 2012)). Accordingly, Professor Frischmann's observations regarding the problems inherent in supplying public goods, FRISCHMANN, *supra* note 25, at 69–70, and his proposed approach to addressing their undersupply, misallocation, and misoptimization through commons resource management strategies, *id.* at 108–14, may be applicable to technical standards. In fact, Frischmann's "basic lesson" that "[w]hen an infrastructure resource serves as a foundation for the production of a wide variety of public and/or social goods, managing access to and use of that resource in a manner that does not discriminate in price, quality, or priority among users or uses may be an efficient and politically attractive public strategy," *id.* at 113, sounds remarkably like a FRAND approach, *cf.* Greg R. Vetter, *Open Source Licensing and Scattering Opportunism in Software Standards*, 48 B.C. L. REV. 225, 226–27 (2007) (classifying standards relating to software as "a type of technology semicommons"); Timothy Simcoe, *Governing the Anti-Commons: Institutional Design for Standard Setting Organizations* (July 1, 2013) (unpublished manuscript) (on file with the Utah Law Review) (analyzing technical standard setting within Elinor Ostrom's shared resource ("commons") framework).

³¹ See YOCHAI BENKLER, *THE WEALTH OF NETWORKS* 31–32 (2006); Dirk Riehle, *The Economic Case for Open Source Foundations*, COMPUTER, Jan. 2010, at 86, 87–88.

³² See, e.g., Elliot Maxwell, *Open Standards, Open Source, and Open Innovation: Harnessing the Benefits of Openness*, INNOVATIONS, Summer 2006, at 119, 132–33 (discussing the main streaming of open-source software); Bradley M. Kuhn, *The State of Free Software in Mobile Devices*, OPEN SOURCE BUS. RESOURCE, Mar. 2010, at 32, 33–34, available at http://timreview.ca/sites/default/files/Issue_PDF/march10_osbr.pdf, archived at <http://perma.cc/M2VP-DCT8> ("From Google's point of view, an easy-to-adopt, licensing-unencumbered platform will broaden their market. . . . Google wants to see Android adopted broadly in both Free Software and mixed Free/proprietary deployments."); David A. Wheeler, *Why Open Source Software/Free Software (OSS/FS, FLOSS, or FOSS)? Look at*

holders commit not to assert their patents, or to license them on FRAND terms, function in a manner similar to open source copyright licenses that permit free modification and redistribution of software products.³³

Another way that patent pledges benefit the market is by encouraging potential licensees to make costly investments prior to the formalization of license agreements, thereby accelerating market adoption of standardized technologies and platforms. Such investments include product design and development, marketing, materials, capital equipment, information technology, employee training, and supply chain management.³⁴ Once such investments have been made, the potential licensee is said to be “locked-in.” In other words, after lock-in it will be less likely to switch to an alternative technology due to the amount it has already invested in the patented technology. Not surprisingly, lock-in gives the patent holder substantial leverage in subsequent license negotiations, a phenomenon that has been termed patent “hold-up.”³⁵ To encourage beneficial prelicense investment by potential licensees, patent holders make pledges, and it is thus important to require patent holders to abide by

the Numbers!, DWHEELER.COM (May 8, 2014), http://www.dwheeler.com/oss_fs_why.html, archived at <http://perma.cc/BGN4-3D9H>.

³³ See, e.g., Ravi Sen et al., *Open Source Software Licenses: Strong-Copyleft, Non-Copyleft, or Somewhere in Between?*, 52 DECISION SUPPORT SYS. 199, 199 (2011) (“Open source development avoids the inefficiencies of a strong intellectual property regime and can create at least as much total welfare as traditional closed licenses.” (citations omitted)).

³⁴ See SHAPIRO & VARIAN, *supra* note 25, at 116–30. Professors Alan Schwartz and Robert E. Scott have observed that in the context of construction contracts, both parties may make precontracting investments. Alan Schwartz & Robert E. Scott, *Precontractual Liability and Preliminary Agreements*, 120 HARV. L. REV. 661, 690–91 (2007). However, investments made by the parties are often unbalanced, tipping more heavily toward the buyer, and individual incentives often lead a seller to wait for the buyer to make its initial investment before it invests, giving the seller an opportunity to renegotiate after the buyer has already sunk costs into the project (i.e., an analog to the problem of holdup). *Id.* Enforcing precontracting commitments enables the buyer to make these investments with some confidence that the seller will not subsequently back out of the transaction, rendering their initial investments valueless.

³⁵ See, e.g., Joseph Farrell et al., *Standard Setting, Patents, and Hold-Up*, 74 ANTITRUST L.J. 603, 616 (2007) (discussing holdup as a problem in the context of cooperative standard setting); Lichtman, *supra* note 22, at 1033 (arguing that the purpose of RAND commitments is to decrease instances of exaggerated royalties due to a holdup in negotiations).

these pledges.³⁶ As one major SDO explains, such commitments “help protect implementers of a standard against patent hold-up.”³⁷

Patent pledges play a crucial role in preserving the public benefits generated by common technology platforms. They assure market participants that patents will not be used to block the manufacture or sale of products conforming to a standard or open specification, or containing open source code. As the federal district court observed in *Microsoft Corp. v. Motorola, Inc.*,³⁸ such commitments are essential to support the widespread implementation of standards and preserve the broad interoperability benefits that they confer.³⁹ Accordingly, patent pledges, like the standards and common technology platforms that they support, have an inherently public, welfare-enhancing character and, as such, should be enforced.⁴⁰

2. *The Moral Force of Promise*

In addition to economic and welfare enhancement rationales for enforcing patent pledges, more fundamental arguments regarding fairness and the moral weight of promises can also be brought to bear. Early courts in equity are said to have enforced promises based on the notion that giving one’s word created a binding and enforceable obligation.⁴¹ Hume reasoned that “the external sanction of public

³⁶ See, e.g., Anne Layne-Farrar, *Moving Past the SEP RAND Obsession: Some Thoughts on the Economic Implications of Unilateral Commitments and the Complexities of Patent Licensing*, 21 GEO. MASON L. REV. 1093, 1101 (“When investment decisions are made in reliance on pledges for good faith dealings in the marketplace at some later date, those pledges should be upheld, regardless of whether the pledges are made by innovative firms in R&D or by downstream firms in commercialization.”).

³⁷ *Standards Essential Patent Disputes and Antitrust Law: Hearing Before the Subcomm. on Antitrust Competition Policy & Consumers Rights of the S. Comm. on the Judiciary*, 113th Cong. 12 (2013) (written statement of the Institute of Electrical and Electronics Engineers, Inc. (IEEE) Standards Association), available at <http://www.judiciary.senate.gov/imo/media/doc/7-30-13KulickTestimony.pdf>, archived at <http://perma.cc/XW6P-T4K3>; see also 2007 DOJ/FTC ANTITRUST & IPR, *supra* note 4, at 46–47 (“Some SSOs use licensing rules, such as requiring IP holders to commit to licensing on RAND terms, to mitigate holdup.”).

³⁸ No. C10-1823JLR, 2013 WL 2111217 (W.D. Wash. Apr. 25, 2013).

³⁹ See *id.* at *5–7, *10–11.

⁴⁰ Of course, not all patent pledges are directed toward the same types of market benefits, and some types of pledges may confer fewer benefits than others. For example, several large patent holders have recently pledged not to transfer patents to nonpracticing entities or patent “trolls.” See Chandler, *supra* note 8. While market benefits may, indeed, flow from such nontransfer pledges, such benefits would, at a minimum, be of a different character than pledges relating to the licensing of patents on FRAND terms (the author thanks Professor Greg Vetter for this insight). This Article focuses primarily on pledges that promote the interoperability of products and technology platforms.

⁴¹ See FARNSWORTH, *supra* note 12, § 1.5, at 12. *But see id.* §§ 1.4–1.5, at 9–12 (noting that neither Roman law nor early common law courts adopted the view that promises were

opprobrium, of loss of reputation for honesty, which society attaches is promise-breaking, is internalized, becomes instinctual, and accounts for the sense of the moral obligation of promise.”⁴² In the early twentieth century, Roscoe Pound wrote that the “moral sentiment of the community” compels the keeping of promises in good faith,⁴³ and Professor Morris R. Cohen, even while resisting early twentieth century theories about the all-encompassing nature of contract law, grudgingly acknowledged that “there is something inherently despicable about not keeping a promise, and that a properly organized society should not tolerate this.”⁴⁴

Among the most prominent contemporary thinkers about the underpinnings of our system of justice is John Rawls, who reasoned that

while we normally think of moral requirements as bonds laid upon us, they are sometimes deliberately self-imposed for our advantage. Thus promising is an act done with the public intention of deliberately incurring an obligation the existence of which in the circumstances will further one’s ends. . . . Having, then, availed ourselves of the practice for this reason, we are under an obligation to do as we promised by the principle of fairness.⁴⁵

And more recently, Professor Charles Fried has argued that the obligation to keep one’s promise is grounded in notions of individual autonomy and trust. “An individual is morally bound to keep his promises because he has intentionally invoked a convention whose function it is to give grounds—moral grounds—for another to expect the promised performance.”⁴⁶

While U.S. law surrounding promises, primarily contract and promissory estoppel, does not explicitly rely on any moral principle underlying the nature of

per se enforceable); Morris R. Cohen, *The Basis of Contract*, 46 HARV. L. REV. 553, 574 (1933) (“At various times it has been claimed that mere promises as such received legal force in Hebrew, Greek, early German, and canon law. None of these claims can be justified.”).

⁴² CHARLES FRIED, *CONTRACT AS PROMISE: A THEORY OF CONTRACTUAL OBLIGATION* 15 & n.10 (2d ed. 2015) (discussing DAVID HUME, *A TREATISE OF HUMAN NATURE* 516–25 (L. A. Selby-Bigge ed., 1888)).

⁴³ ROSCOE POUND, *AN INTRODUCTION TO THE PHILOSOPHY OF LAW* 237 (1922).

⁴⁴ Cohen, *supra* note 41, at 571. *But see id.* at 572 (“But while this intuitionist theory contains an element of truth, it is clearly inadequate. No legal system does or can attempt to enforce all promises.”).

⁴⁵ JOHN RAWLS, *A THEORY OF JUSTICE* 347 (1971). This Article is not the first to invoke Rawls in discussing the fundamental basis for FRAND commitments. *See Sidak, supra* note 22, at 1032 (describing the “Rawlsian depiction of standard setting as a process evolving from an original position of ignorance with respect to whether one will eventually be buying or selling patented technology”).

⁴⁶ FRIED, *supra* note 42, at 16.

promising,⁴⁷ the laws of some European jurisdictions allow the enforcement of so-called “unilateral” promises based on “the moral need for the promisor to adhere to the promise, and the moral impetus to protect a promisee harmed by a broken promise.”⁴⁸ This principle is also reflected in the Principles of European Contract Law and the Draft Common Frame of Reference, which describe the subjective requirement for a unilateral juridical act, the relevant factor being the consent or will of the promisor rather than reliance by the promisee.⁴⁹ For all of these reasons, there is a strong moral impetus driving the enforcement of promises that exists in addition to the more instrumental arguments usually marshaled in its favor.

B. *The Range of Patent Pledges*

Patent pledges take many forms and are made in a variety of settings.⁵⁰ Perhaps the most common of these structures, or at least the one that most commentators and courts have focused on, are those commitments made by patent holders within the standards-setting context to license their patents on terms that are “fair, reasonable and nondiscriminatory” (FRAND). FRAND commitments, as noted in the Introduction, are intended to assure the market that patent licenses will be available to manufacturers of standardized technologies on terms that are, at least roughly, understood.⁵¹ The legal mechanisms by which FRAND commitments are made vary considerably.⁵² Moreover, the structures of SDOs themselves are surprisingly diverse, ranging from small groups of firms focusing on a single product category to large, international bodies that produce standards in a broad range of industries.⁵³

⁴⁷ *But see* Edward Yorio & Steve Thel, *The Promissory Basis of Section 90*, 101 YALE L.J. 111, 111 (1991) (arguing that the U.S. doctrine of promissory estoppel is more firmly rooted in notions of promise than reliance).

⁴⁸ David V. Snyder, *Hunting Promissory Estoppel*, in MIXED JURISDICTIONS COMPARED: PRIVATE LAW IN LOUISIANA AND SCOTLAND 281, 283 (Vernon Valentine Palmer & Elspeth Christie Reid eds., 2009) (discussing unilateral promise under Scots law).

⁴⁹ *Id.* at 297.

⁵⁰ *See* Contreras, *Patent Pledges*, *supra* note 9 (manuscript at 15–21).

⁵¹ *See* FTC, EVOLVING IP MARKETPLACE, *supra* note 28, at 22 (“One way that many SSOs attempt to address [patent hold-up] is through licensing rules that require participants to agree to license patents on [FRAND] terms.”); ABA PATENT POLICY MANUAL, *supra* note 5, at xiv.

⁵² *See* ABA PATENT POLICY MANUAL, *supra* note 5, at 67–68 (describing variants by which licensing commitments are imposed); Lemley, *supra* note 14, at 1955–57 (speculating that the diversity among SDO IP policies is likely due to lack of coordination, low prioritization of IP issues, and other exigencies, but least of all to intentional design).

⁵³ *See generally* Brad Biddle et al., *The Expanding Role and Importance of Standards in the Information and Communications Technology Industry*, 52 JURIMETRICS 177, 181–91 (2012) (describing structural variation among SDOs); Ernst, *supra* note 30, at 12 (presenting a taxonomy of standardization groups).

This Part describes the range of structures in which patent pledges (typically FRAND commitments) are made. A summary is provided in *Table 1* below, ordered from the most to the least formal⁵⁴:

Table 1
Patent Pledge Structural Variants

Commitment Structure	Characteristics	Prevalence	Examples
1. Multilateral Agreement	Agreement among members expressly containing a commitment	Rare	USB Promoters Group ⁵⁵
2. Membership Agreement	SDO membership agreement contains or requires compliance with a specified commitment	Uncommon	Bluetooth SIG ⁵⁶ OASIS ⁵⁷
3. SDO Bylaws/Policy	SDO bylaws or other policy documents require members to comply with a specified commitment	Uncommon	VITA ⁵⁸ ETSI ⁵⁹

⁵⁴ This list is not intended to be comprehensive. Moreover, several of these variants can coexist within the same SDO leading to hybrid structures. *See generally* Biddle et al., *supra* note 53, at 190–91 (discussing hybrid structures and other models); BEKKERS & UPDEGROVE, *supra* note 5, at 27–30 (describing the policy commitment structures of ten SDOs studied). Estimates of prevalence are based on data compiled in Biddle et al., *supra* note 53; BEKKERS & UPDEGROVE, *supra* note 5; Lemley, *supra* note 14, at 1904–06; and the author’s personal observations.

⁵⁵ Biddle et al., *supra* note 53, at 182 (“The USB Promoters Group, a contractual arrangement between a small group of major ICT companies, acts as steward for the USB specifications . . .”).

⁵⁶ *Bluetooth Patent/Copyright License Agreement*, BLUETOOTH TECH. SPECIAL INTEREST GRP., <https://www.bluetooth.org/login/register/>, archived at <https://perma.cc/4LK5-S6DH> (follow the “Patent & Copyright License Agreement (PDF)” hyperlink) (last visited Jan. 17, 2015).

⁵⁷ *Membership Application and Agreement*, OASIS (Jan. 20, 2005), <https://www.oasis-open.org/join/membership-agreement.pdf>, archived at <http://perma.cc/YDW6-EAHC> (“The Member agrees to abide by the terms of (a) the IPR Policy of OASIS . . . as of the Effective Date or as amended thereafter pursuant to . . . this Agreement, and (b) any other policies developed by the Board in accordance with the Bylaws (“Policies”) applicable to members . . .”).

⁵⁸ *VITA Membership Application*, VITA, http://vita-beta.com/home/Membership/VITA_Member_Registration_Form_2011.pdf, archived at <http://perma.cc/S2SS-NYZY> (last visited Jan. 21, 2015) (“By submitting this application, the company and its representative(s) agree to adhere to all VITA and VSO policies and procedures.”).

⁵⁹ EUROPEAN TELECOMMS. STANDARDS INST., ETSI RULES OF PROCEDURE 36 (2014) [hereinafter ETSI IPR POLICY], available at <http://www.etsi.org/images/files/IPR/etsi-ipr-policy.pdf>, archived at <http://perma.cc/T459-TFVN> (outlining ETSI’s intellectual property rights policy).

Commitment Structure	Characteristics	Prevalence	Examples
			HDMI Forum ⁶⁰
4. Follow American National Standards Institute (ANSI) Policy	SDO requires members to comply with the ANSI patent policy	Common ⁶¹	ASTM ⁶²
5. Letters of Assurance (LOA)	Members must deliver written statements of their FRAND commitments, if any, at certain points during the standardization process	Common	ITU/ISO/IEC ⁶³ IEEE ⁶⁴
6. Voluntary SDO Declarations	Members are given the option to declare their intentions or commitments	Rare	IETF ⁶⁵

⁶⁰ BEKKERS & UPDEGROVE, *supra* note 5, at 27; RUDI BEKKERS & ANDY UPDEGROVE, SUPPLEMENT 9—ANALYSIS OF THE IPR POLICY OF HDMI FORUM (2012), available at http://home.tm.tue.nl/rbeggars/nas/Beggars_Updegrove_NAS2012---S09---HDMI_Forum.pdf, archived at <http://perma.cc/T5CX-HAEE>.

⁶¹ This structure is prevalent in ANSI-accredited SDOs outside the ICT sector. *See infra* note 74.

⁶² ASTM INT'L, REGULATIONS GOVERNING ASTM TECHNICAL COMMITTEES § 15.4 (2013) (“ASTM standards submitted to ANSI for approval as American National Standards shall conform to the ANSI patent policy.”).

⁶³ *Common Patent Policy for ITU-T/ITU-R/ISO/IEC*, ITU, <http://www.itu.int/en/ITU-T/ipr/Pages/policy.aspx>, archived at <http://perma.cc/BUR4-CUFK> (last visited Jan. 21, 2015); *Patent Statement and Licensing Declaration Form for ITU-T or ITU-R Recommendation*, ITU (Apr. 23, 2012), http://www.itu.int/dms_pub/itu-t/oth/04/04/T0404000020003PDFE.pdf, archived at <http://perma.cc/XK4Z-CPBX>.

⁶⁴ IEEE-SA STANDARDS BOARD BYLAWS § 6.2 (2015), available at http://standards.ieee.org/develop/policies/bylaws/sb_bylaws.pdf, archived at <http://perma.cc/6UE3-XREX> (“If the IEEE receives notice that a [Proposed] IEEE Standard may require the use of a potential Essential Patent Claim, the IEEE shall request licensing assurance . . . from the patent holder or patent applicant.”); *Letter of Assurance for Essential Patent Claims*, IEEE, § D.1.b, <https://development.standards.ieee.org/myproject/Public/mytools/mob/loa.pdf>, archived at <http://perma.cc/Y5JP-3NPE> (last visited Jan. 21, 2015) [hereinafter IEEE LOA] (demonstrating that a patent holder may also indicate that it is unwilling to license, that it will license at no charge, or that it will license at a royalty rate not to exceed a specified amount).

⁶⁵ Scott Bradner, *Intellectual Property Rights in IETF Technology* § 6.5 (Internet Eng’g Task Force Network Working Grp., Request for Comments No. 3969, 2005), available at <http://www.ietf.org/rfc/rfc3979.txt>, archived at <http://perma.cc/D8VS-5RNQ> (“[I]t is helpful if an IPR disclosure includes information about licensing of the IPR . . .”).

Commitment Structure	Characteristics	Prevalence	Examples
7. Voluntary Non-SDO Declarations	Parties make public statements either within or outside the SDO context making or describing commitments	Uncommon but increasing	Microsoft Interoperability Principles ⁶⁶

(1) *Multilateral Agreement*: Some SDOs exist solely as contractual arrangements among the participants. These “contractual consortia” typically have a limited, focused membership and a specific technical goal.⁶⁷ FRAND commitments among members are often found in the contractual agreements establishing these groups.

(2) *Membership Agreement*: In SDOs that are formed as incorporated entities, participants may be required to sign a written membership agreement with the SDO. This agreement may contain an express FRAND commitment or incorporate a FRAND commitment that is contained in either the SDO’s bylaws or a separate policy document.⁶⁸

(3) *SDO Bylaws/Policy*: Many SDOs have no formal membership agreements, but include FRAND commitments in their bylaws or policy documents.⁶⁹ In some cases, participants are required to agree to comply with such bylaws and policies in a membership application (often submitted online), or compliance may simply be understood as an incident of membership in the organization.⁷⁰ In some cases, FRAND commitments arise only when a participant joins a particular working group or technical activity, and commitments may vary by group or activity.⁷¹

(4) *Follow American National Standards Institute (ANSI) Policy*: All SDOs that wish to be accredited as developers of American National Standards⁷² must comply with ANSI’s “Essential Requirements.” The ANSI Essential Requirements permit

⁶⁶ *Interoperability Principles*, MICROSOFT, <http://www.microsoft.com/openspecifications/en/us/programs/interop/interoperability-principles/default.aspx>, archived at <http://perma.cc/69JD-BACG> (last visited Jan. 21, 2015).

⁶⁷ See Biddle et al., *supra* note 53, at 186–87 (describing and providing examples of such “contractual consortia”).

⁶⁸ See *id.* at 188–89 (describing and providing examples of “incorporated consortia”).

⁶⁹ See *id.* at 196–97; Lemley *supra* note 14, at 1906.

⁷⁰ See *infra* notes 104–107 and accompanying text (discussing the binding nature of corporate bylaws and SDO attempts to impose contractual structures absent signed agreements).

⁷¹ See BEKKERS & UPDEGROVE, *supra* note 5, at 28 (noting that such SDOs have a relatively narrow technical scope).

⁷² There are various reasons that SDOs wish to obtain ANSI accreditation, including reputational value, acceptance within the broader standardization community, attraction of new members, representation at ANSI and ability to influence ANSI policy, and acceptance of standards by governmental bodies. See *Why Seek Accreditation?*, ANSI ACCREDITATION SERVICES, <https://www.ansica.org/wwwversion2/outside/Benefits.asp>, archived at <http://perma.cc/GLR7-2LDR> (last visited Jan. 21, 2015).

American National Standards to include technologies covered by known patents, so long as the relevant SDO receives a written assurance from the patent holder that a license will be made available either without consideration or “under reasonable terms and conditions that are demonstrably free of any unfair discrimination.”⁷³ The large majority of SDOs, particularly those in fields other than information and communications technology (ICT), simply reference the ANSI policy in their own membership agreements, bylaws, or policies, rather than adopt a patent policy of their own.⁷⁴

(5) *Letters of Assurance (LOA)*: SDO rules and procedures may require participants to submit a written document (referred to variously as a “letter of assurance,” “licensing declaration,” or “written assurance”) stating their intentions regarding the licensing of standards-essential patents.⁷⁵ Different SDOs require participants to submit such LOAs at different times during the standardization process, including at the time potentially essential patents are disclosed, prior to voting on a standard, or upon request of the SDO.⁷⁶ Often, such letters must conform to a standardized format and allow the participant to check one of several boxes to indicate whether its preferred licensing approach is FRAND, royalty-free, “no license,”⁷⁷ or otherwise. This policy structure is relatively common among large SDOs operating in the ICT sector.⁷⁸

(6) *Voluntary SDO Declarations*: Some SDOs impose no formal licensing commitments on participants, though participants may, at their option, disclose the terms on which they are willing to license patents.⁷⁹ The SDO generally makes statements it receives public through an SDO-maintained website. Despite the seeming informality of such a system, voluntary disclosures such as these are far from uncommon. The best-known SDO adopting this structure is the Internet Engineering Task Force (IETF), the primary developer of standards and protocols

⁷³ AM. NAT’L STANDARDS INST., ANSI ESSENTIAL REQUIREMENTS: DUE PROCESS REQUIREMENTS FOR AMERICAN NATIONAL STANDARDS § 3.1.1(b), at 10 (2014) [hereinafter ANSI ESSENTIAL REQUIREMENTS].

⁷⁴ Based on a 2012 review conducted by ANSI staff, approximately 92% of ANSI-accredited SDOs (250 of 272 policies reviewed) either incorporated the ANSI patent policy by reference into their own policies, or reprinted the ANSI policy as their own, with only minimal deviations (e.g., substituting the name of the SDO for “ANSI”). Correspondence with Patricia Griffin, ANSI General Counsel (Mar. 5, 2012) (on file with the Utah Law Review).

⁷⁵ BEKKERS & UPDEGROVE, *supra* note 5, at 28.

⁷⁶ *See id.* at 77.

⁷⁷ In theory, even a disclosure that no licenses will be available can be helpful to the SDO inasmuch as it may encourage SDO participants to “work around” the patents that will not be available for licensing.

⁷⁸ *See* BEKKERS & UPDEGROVE, *supra* note 5, at 27 (stating that seven of ten SDOs studied use this structure).

⁷⁹ Such disclosures of intention are sometimes referred to as “Licensing Statements” and are distinguished from more binding *commitments* to license. *See* ABA PATENT POLICY MANUAL, *supra* note 5, at 72–81.

for the Internet.⁸⁰ With over seven thousand formal standards and policy documents published,⁸¹ including the fundamental protocols that enable Internet communications, the importance of these standards and this SDO model to the modern technology infrastructure cannot be understated. Yet IETF has neither membership agreements nor any formal membership status at all.⁸²

(7) *Voluntary Non-SDO Declarations*: These are statements made publicly by firms engaged in the development of standards or the promulgation of common technology platforms, but outside the traditional SDO-based standard-setting process. Such statements may be made in a variety of settings and formats, including public announcements, press releases, web site postings, speeches, and correspondence with SDOs and regulatory agencies.⁸³ In addition to FRAND commitments, these pledges also include clarifications of previously made commitments, as well as commitments not to assert patents against certain technology categories (e.g., open source software), not to seek injunctions under certain patents, and not to transfer patents to nonpracticing entities.⁸⁴

C. Process Obligations and Content Obligations

A FRAND commitment is, by definition, a promise to grant a license in the future. These commitments fall into two general categories: commitments to grant licenses on FRAND terms (“Process Obligations”), and commitments as to the license terms that are ultimately granted (“Content Obligations”). Process Obligations likely include a patent holder’s obligation to *offer* a license at a royalty rate that is reasonable, to negotiate a license in good faith with the implementer, to continue negotiations for some period of time, to refrain from seeking injunctive relief to enjoin the implementer’s manufacture and sale of infringing products while negotiations are ongoing, and to submit any disputes regarding FRAND terms to an independent arbitrator before seeking such injunctive relief. Content Obligations, on

⁸⁰ See Bradner, *supra* note 5, § 6.5 (“The inclusion of licensing information in IPR disclosures is not mandatory but it is encouraged so that the working groups will have as much information as they can during their deliberations.”). Despite the lack of any formal FRAND requirement, between 2007 and 2010, IETF participants voluntarily made 378 FRAND licensing disclosures, representing 79% of all patent disclosures made during the period. Jorge L. Contreras, *Technical Standards and Ex Ante Disclosure: Results and Analysis of an Empirical Study*, 53 JURIMETRICS 163, 182 (2013).

⁸¹ IETF standards and policies are published as “RFCs” on the IETF’s website. *Request for Comments (RFC)*, IETF, <http://www.ietf.org/rfc.html>, archived at <http://perma.cc/6542-AGDL> (last visited Jan. 21, 2015). When originally used in 1968, the term “RFC” was an acronym for “Request for Comments,” but that meaning has become obsolete over the years, though the designation RFC has continued. See ANDREW L. RUSSELL, OPEN STANDARDS AND THE DIGITAL AGE: HISTORY, IDEOLOGY, AND NETWORKS 184 (2014).

⁸² Admittedly, IETF appears to be unique in this regard, at least among major SDOs. See BEKKERS & UPDEGROVE, *supra* note 5, at 18.

⁸³ See Contreras, *supra* note 9 (manuscript at 18).

⁸⁴ See *id.* (manuscript at 5, 17–26).

the other hand, pertain to the specific royalty rates and other “reasonable” license terms to be included in such an agreement.⁸⁵ The distinction between Process Obligations and Content Obligations becomes important, among other things, when assessing remedies for breach of commitments, as discussed in Part IV.B.8 below.

D. Breach and Enforcement of Patent Pledges

Parts II.A through II.C above describe how and why patent pledges are made. This Part discusses why it is important that patent pledges be legally enforceable, both as against the original pledger and against subsequent owners of the relevant patents.

1. Enforcing Pledges

Patent pledges are made, whether within or outside of SDOs, to assure the market that the patent holder will take, or refrain from taking, certain actions regarding its patents. In order to make these assurances meaningful, patent pledges must be legally enforceable by at least some category of beneficiaries or “pledgees.”

To illustrate with a hypothetical, assume that patent holder “Paul” participates in “3DPP,” an SDO that develops standards for 3D printing equipment. Paul and twelve other companies cooperate within 3DPP to develop Standard I-123 defining certain shape characteristics of the nozzle for 3D ink cartridges. The written policies of 3DPP require that all participants commit to license any patents they control to implementers of 3DPP standards on FRAND terms (a “Type 3” commitment, as defined in Part II.B.1 above). Mary is a manufacturer of 3D ink cartridges and wishes to sell cartridges that are compliant with Standard I-123. Mary, knowing about Paul’s patent, can approach Paul to obtain a license either before or after she designs and manufactures her cartridge.⁸⁶ In either case, Paul has pledged to grant Mary a license on FRAND terms. If, for some reason, Paul refuses to grant that license to Mary, Mary may need to bring legal action to enforce Paul’s promise to grant the license. Of course, Mary’s right to enforce may not be absolute, and various extenuating circumstances could excuse Paul from granting a license to her (e.g., Mary did not accept Paul’s reasonable license offer, Mary has deliberately avoided negotiating with Paul, or Mary does not fit within the category of third parties to which Paul has committed to grant a license). But in all of these cases, parties and courts require a sound, predictable, and generally applicable legal theory on which

⁸⁵ Such terms could include requirements that the implementer grant the patent holder “reciprocal” licenses, provisions ensuring that the license will be transferred if the underlying patents are sold or assigned, and provisions allowing the patent holder to suspend the license if the implementer sues it for infringement of its own patents (“defensive suspension”). See ABA PATENT POLICY MANUAL, *supra* note 5, at 52–67 (describing many of these terms).

⁸⁶ For a discussion of the considerations surrounding the timing of a potential licensee’s request for a license from a patent holder, see Contreras, *supra* note 4, at 54–62.

to evaluate and enforce claims for the enforcement of patent pledges. As discussed below, none of the theories that are currently used adequately fill this need.

2. *Enforcement and Transfer*

Further complicating the enforcement of patent pledges is the fact that, in today's dynamic technology marketplace, patents are often treated as liquid assets that are freely transferable from one owner to the next.⁸⁷ What happens to a patent pledge when the original pledgor transfers the underlying patent to a third party? That is, do pledges travel with patents, binding their new owners, or are they binding only on the original promisor? The question has serious ramifications given the number of significant patent transfers that have occurred in recent years.⁸⁸ Given the importance of patent pledges to markets dependent on common technology platforms and standards, it is important that such pledges remain binding and enforceable even after the original pledgor transfers the relevant patents to a new owner.

In 2008, the FTC brought an action against the purchaser of a standards-essential patent after the purchaser announced that it would not honor the original owner's commitment to license the patent to all implementers for a flat fee of \$1,000.⁸⁹ The action was settled with the new owner agreeing to honor the original owner's pledge.⁹⁰

In 2011, bankrupt Nortel Networks, a significant contributor to telecommunications and computer networking standards, proposed the sale of numerous assets, including approximately six thousand patents, on a "free and clear" basis.⁹¹ Several product vendors, together with IEEE, raised concerns that Nortel's

⁸⁷ See U.K. INTELLECTUAL PROP. OFFICE PATENT INFORMATICS TEAM, PATENT THICKETS: AN OVERVIEW 17 (2011); Tom Ewing & Robin Feldman, *The Giants Among Us*, 2012 STANFORD TECH. L. REV. 1, 1–2.

⁸⁸ See, e.g., *Top 10 Patent Sales of 2012*, IDEABUYER (Feb. 20, 2013, 5:19 AM), <http://www.ideabuyer.com/news/top-10-patent-sales-of-2012/>, archived at <http://perma.cc/VZ6N-3PUH> (listing patent sales totaling \$20 billion and encompassing thousands of patents).

⁸⁹ *Negotiated Data Solutions LLC*, No. C-4234, 2008 WL 4407246, at *1–5 (F.T.C. Sept. 22, 2008); see *infra* notes 231–236 and accompanying text.

⁹⁰ See *id.* at *6–9. It is interesting to note that the new owner, N-Data, did acknowledge that the acquired patent was subject to a FRAND commitment and even committed to license the patent on FRAND terms. The new owner simply declined to honor the original patent holder's specific promise regarding the FRAND terms to be offered—a flat license fee of \$1,000. *Negotiated Data Solutions*, 2008 WL 4407246, at *4–5.

⁹¹ Under Section 363(f) of the U.S. Bankruptcy Code, a bankruptcy trustee or debtor in possession may sell the bankruptcy estate's assets "free and clear of any interest in such property." 11 U.S.C. § 363(f) (2012); *In re Nortel Networks Inc.*, No. 09-10138 (KG), 2011 WL 4831218, at *1 (Bankr. D. Del. July 11, 2011); see also *In re Nortel Networks, Inc.*, 469 B.R. 478, 488 (Bankr. D. Del. 2012) ("On July 11, 2011, the Court entered an order

“free and clear” sale could erase numerous licensing commitments previously made by the company.⁹² Ultimately, the purchaser of the patents, a consortium including several large product vendors, agreed to abide by Nortel’s prior licensing pledges.⁹³

The effect of patent transfers on FRAND commitments also figured prominently in the postcommitment statements issued by Microsoft, Apple, and Google in February 2012, each of which committed to honor pledges made by prior owners of the patents being acquired.⁹⁴ Finally, the standards-essential patents asserted by the nonpracticing entity Innovatio IP Ventures LLC against a large number of motels, cafés, and other retail establishments were acquired from Broadcom Corp., an active participant in numerous SDOs.⁹⁵ Which of Broadcom’s obligations carried over to the purchaser of its patents?

Given the increasing number of patent sales and transfers in the current marketplace, it is critical to develop a sound theory to assure the enforceability of patent pledges when original pledgors transfer pledged patents to new owners. The market reliance theory proposed in Part IV seeks to address this key issue.

III. CURRENT THEORIES APPLIED TO PATENT PLEDGES

Most commentators today would probably agree that patent pledges, or at least some significant percentage of them, ought to be enforced.⁹⁶ However, there is a wide divergence of views regarding the most suitable theory to support such enforcement. This Part reviews the primary enforcement theories that have been advanced to date and assesses their strengths and weaknesses.

approving the sale of Nortel’s Residual Patent Assets, representing some 6,000 patents for telecommunications, internet, wireless, and other technology, to Rockstar Bidco, LP.”)

⁹² See *In re Nortel Networks*, 2011 WL 4831218, at *2–3.

⁹³ *Id.* at *7.

⁹⁴ See Jorge L. Contreras, *Guest Post: The February of FRAND, PATENTLY-O* (Mar. 6, 2012), <http://patentlyo.com/patent/2012/03/february-of-frand.html>, archived at <http://perma.cc/J253-XXRJ>.

⁹⁵ *In re Innovatio IP Ventures, LLC Patent Litig.*, 921 F. Supp. 2d 903, 907 (N.D. Ill. 2013).

⁹⁶ I am referring to actionable pledges only. See *supra* note 11.

A. *The Contractual Paradigm*⁹⁷

The patent pledges that have attracted the most attention in recent years have been FRAND commitments, which courts, agencies and commentators have increasingly described as “contractual.”⁹⁸ This Part reviews the elements of common law contract doctrine as it has been applied to FRAND commitments and concludes that common law contract is a doctrinal framework ill-suited to address the diverse and market-wide nature of such commitments, not to mention the even broader category of patent pledges.⁹⁹

1. *The Case for Common Law Contract*

As every first year law student learns, a contract under the common law is an enforceable promise that meets certain requirements such as consideration, offer, acceptance, and mutual assent.¹⁰⁰ Not every promise results in a contract, and not

⁹⁷ For the sake of expediency, this Article addresses the U.S. common law of contracts to the exclusion of contract law of other jurisdictions. *See supra* note 12. I limit my scope advisedly and with some trepidation, as the laws of non-U.S. jurisdictions undeniably play a role in the global standardization landscape, and even in U.S. adjudications of standards-related disputes. *See Apple, Inc. v. Motorola Mobility, Inc.*, 886 F. Supp. 2d 1061, 1066–71 (W.D. Wis. 2012) (purportedly applying French law to Apple’s contractual claims against Motorola in connection with its participation in the European Telecommunications Standards Institute (ETSI)). According to a recent analysis by Professor Thomas F. Cotter, courts outside the United States that have considered parties’ FRAND commitments have not found contract theory to be a particularly strong theory of enforcement (especially with regard to third-party beneficiary status). *See* Thomas F. Cotter, *Comparative Law and Economics of Standard-Essential Patents and FRAND Royalties*, 22 TEX. INTELL. PROP. L.J. 311 (2014) (discussing cases from Germany, the Netherlands, and the Republic of Korea).

⁹⁸ *See* sources cited *supra* notes 14–16.

⁹⁹ This is not the only context in which contract law, which took its current shape during the nineteenth and early twentieth centuries, FARNSWORTH, *supra* note 12, § 1.7, at 19, has struggled to adapt to other modern modes of private interaction. Perhaps the most prominent area in which this difficulty arises is in the law surrounding now-ubiquitous shrinkwrap and clickwrap agreements. Most contract scholars readily acknowledge that the common law conceits of offer, acceptance, and meeting of the minds seldom exist with such agreements, yet are still at odds over the best (or any) theory to support the enforceability of these agreements. *See, e.g.*, Randy E. Barnett, *Consenting to Form Contracts*, 71 FORDHAM L. REV. 627, 628 (2002) (analyzing the differences between analyzing contracts subjectively and objectively); Mark A. Lemley, *Terms of Use*, 91 MINN. L. REV. 459, 464 (2006) (stating that “the enforcement of browserwraps creates problems that need to be resolved”); Todd D. Rakoff, *Contracts of Adhesion: An Essay in Reconstruction*, 96 HARV. L. REV. 1173, 1175 (1983) (stating that “there is little agreement on what principles should control” contracts of adhesion).

¹⁰⁰ *See* RESTATEMENT (SECOND) OF CONTRACTS § 17(1) (1981) (“[T]he formation of a contract requires a bargain in which there is a manifestation of mutual assent to the exchange and a consideration.”); *Id.* § 22(1) (“The manifestation of mutual assent to an exchange

every promise is enforceable.¹⁰¹ At first blush, the interpretive and normative principles of contract law seem well suited to tackling the analysis of FRAND commitments and other patent pledges. In most cases, such commitments are embodied in a writing that is susceptible to the well-understood tools of contractual interpretation. Moreover, the parties engaged in standard setting are typically sophisticated commercial firms that enter into complex contractual arrangements on a routine basis. The law of contract is thus a familiar and seemingly convenient doctrine with which to address the difficult question of whether a party has lived up to its commitments.

The contractual analysis, applied to the hypothetical proposed in Part II.B goes something like this: Paul makes a FRAND commitment to the 3DPP SDO. This commitment can be construed as a contract between Paul and 3DPP. The contract is intended to benefit implementers of 3DPP's standards. Thus, Mary, who wishes to implement the standard in a 3D printer cartridge, should be treated as a contractual third-party beneficiary of Paul's commitment to 3DPP.

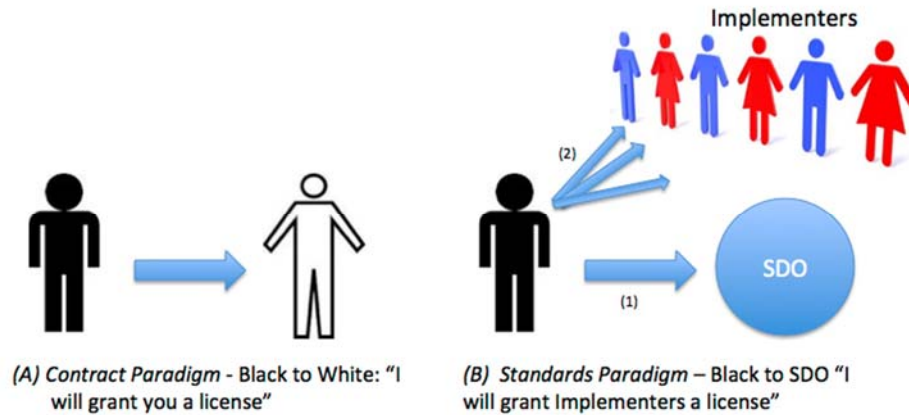
This analysis may, indeed, be valid for some commitments. But a closer analysis reveals gaps and incompatibilities that make the general application of this contractual approach difficult. This failure stems, at its root, from a fundamental mismatch between the paradigmatic contractual transaction (a direct bargain between two parties) and the more fluid and multilateral set of relationships that characterize the standards-development environment. *Figure 1* illustrates the differences between the commitment structures under the contract paradigm and the standards paradigm.

ordinarily takes the form of an offer or proposal by one party followed by an acceptance by the other party or parties.”).

The Restatement (First) of Contracts defined a category of “unilateral” contracts that included transactions such as sealed gift promises, option contracts, and bargains completed on one side, such as loans made but not yet repaid. *See* RESTATEMENT (FIRST) OF CONTRACTS § 12 (1932). The First Restatement's concept of unilateral contract was not the same as that recognized by certain European jurisdictions. *See supra* notes 47–49 and accompanying text. The Restatement (Second) has eliminated the category of unilateral contracts, as it was found to be incoherent and of little value. *See* RESTATEMENT (SECOND) OF CONTRACTS § 1 cmt. f. (1981). Special cases, such as option contracts and contracts that can be accepted by performance, are retained, but without reference to the somewhat misleading label of unilateral contract. *Id.* §§ 25, 45. Nevertheless, some commentators continue to refer to unilateral contracts as a distinct category. *See, e.g.,* Peter Meijes Tiersma, *Reassessing Unilateral Contracts: The Role of Offer, Acceptance, and Promise*, 26 U.C. DAVIS L. REV. 1, 4 (1992) (arguing that the “distinction remains significant”). I do not address unilateral contract separately in this Article, because to the extent that the category is relevant to patent pledges, its elements are encompassed by ordinary common law contracts or promissory estoppel, which are discussed at length.

¹⁰¹ Gratuitous promises to make gifts, for example, are typically unenforceable. *See* RESTATEMENT (SECOND) OF CONTRACTS § 71(1) cmt. b, illus. 4–5 (1981).

Figure 1
Contract v. Standards-Setting Paradigm for FRAND



2. How Contract Falls Short

As suggested above, contract doctrine fails in several fundamental regards to address FRAND commitments, not to mention the broader spectrum of patent pledges. As shown in *Table 1*, the structures for implementing FRAND commitments are extremely diverse. Such structures vary from those that are almost certainly contractual in nature (e.g., Type 1 Multilateral Agreements) to those that, due to a lack of mutuality, definiteness or consideration, almost certainly are not (e.g., Type 6 and 7 Voluntary Declarations). Thus, while a contractual analytical framework may be suitable for a small number of patent pledges, it is unsuitable for many others. Part III.A.2.a assesses the general applicability or inapplicability of common law contract doctrine to the different types of patent pledges. Parts III.A.2.b–c analyze the shortcomings of common law contract theory even in cases in which contract law might, as a threshold matter, appear to offer a reasonable framework for analyzing patent pledges.

(a) Contract Formation

(i) Commitments Embodied in Written Agreements (Types 1–2)

Under Type 1 commitment structures (Multilateral Agreements), each SDO participant signs a multiparty agreement that contains a FRAND commitment. This structure exhibits the formalities of contract formation and is most likely contractual in nature. Unfortunately, due to the inherent complexity and inflexibility of multilateral agreements and legal issues surrounding liability, intellectual property ownership, and handling of funds, few SDOs are actually structured in this

manner.¹⁰² With Type 2 structures (Membership Agreements), each SDO participant executes an agreement with an independently incorporated SDO entity. A binding contract is thus formed between the SDO and the participant patent holder. Other members of the SDO, as well as nonmembers, are not parties to the contract, but can seek to assert rights as third-party beneficiaries (discussed in Part III.A.2.b below). But like multilateral agreements, formal membership agreements are relatively uncommon among SDOs, particularly those with many memberships.¹⁰³

(ii) Bylaws and SDO Policy Commitments (Type 3)

Many SDOs utilize Type 3 commitments, which are imposed through the SDO's bylaws and other policy documents, but without formal membership agreements.¹⁰⁴ The theory is, by joining an SDO, a participant accedes to the SDO's governing policies and thereby becomes bound by its prevailing FRAND commitments. There is ample precedent (outside the standards-setting context) supporting the theory that members of an organization are obliged to abide by its governing documents.¹⁰⁵ Yet these obligations do not arise through the application of contract law, *per se*, but the law of business associations.¹⁰⁶ The structure and scope of such obligations is distinct from the law of contract.¹⁰⁷ Nevertheless,

¹⁰² See Biddle et al., *supra* note 53, at 191. Formal contractual structures are more typical of patent pools, which are formed by a limited number of companies, each of which has known patents covering aspects of a jointly developed standard. *Id.* In this and many other respects, patent pools are different than voluntary consensus SDOs.

¹⁰³ See Lemley, *supra* note 14, at 1910 (“But relatively few SSOs actually include IP policies in a written contract with their members. Indeed, some SSOs don’t have membership contracts at all.”).

¹⁰⁴ Some SDOs attempt to impose contractual obligations on members through membership applications that are not themselves contracts, but purport to bind the member contractually to the SDO's policies. See, e.g., *VITA Membership Application*, *supra* note 58 (“When accepted by VITA, this application represents a binding contract between the parties and commits the applicant to . . . comply with all the terms and conditions of VITA’s Bylaws . . . and such rules and policies as the Board of Directors may from time to time adopt . . .”).

¹⁰⁵ Lemley, *supra* note 14, at 1911 (stating “the case law strongly suggests that merely joining an SSO is sufficient to constitute consent to be governed by the SSO’s bylaws”).

¹⁰⁶ See Ann M. Lipton, *Manufactured Consent: The Problem of Arbitration Clauses in Corporate Charters and Bylaws*, 104 GEO. L.J. (forthcoming 2015) (manuscript at 1), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2572014 archived at <http://perma.cc/W4WT-NUVH> (arguing that corporate charters and bylaws are noncontractual in nature); Lemley, *supra* note 14, at 1910–11 (“[T]he case law strongly suggests that merely joining an SSO is sufficient to constitute consent to be governed by the SSO’s bylaws.”).

¹⁰⁷ For example, the third-party beneficiary doctrine under contract law does not exist in the law of business associations. The implications of this doctrine for FRAND commitments are discussed later. See *infra* Part III.A.2.b.

litigants, courts, and commentators have increasingly invoked contract law to provide a framework for the enforcement of these FRAND commitments.

For example, the federal district court in *Apple, Inc. v. Motorola Mobility, Inc.*¹⁰⁸ considered the FRAND commitment structures used by the European Telecommunications Standard Institute (ETSI) and IEEE, two major SDOs.¹⁰⁹ Though these structures are different (ETSI using Type 3 (SDO Bylaws/Policy) commitments and IEEE using Type 5 (Letters of Assurance) commitments),¹¹⁰ the court analyzed them in roughly the same manner. It found that a contractual relationship was established when the SDO “offered” Motorola, the patent holder, the opportunity to participate in standards development, and Motorola “accepted” this offer by agreeing to abide by the SDO’s policies.¹¹¹

ETSI’s FRAND commitment is imposed by a section of ETSI’s Rules of Procedure, to which participants must accede as a part of their general membership obligation. Clause 6.1 of the ETSI Rules provides that

When an ESSENTIAL [patent] relating to a particular STANDARD or TECHNICAL SPECIFICATION is brought to the attention of ETSI, the Director-General of ETSI shall immediately request the owner to give within three months an irrevocable undertaking in writing that it is prepared to grant irrevocable licences on fair, reasonable and non-discriminatory (“FRAND”) terms and conditions¹¹²

The standardized ETSI form on which such irrevocable undertakings are made requires the patent holder to state that it is “prepared to grant irrevocable licenses under its/their [patents] on terms and conditions which are in accordance with Clause 6.1 of the ETSI IPR Policy.”¹¹³

ETSI’s policy thus requires that a patent holder make a written declaration that it is “prepared” to grant licenses to implementers of ETSI standards on FRAND

¹⁰⁸ 886 F. Supp. 2d 1061 (W.D. Wis. 2012).

¹⁰⁹ *Id.* at 1068–70.

¹¹⁰ The picture is further complicated by the fact that ETSI is based in France and its governing documents purport to be governed by French law. *See id.* at 1081–85. The court, however, appeared to rely on expert testimony to conclude that French law “requires the same general elements” as Wisconsin law, and made little effort to apply French statutory law to the case. *Id.* at 1083.

¹¹¹ *Id.* at 1083–84. (“The intellectual property rights policies of ETSI and IEEE constituted offers to Motorola for membership in the organization in exchange for Motorola’s ability to participate in developing technical standards. . . . Motorola accepted the offers and agreed to be bound by these policies when it joined ETSI and IEEE.”). Because the policies of ETSI and IEEE differ in important respects, I will discuss the court’s analysis of them separately.

¹¹² ETSI IPR POLICY, *supra* note 59, at 35–36.

¹¹³ *Id.* at 44.

terms.¹¹⁴ Even if a participant's membership in ETSI creates a contractual obligation to comply with ETSI policies, this obligation is *not* an obligation to grant licenses. Rather, it is merely an obligation to *make a statement* that the participant is prepared to grant such licenses. The difference is an important one, as it goes to the heart of the patent holder's alleged contractual obligation.

In fact, the ETSI policy contemplates that members may be unwilling to grant licenses under their standards-essential patents, but does not characterize such unwillingness as a breach of the policy. Instead, the policy establishes an elaborate escalation procedure for addressing such unwillingness that includes consultation with the unwilling member, attempting to design around its patents, relying on the "good offices" of other ETSI members, and ultimately referring the matter to the European Commission for resolution.¹¹⁵ And while the ETSI policy contemplates *other* violations of its policy and establishes a procedure for dealing with them,¹¹⁶ a member's unwillingness to grant licenses on FRAND terms is not deemed to be one of those violations.

Thus, despite the *Apple* court's conclusion, it is questionable whether a contractual commitment exists under the ETSI policy to grant licenses on FRAND terms, as opposed to merely stating a less binding intention to do so. Recently, at least one administrative law judge of the International Trade Commission (ITC) came to the same conclusion, expressly ruling that the ETSI policy "is not a contract" and merely "contains rules to guide the parties in their interactions with the organization, other members, and third parties."¹¹⁷

(iii) Follow ANSI Policy (Type 4)

As noted in Part II.B(4), the ANSI Essential Requirements provide that American National Standards may include technologies covered by patents, so long as the adopting SDO receives a written assurance from the patent holder that a license will be made available either without consideration or "under reasonable terms and conditions that are demonstrably free of any unfair discrimination."¹¹⁸ This is ANSI's FRAND commitment, so to speak. However, it is not a commitment

¹¹⁴ Though the ETSI policy is silent as to whom a patent holder must be prepared to grant such licenses, it appears from the context that this obligation is intended to extend to any entity that requests a license.

¹¹⁵ *Id.* at 38.

¹¹⁶ *Id.* at 41 ("Any violation of the POLICY by a MEMBER shall be deemed to be a breach, by that MEMBER, of its obligations to ETSI. The ETSI General Assembly shall have the authority to decide the action to be taken, if any, against the MEMBER in breach, in accordance with the ETSI Statutes.")

¹¹⁷ *ITC InterDigital Initial Determination*, *supra* note 16, at *75. *See also* TruePosition, Inc. v. LM Ericsson Tel. Co., 977 F. Supp. 2d 462, 470 (E.D. Pa. 2013) (finding that the Working Procedures of the 3GPP standards group were "too indefinite to support the formation of a contract").

¹¹⁸ ANSI ESSENTIAL REQUIREMENTS, *supra* note 73, § 3.1.1(b)(ii), at 10.

by an SDO participant, but by the SDO itself. Thus, under the ANSI policy, the SDO may not include a patented technology in a standard unless the SDO has received a written licensing assurance from the patent holder. The patent holder is not bound, even superficially, by the ANSI policy. While in theory the patent holder may create a binding contractual commitment to the SDO through the “written assurance” required by the ANSI policy, neither the scope nor the legal nature of this written assurance is specified, either in the ANSI policy or in most SDO policies.¹¹⁹ There is thus a fundamental mismatch between the party purportedly obligated under the ANSI policy (the SDO) and the party holding standards-essential patents. Accordingly, it would be a stretch to attempt to use contract law to enforce a Type 4 commitment against a patent holder.

(iv) Letters of Assurance (Type 5)

Type 5 (Letters of Assurance or “LOA”) commitments are contained in written documents or “assurances” delivered by a patent holder to an SDO. Under such policies, the SDO does not generally mandate FRAND licensing independently of such assurances. In this respect, Type 5 commitments differ from Type 3 (SDO Bylaws/Policy) commitments, though they often appear similar. In SDOs with bylaws-based commitments such as ETSI’s, the SDO requires that a patent holder make a FRAND commitment contained in a letter. In SDOs with LOA-based commitments, such as IEEE’s, the SDO merely requires that the patent holder deliver a letter stating its licensing *intentions*, which may or may not contain a FRAND commitment. The time at which an LOA must be delivered varies by SDO, as does the wording of each SDO’s form of LOA.

IEEE requires that the patent holder submit an LOA in which it checks a box describing its patent licensing “position.”¹²⁰ That position may reveal that the patent holder (a) will grant licenses without compensation, (b) will grant licenses on FRAND terms, (c) will not enforce any patent covering the relevant standard against an implementer, or (d) is “unwilling or unable to grant licenses”¹²¹ with respect to such patents. The fact that a patent holder is free to select option (d) and decline to make any commitment regarding the licensing of its patents indicates that the granting of a license cannot form part of the membership bargain between the patent holder and IEEE. Any promise inherent in this selection would likely be considered made “in the alternative” and thus lacking in consideration.¹²² Basing the enforcement of such commitments on common law contract principles is thus tenuous.

¹¹⁹ In this respect, Type 4 (Follow ANSI Policy) commitments differ markedly from Type 5 (Letter of Assurance) commitments in which the SDO usually prescribes the form of LOA.

¹²⁰ IEEE LOA, *supra* note 64, § D.1.

¹²¹ *Id.*

¹²² *See* RESTATEMENT (SECOND) OF CONTRACTS § 77 cmt. b (1981) (discussing illusory and alternative promises).

(v) Voluntary Declarations (Types 6–7)

Under Type 6 and 7 Voluntary Declarations, a patent holder may voluntarily commit to offer FRAND or other licensing terms with respect to standards-essential patents, or state its current intention to offer such terms. Typically, the patent holder can unilaterally and voluntarily disclose this intention in any form it chooses, either within or outside of an SDO. It would be difficult to classify such disclosures as contractual obligations, as most elements of a formal contract (mutual assent, consideration, and even a counterparty) are lacking. Even further removed from any credible application of contract law are Type 7 statements that patent holders make to the public at large outside any formal or informal SDO structure. These statements could not, under even the most generous interpretation, be characterized as bilateral common law contracts.

(b) *Third-Party Beneficiaries*

In the context of disputes over standards-essential patents, it is seldom the case that SDO wishes to enforce the patent holder's FRAND commitment. SDOs are generally small, not-for-profit organizations that rarely have the resources or inclination to engage in patent litigation. Moreover, SDOs typically seek to remain neutral in disputes between their members. In practice, another firm—usually a product manufacturer or vendor accused of infringing a pledged patent—typically raises a patent holder's breach of a FRAND commitment as an affirmative defense to patent infringement.¹²³ There appears to be no case in which a breach of contract claim was brought against a patent holder absent the patent holder's assertion¹²⁴ of a patent against the claimant. For all of these reasons, the SDO is unlikely to enforce a FRAND commitment against a breaching patent holder. Instead, the party wishing to enforce the FRAND commitment is usually a third party that wishes to implement a standard using technology that infringes one or more patents. To do so under a common law contract theory, the manufacturer must invoke the third-party beneficiary doctrine.

¹²³ See Lemley, *supra* note 14, at 1915.

¹²⁴ Asserting a patent does not necessarily require the formal initiation of litigation. Patent assertion can manifest itself through aggressive licensing tactics, demand letters, and the like. See U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-13-465, INTELLECTUAL PROPERTY: ASSESSING FACTORS THAT AFFECT PATENT INFRINGEMENT LITIGATION COULD HELP IMPROVE PATENT QUALITY 26 (2013) ("In addition to lawsuits, patent assertion occurs without firms ever filing lawsuits . . ."). Thus, in *Microsoft, Corp. v. Motorola, Inc.*, Microsoft sued for breach of contract after Motorola threatened, but had not actually initiated, suit against Microsoft for infringement of various standards-essential patents. See No. C10-1823JLR, 2012 WL 395734, at *1 (W.D. Wash. Feb. 6, 2012).

(i) Third-Party Beneficiary Doctrine

A nonparty's right to enforce a contract is difficult to reconcile with the common law contract doctrine requiring privity between contracting parties.¹²⁵ But beginning with the seminal 1859 New York case *Lawrence v. Fox*,¹²⁶ and due in large part to the advocacy of Professor Arthur Corbin in the early twentieth century,¹²⁷ third parties in the United States are now generally recognized as having rights to enforce contracts made for their benefit.¹²⁸ As described by the Restatement (Second) of Contracts:

Unless otherwise agreed between promisor and promisee, a beneficiary of a promise is an intended beneficiary if recognition of a right to performance in the beneficiary is appropriate to effectuate the intention of the parties *and* either (a) the performance of the promise will satisfy an obligation of the promisee to pay money to the beneficiary [creditor beneficiary]; or (b) the circumstances indicate that the promisee intends to give the beneficiary the benefit of the promised performance [donee beneficiary].¹²⁹

¹²⁵ Melvin Aron Eisenberg, *Third-Party Beneficiaries*, 92 COLUM. L. REV. 1358, 1364–65 (1992) (noting that third parties, under the classical view, lack contractual privity with the promisor and give no consideration for the promise, eliminating any contractual basis supporting enforcement).

¹²⁶ 20 N.Y. 268 (1859). In the case, Holly loaned \$300 to Fox so that Fox could repay a debt to Lawrence. *Id.* at 269. When Fox failed to do so, the New York Court of Appeals allowed Lawrence to sue under the contract between Holly and Fox, despite his lack of contractual privity with either of them. *Id.* at 274–75. For a detailed account and interpretation of the case, see Anthony Jon Waters, *The Property in the Promise: A Study of the Third Party Beneficiary Rule*, 98 HARV. L. REV. 1109, 1116–45 (1985).

¹²⁷ See, e.g., Arthur L. Corbin, *Contracts for the Benefit of Third Persons*, 27 YALE L.J. 1008, 1020–22 (1918) (containing the first of six articles written by Corbin on the subject of third-party beneficiary rights); Jean Fleming Powers, *Expanded Liability and the Intent Requirement in Third Party Beneficiary Contracts*, 1993 UTAH L. REV. 67, 68 n.6 (describing the historical controversy over third-party beneficiary rights).

¹²⁸ In the United Kingdom, third parties still lack any common law right to enforce contracts to which they are not parties, though this right may be conferred by contract. See LAW COMMISSION, PRIVITY OF CONTRACT: CONTRACTS FOR THE BENEFIT OF THIRD PARTIES 6, 15 (1996), available at http://lawcommission.justice.gov.uk/docs/lc242_privity_of_contract_for_the_benefit_of_third_parties.pdf, archived at <http://perma.cc/Z7ZH-B5JG>. This right is, however, recognized under statute under English law today. Contracts (Rights of Third Parties) Act, 1999, c. 31, § 1 (Eng., Wales, N. Ir.).

¹²⁹ RESTATEMENT (SECOND) OF CONTRACTS § 302(1) (1981) (emphasis added). The formulation of the Restatement (Second) in this area has been criticized, among others, by Professor Melvin Aron Eisenberg, who has called it “seriously flawed.” Eisenberg, *supra* note 125, at 1382–83.

Under the formulation of the Second Restatement, a third party's capacity to enforce a contract depends on whether that party is an *intended* beneficiary or an *incidental* beneficiary of the contract.¹³⁰ If the contracting parties did not intend that a third party benefit, then the third party is merely an incidental beneficiary and unable to enforce the contract.¹³¹ If, on the other hand, the contracting parties intended that a third party benefit from performance of the contract, then that third party is an intended beneficiary and is entitled to enforce the contract.¹³²

In most cases involving third-party beneficiaries, the intended beneficiary is known to the contracting parties and is either a single person or a defined group of persons (such as an individual's heirs or legatees).¹³³ The failure to identify a specific beneficiary, however, is not fatal.¹³⁴ Thus, if B promises to pay anyone from whom A purchases an automobile, and A purchases an automobile from C, then C may bring an action against B as the intended beneficiary of the contract, even though C's identity was not known to A or B at the time the contract was made.¹³⁵

In some cases, however, larger and less cohesive groups have sought to assert contractual rights as third-party beneficiaries. These include members of the public who have sued to enforce government contracts entered into for the "public benefit."¹³⁶ For example, the residents of a neighborhood might seek to enforce a contract between their municipal government and a public works contractor after the contractor fails to extend a promised sewer line to their neighborhood. The theory is that, because the municipality and the contractor entered into the contract for the benefit of the neighborhood residents, they should have the right to enforce it as third-party beneficiaries.

In the 1960s and 1970s, members of the public brought an increasing number of third-party beneficiary actions to redress a variety of governmental obligations otherwise lacking a private right of action.¹³⁷ This tactic enjoyed some early success

¹³⁰ RESTATEMENT (SECOND) OF CONTRACTS § 302(1) (1981).

¹³¹ An incidental beneficiary "acquires by virtue of the promise *no* right against the promisor or the promisee" to sue on the contract. *Id.* § 315 (emphasis added). For example, "B contracts with A to erect an expensive building on A's land. C's adjoining land would be enhanced in value by the performance of the contract. C is an incidental beneficiary" *Id.* § 302 cmt. e, illus. 16.

¹³² *Flaherty v. Weinberg*, 492 A.2d 618, 622 (Md. 1985).

¹³³ See 16 AM. JUR. 2D *Proof of Facts* § 55 (1978).

¹³⁴ RESTATEMENT (SECOND) OF CONTRACTS § 308 (1981) ("It is not essential to the creation of a right in an intended beneficiary that he be identified when a contract containing the promise is made.").

¹³⁵ *Id.* § 308 cmt. a, illus. 2.

¹³⁶ See Eisenberg, *supra* note 125, at 1406.

¹³⁷ Waters, *supra* note 126, at 1184–89 (discussing examples arising in the areas of Medicare benefits, public housing, and public education); see also Karen Melcher, Note, *Contract Law—Absent Contractual Language Demonstrating an Undertaking Directly for the Benefit of a Designated Class of Persons, a Person Cannot Establish Third-Party Beneficiary Status*, 77 U. DET. MERCY L. REV. 957, 957–65 (2000) (describing a third-party beneficiary action against the government).

but was eventually viewed as going beyond the permissible limits of the common law third-party beneficiary doctrine.¹³⁸ The Second Restatement recognizes that while government contracts may be intended to confer a public benefit,¹³⁹ individual members of the public should not be entitled to enforce government contracts or recover damages for their breach, unless a specific remedy to that effect is expressed in the contract or a private right of action for the breach already exists.¹⁴⁰

The third-party beneficiary doctrine is currently recognized throughout the United States,¹⁴¹ though application of the doctrine is not uniform,¹⁴² and not all states adhere to the Second Restatement's formulation.¹⁴³ Unlike the Restatement, Article 2 of the Uniform Commercial Code does not expressly extend rights to third-party beneficiaries of contracts for the sale of goods, except in the narrow case of enforcing express and implied warranties.¹⁴⁴

Further eroding the third-party beneficiary doctrine, courts have held that contracting parties can avoid the claims of putative third-party beneficiaries by disclaiming application of the doctrine through standardized, boilerplate contract

¹³⁸ See, e.g., *Henry v. Phila. Adult Prob. & Parole Dep't*, No. 05-4809, 2007 WL 2670140, at *11 (E.D. Pa. Sept. 6, 2007) (noting that Pennsylvania "prohibits such an expansive interpretation of third-party beneficiary rights").

¹³⁹ RESTATEMENT (SECOND) OF CONTRACTS § 313 cmt. a (1981).

¹⁴⁰ *Id.* at § 313(2) ("In particular, a promisor who contracts with a government or governmental agency to do an act for or render a service to the public is not subject to contractual liability to a member of the public for consequential damages resulting from performance or failure to perform unless (a) the terms of the promise provide for such liability; or (b) the promisee is subject to liability to the member of the public for the damages and a direct action against the promisor is consistent with the terms of the contract and with the policy of the law authorizing the contract and prescribing remedies for its breach.").

¹⁴¹ *Id.* ch. 14, intro. note.

¹⁴² See Patience A. Crowder, *More than Merely Incidental: Third-Party Beneficiary Rights in Urban Redevelopment Contracts*, 17 GEO. J. ON POVERTY L. & POL'Y 287, 301 (2010) (stating that decisions interpreting third-party beneficiary doctrine are inconsistent).

¹⁴³ See, e.g., Jason Curry, Comment, *No Appropriate Beneficiary Left Behind: How to Refine Texas Third Party Beneficiary Law to Include All Appropriate Intended Beneficiaries*, 40 TEX. TECH. L. REV. 183, 186 (2007) (noting that Texas law combines aspects of both the First and Second Restatements in its law regarding third-party beneficiaries). Interestingly, the third-party beneficiary doctrine is still not recognized in the United Kingdom, which relies heavily on the privity requirement in contract. See VERNON VALENTINE PALMER, *THE PATHS TO PRIVACY: A HISTORY OF THIRD PARTY BENEFICIARY CONTRACTS AT ENGLISH LAW* 165–67 (1992) (citing *Tweddle v. Atkinson*, (1861) 121 Eng. Rep. 762 (Q.B.) 764); see also *Waters*, *supra* note 126, at 1152 n.159 (citing *Dunlop Pneumatic Tyre Co. v. Selfridge & Co.*, [1915] A.C. 847).

¹⁴⁴ U.C.C. § 2-318 (2008) (identifying the narrow exception of "Third Party Beneficiaries of Warranties Express or Implied"); see also Gary L. Monserud, *Blending the Law of Sales with the Common Law of Third Party Beneficiaries*, 39 DUQ. L. REV. 111, 205–06 (2000) (arguing that U.C.C. remedies should, in some cases, be available to third-party beneficiaries of sales contracts); Powers, *supra* note 127, at 114–25 (applying third-party beneficiary analysis to sales of goods governed by the U.C.C.).

terms.¹⁴⁵ Thus, an opportunistic party that did not wish to give third-party beneficiaries the benefit of its contract, even if such a benefit were contemplated, could defeat such rights through the inclusion of a disclaimer in its contract.

(ii) Applying the Third-Party Beneficiary Doctrine to FRAND Commitments

In the case of FRAND commitments, a patent holder makes a promise to an SDO that it will grant licenses to all who wish to implement a standard. Because SDOs have proven reluctant to enforce such commitments directly against patent holders, it has fallen to implementers to enforce the patent holders' FRAND commitments as third-party beneficiaries. At least two federal district courts have adopted this theory,¹⁴⁶ and some commentators have viewed the theory favorably.¹⁴⁷

However, application of the third-party beneficiary doctrine to FRAND commitments presents serious doctrinal challenges. To apply the doctrine, one must first determine whether the contracting parties intended to confer on one or more third parties the direct benefit of their contract. The strongest indicator of such intent is an express statement in the contract itself. A few SDOs do include statements favoring third-party beneficiaries in their membership agreements, bylaws, or intellectual property policies.¹⁴⁸ Most, however, have not done so (yet). For the majority of SDOs, the intent to confer third-party beneficiary status must thus be inferred from other language.

But as discussed in Part III.A.2.b.i above, it is not enough that the parties to a contract intend to benefit one or more third parties. In order to claim third-party beneficiary status, the third party must be identified or discernible with sufficient specificity. Depending on their construction, FRAND commitments can be made for

¹⁴⁵ See, e.g., *Register.com, Inc. v. Verio, Inc.*, 356 F.3d 393, 398–99 (2d Cir. 2004) (holding that an express contractual clause captioned “No Third-Party Beneficiaries” clearly indicated the parties’ intention not to permit third parties to enforce the contract between them).

¹⁴⁶ *Microsoft Corp. v. Motorola, Inc.*, 854 F. Supp. 2d 993, 1002–03 (W.D. Wash. 2012); *Apple, Inc. v. Motorola Mobility, Inc.*, 886 F. Supp. 2d 1061, 1085 (W.D. Wis. 2012); see also *ESS Tech., Inc. v. PC-Tel., Inc.*, No. C-99-20292 RMW, 1999 WL 33520483, at *3 (N.D. Cal. Nov. 4, 1999) (declining to dismiss claim for breach of a FRAND commitment brought by nonmember of SDO against patent holder).

¹⁴⁷ See *Kesan & Hayes*, *supra* note 5, at 280–81 (“[A] FRAND commitment in which the patent holder agrees to license on FRAND terms to anyone who intends to implement the standard clearly creates a category of intended beneficiary for all potential adopters of the standard.”). But see *Lemley*, *supra* note 14, at 1915 (expressing skepticism with respect to third-party beneficiary theory in SDO context).

¹⁴⁸ See, e.g., WIRELESS INNOVATION FORUM, INTELLECTUAL PROPERTY POLICY § 1.3 (2012), available at http://www.wirelessinnovation.org/assets/documents/policy_on_intellectual_property_rights.pdf, archived at <http://perma.cc/5RLG-5PFN> (“Each . . . [implementer] shall be a third party beneficiary of all such obligations.”).

the benefit only of members of the SDO,¹⁴⁹ or members as well as nonmembers (i.e., all manufacturers of products implementing a standard).¹⁵⁰

SDO members can make a stronger case for third-party beneficiary status than nonmembers can.¹⁵¹ Because most SDOs are membership-based associations, it is not hard to envision an SDO wishing to confer a benefit on all of its members through a network of FRAND commitments, just as it does through other activities such as meetings, professional networking, and publications. The question becomes somewhat more complex when considering members who join the SDO after the FRAND commitment is made (and perhaps did not even exist at that time) and members who exit the SDO. Did the patent holder and SDO intend to extend third-party beneficiary rights to these entities at the time the commitment was made? As discussed above, it is not necessary that beneficiaries be specifically identifiable at the time a promise is made, but at some point, either in terms of number of beneficiaries or time elapsed since the promise was made, the parties' intention with respect to beneficiaries becomes attenuated.

A more challenging case for third-party beneficiary status arises with respect to nonmembers of the SDO. Many of the justifications that exist for an SDO to confer benefits on its own members do not exist with respect to nonmembers. And it can be argued that extending the benefits of FRAND licensing to nonmembers reduces both nonmembers' incentives to join the SDO and a competitive advantage that SDO members might have over nonmembers. Moreover, nonmembers are not themselves bound by the policies and agreements of the SDO and are thus not required to grant licenses to SDO members. For all of these reasons, an SDO's intent to benefit nonmembers, absent an express indication of this intent, is questionable.

Nevertheless, many FRAND commitments require that patent holders grant licenses to all implementers of a standard, whether or not they are members of the SDO.¹⁵² The reason, of course, is that the marketplace, including the SDO and its members, benefit from the broadest possible adoption of a standard. As the court in

¹⁴⁹ The membership structure of some SDOs is complex and includes multiple levels of membership having different rights, privileges, and obligations. See BEKKERS & UPDEGROVE, *supra* note 5, at 28–29. What is more, some SDOs, notably IETF, have no formal membership structure at all. However, for purposes of this discussion, I will assume that SDOs have a single membership category.

¹⁵⁰ See *id.* at 27 (indicating eight of ten SDOs studied had FRAND commitments that applied to all implementers, rather than only members of the SDO).

¹⁵¹ Microsoft's membership in IEEE and ITU appears to have been a factor leading the court to treat Microsoft as a third-party beneficiary of Motorola's commitments to those organizations. *Microsoft*, 854 F. Supp. 2d at 999–1002; see also Henry E. Smith, *Property as Platform: Coordinating Standards for Technological Innovation*, 9 J. COMPETITION L. & ECON. 1057, 1074 (2013) (“[C]ontractual solutions provide only partial or no protection to parties outside the SSO who may adopt the standard.”); Lemley, *supra* note 14, at 1915 (discussing favorable arguments for SDO member treatment as third-party beneficiaries).

¹⁵² See BEKKERS & UPDEGROVE, *supra* note 5, at 27.

*Microsoft Corp. v. Motorola, Inc.*¹⁵³ explained, “[FRAND] commitments are clearly designed to benefit potential licensees of Motorola’s standard essential patent[s] by ensuring that such patents are readily accessible to *everybody* at reasonable rates.”¹⁵⁴ But like members of the public who benefit from a government-funded public works project, the SDO nonmembers who benefit from FRAND licenses may not be entitled to enforce those commitments as third-party beneficiaries under the common law of contract.

(c) *Indefiniteness*

The common law has traditionally treated contracts whose material terms are not specified with sufficient certainty as lacking both mutual assent and evidence of the parties’ intent to be bound.¹⁵⁵ As such, indefinite contracts have generally been held to be unenforceable.¹⁵⁶ When parties reach a preliminary agreement but contemplate further negotiation or the execution of a formal contract, this preliminary expression of intent (an “agreement to agree”) typically does not create a binding contract either.¹⁵⁷

FRAND commitments are, by their very nature, indefinite. They specify only that a license must be granted on terms that are “fair, reasonable and non-discriminatory.” Key terms such as price, duration and scope are left open to future negotiation. Of course, such omissions are not always fatal to contract enforceability, and both the Uniform Commercial Code¹⁵⁸ and courts interpreting common law

¹⁵³ 864 F. Supp. 2d 1023 (W.D. Wash. 2012).

¹⁵⁴ *Id.* at 1033 (emphasis added).

¹⁵⁵ RESTATEMENT (SECOND) OF CONTRACTS § 33(3) (1981) (“The fact that one or more terms of a proposed bargain are left open or uncertain may show that a manifestation of intention is not intended to be understood as an offer or as an acceptance”); *see also* Joseph Martin, Jr., *Delicatessen, Inc. v. Schumacher*, 417 N.E.2d 541, 543 (1981) (“[B]efore the power of law can be invoked to enforce a promise, it must be sufficiently certain and specific so that what was promised can be ascertained. Otherwise, a court, in intervening, would be imposing its own conception of what the parties should or might have undertaken Thus, definiteness as to material matters is of the very essence in contract law”).

¹⁵⁶ *See* RESTATEMENT (SECOND) OF CONTRACTS § 33(1); *see also* Joseph Martin, 417 N.E.2d at 543 (“[D]efiniteness as to material matters is of the very essence in contract law. Impenetrable vagueness and uncertainty will not do”).

¹⁵⁷ JOHN P. DAWSON, ET AL., *CONTRACTS: CASES AND COMMENTS* 383 (9th ed. 2008). New York law, for example, does not find an enforceable contract when parties leave material terms for future negotiation. *Rule v. Brine, Inc.*, 85 F.3d 1002, 1010 (2d Cir. 1996).

¹⁵⁸ U.C.C. § 2-305(1) (2008) (“The parties if they so intend can conclude a contract for sale even though the price is not settled. In such a case the price is a reasonable price at the time for delivery if (a) nothing is said as to price; or (b) the price is left to be agreed by the parties and they fail to agree; or (c) the price is to be fixed in terms of some agreed market or other standard as set or recorded by a third person or agency and it is not so set or recorded.”).

contracts¹⁵⁹ have permitted parties to leave certain key terms open for future determination. Nevertheless, FRAND and other commitments embodied in SDO policies could suffer from too much indeterminacy to be found enforceable. Several recent judicial decisions critical of the vagueness and indeterminacy of SDO policy language underscore this point.¹⁶⁰

3. *Conclusions Regarding Contract*

Common law contract doctrine fails in several respects as an effective structure for the general enforcement of FRAND commitments and other patent pledges. Except in the relatively rare case of formal membership agreements among SDO participants, the application of common law contract doctrine to FRAND commitments requires doctrinal gymnastics and thus represents a potentially unpredictable and outcome-based distortion of traditional contract law principles.¹⁶¹

Table 2 summarizes the general applicability of contract doctrine to the seven basic commitment types identified in *Table 1*.

¹⁵⁹ See 1 ARTHUR LINTON CORBIN, CORBIN ON CONTRACTS § 4.3, at 575–76 (Joseph M. Perillo ed., rev. ed. 1993) (noting cases in which the following “agreement[s] as to price [were] held too indefinite for enforcement: a promise to divide profits ‘upon a very liberal basis’; to pay ‘good wages’ to a teacher; to pay [an amount] ‘not exceeding \$300 [a] week’; . . . to pay an amount ‘commensurate with the earnings of the company’ in addition to salary; [and] to pay ‘a satisfactory amount’” (quoting *Butler v. Kemmerer*, 67 A. 332, 333 (Pa. 1907); *Fairplay Sch. Tp. v. O’Neal*, 26 N.E. 686, 686 (Ind. 1891); *United Press v. N.Y. Press Co.*, 58 N.E. 527, 527–28 (N.Y. 1900); *Donovan v. Bull Mountain Trading Co.*, 198 P. 436, 439 (Mont. 1921); *Mackintosh v. Kimball* 101 A.D. 494, 497–98 (N.Y. 1905))).

¹⁶⁰ See *TruePosition, Inc. v. LM Ericsson Tel. Co.*, 977 F. Supp. 2d 462, 470 (E.D. Pa. 2013) (finding that the Working Procedures of the 3GPP standards group were “too indefinite to support the formation of a contract”); *Rambus, Inc. v. Infineon Technologies AG*, 318 F.3d 1081 (Fed. Cir. 2003), *cert. denied*, 540 U.S. 874 (2003) (finding a “staggering lack of defining details” in the relevant SDO patent policy and thus exonerating conduct alleged to violate the spirit of the policy).

¹⁶¹ See Lemley, *supra* note 14, at 1917, 1925 (noting that contract law has “loopholes” and does not offer effective remedies for breach of SDO commitments); Cotter, *supra* note 97, at 350 (stating that, even if a court does apply contract law principles to a FRAND commitment, “some of the more ambitious interpretations that have been proposed in the literature may read too much into the nature of the FRAND commitment, simply as a matter of contract law”).

Table 2
Patent Pledge Variants and Contract Applicability

Commitment Type	Applicability of Contract Doctrine	Prevalence
1. Multilateral Agreement	Commitment is contractual among members; nonmember implementers must rely on third-party beneficiary (TPB) theory	Rare
2. Membership Agreement	Commitment is contractual between patent holder and SDO; member and nonmember implementers must rely on TPB theory	Uncommon
3. SDO Bylaws/Policy	Commitment is either corporate or contractual in nature; exists between patent holder and SDO; member and nonmember implementers must rely on TPB theory	Uncommon
4. Follow ANSI Policy	No affirmative commitment on patent holder, merely a prescription for SDO process; LOAs provided by members are probably not contractual	Common
5. Letters of Assurance (LOA)	Obligation to provide LOA is a contractual commitment to SDO; FRAND commitment contained in LOA is probably not contractual	Common
6. Voluntary SDO Declarations	Voluntary licensing declarations are almost certainly not contractual	Rare
7. Voluntary Non-SDO Declarations	No contract	Uncommon but increasing

It is worth asking why contract law, which is so well suited to the commercial relationships that pervade modern economic life,¹⁶² fails in terms of FRAND commitments and other patent pledges. There are several possible explanations. First, patent pledges, and FRAND commitments in particular, were not initially conceived as bilateral agreements between parties. As discussed in Part II.A, these

¹⁶² It is a mainstay of legal practice that the law of contract governs the complex network of commercial activity characterizing the global economy. Contracts, which memorialize the obligations and expectations of sophisticated transacting parties, form the basis for private interaction in such industries as finance, manufacturing, energy, transportation, and entertainment. And while governmental regulation and doctrines arising under antitrust, consumer protection, and unfair competition law have a significant impact on private conduct in such industries, the primary mode of interaction among commercial participants is largely through contract. Raymond T. Nimmer, *Through the Looking Glass: What Courts and UCITA Say About the Scope of Contract Law in the Information Age*, 38 DUQ. L. REV. 255, 257 (2000).

pledges have a public character and seek to offer assurances to the market at large rather than to reflect bilateral negotiated terms between private parties. Second, there is a wide diversity of structures through which FRAND commitments and other patent pledges are made. While traditional contract doctrine is readily applicable to some of these structures (Type 1 and 2 Policies), it becomes progressively less applicable as the level of formality within the SDO decreases. Finally, contract theory does not adequately account for the voluntary pledges issued by patent holders, statements in which regulators and the market put significant weight upon, but are not cognizable under traditional contract doctrine.

B. *Promissory Estoppel*

1. *Pledges as Promises*

A patent pledge is a *promise*. It may not be a promise that meets the strict requirements for common law contract formation, but it is a promise nonetheless, and under most circumstances, it should be enforced. For centuries, actions in equity have existed alongside actions in law to enable courts to serve the ends of justice in a flexible manner.¹⁶³ The doctrine of promissory estoppel prevents a party from shirking a promise that should be enforced though it lacks consideration, mutual assent, or other formal requirements of contract law.¹⁶⁴ The Restatement (Second) of Contracts summarizes the basic elements of promissory estoppel, as observed in the United States today,¹⁶⁵ as

[a] promise which the promisor should reasonably expect to induce action or forbearance on the part of the promisee or a third person and which does induce such action or forbearance is binding if injustice can be avoided only by enforcement of the promise.¹⁶⁶

¹⁶³ See J. H. BAKER, AN INTRODUCTION TO ENGLISH LEGAL HISTORY 112–33 (3d ed. 1990) (discussing the historical evolution of the courts of law and equity); Henry E. Smith, An Economic Analysis of Law Versus Equity 1, 3 (Oct. 22, 2010) (unpublished manuscript), available at http://www.law.yale.edu/documents/pdf/LEO/HSmith_LawVersusEquity7.pdf, archived at <http://perma.cc/W9BE-DKKS> (noting that courts of equity existed as separate courts until the early twentieth century).

¹⁶⁴ 3 ERIC MILLS HOLMES, CORBIN ON CONTRACTS § 8.3, at 9 (Joseph M. Perillo ed., rev. ed. 1996) (“[A]n informal promise may be enforceable by reason of action in reliance upon it, even though that action was not bargained for by the promisor and was not performed as an agreed exchange for the promise. This is demonstrated by decisions of the common-law courts from the very beginnings of the action of *assumpsit*, by the decrees of courts of equity making a very flexible use of the doctrine of ‘estoppel’ . . .”).

¹⁶⁵ All U.S. states and territories recognize promissory estoppel. Eric Mills Holmes, *Restatement of Promissory Estoppel*, 32 WILLAMETTE L. REV. 263, 265, 270 (1996).

¹⁶⁶ RESTATEMENT (SECOND) OF CONTRACTS § 90(1) (1981).

Under the Restatement (Second) formulation, a finding of promissory estoppel turns on the existence of a promise and the promisee's subsequent detrimental reliance.¹⁶⁷ In assessing reliance, "[t]he law may not question the adequacy of consideration but it *must* (by definition) question the adequacy of reliance."¹⁶⁸ To this end, the doctrine of promissory estoppel only requires promisors to honor promises that others have actually and justifiably relied upon.¹⁶⁹ The mere statement "I shall pay you \$1,000 tomorrow" creates no estoppel unless the promisee reasonably relies on the promise, for example, by contracting to buy a new television based on his expectation of receiving \$1,000. If the promisee does nothing but wait for the \$1,000 to arrive, and incurs no other obligation and foregoes no other opportunity in reliance on the promise, then no detrimental reliance has occurred and no estoppel will be imposed. The only instances in which estoppel may be found without proof of actual reliance are the narrow cases of charitable subscriptions and marriage settlements.¹⁷⁰ In all other cases, actual reliance must be established.

As discussed in Part II.A, one of the principal reasons that patent holders make patent pledges is to assure the market that standards and other common technology platforms will be available for broad adoption on reasonable terms, notwithstanding the existence of patents. Implementers invest substantial sums in the development, manufacturing, sale, and marketing of products incorporating standards, and are encouraged to do so, at least in part, on the basis of such commitments.

The doctrine of promissory estoppel offers implementers a more attractive vehicle than contract law to enforce FRAND commitments and other patent pledges against those who make them.¹⁷¹ Estoppel avoids many of the technical hurdles

¹⁶⁷ BRIAN A. BLUM, *CONTRACTS: EXAMPLES AND EXPLANATIONS* § 8.6.1, at 198 (3d ed. 2004).

¹⁶⁸ DANIEL J. BUSSEL & ARTHUR I. ROSETT, *CONTRACT LAW AND ITS APPLICATION* 543 (8th ed. 2011).

¹⁶⁹ FARNSWORTH, *supra* note 12, at 95. *But see* Yorio & Thel, *supra* note 47, at 162, 167 (arguing that the gravamen of promissory estoppel is rooted in the quality of the promise made rather than reliance thereon).

¹⁷⁰ RESTATEMENT (SECOND) OF CONTRACTS § 90(2) (1981) (stating that "[a] charitable subscription or a marriage settlement is binding . . . without proof that the promise induced action or forbearance"). The traditional example of a marriage settlement is a father's promise to convey a parcel of land to his son in anticipation of his pending marriage. *See* Phalen v. United States Trust Co., 78 N.E. 943, 943, 945 (N.Y. 1906); *see also* Johnston v. Spicer, 13 N.E. 753, 753–54, 757 (N.Y. 1887) (stating that the man promised to convey property to his soon-to-be wife in the event that he died without issue by the marriage).

¹⁷¹ *See* Lemley, *supra* note 14, at 1915–16 (giving a generally favorable view of claims based in promissory estoppel to address violations of SDO policies). The FTC, however, declined the opportunity to apply an estoppel theory in its action against Dell, which allegedly breached a commitment to license patents relating to the VL-bus standard developed at the Video Electronics Standards Association (VESA). *See* Dell Computer Corp., 121 F.T.C. 616, 616–19, 633–34 (1996). Commissioner Azcuenaga, dissenting, argued that if Dell's certification, which stated that it did not hold patents covering the VL-bus standard, was misleading, then Dell should be estopped from asserting its patents against

imposed by common law contract doctrine and does not depend on the concept of bilateral bargaining to be enforced. To enforce a FRAND commitment under an estoppel theory, an implementer need only show the patent holder made a promise, the patent holder intended it to be relied upon, and the implementer did, in fact, justifiably and detrimentally rely on that promise.

2. *The Challenge of Actual Reliance*

The principal impediment to the application of promissory estoppel in the context of patent pledges is the requirement of actual reliance. A manufacturer that wishes to enforce a patent holder's promise to grant a license must prove that it actually and justifiably relied on that specific promise. But actual reliance in such cases may be difficult to prove. Unlike buying a house or forbearing from collecting a debt, the actions that a manufacturer would take in reliance on a patent holder's promise to grant a license (e.g., developing and releasing a new product) might coincide with actions that the manufacturer might have taken anyway. Moreover, a particular patent holder must tie actual reliance to a particular promise. For example, using the hypothetical developed in Part II.B.1 above, patent holder Paul and ten other firms hold patents essential to 3DPP's I-123 standard. They have all made FRAND commitments to 3DPP. Manufacturer Mary, knowing that the members of the 3DPP group are subject to FRAND commitments, decides to release a new 3D printer cartridge that complies with the I-123 standard. Now suppose that Paul reneges on his commitment to grant a license to Mary on FRAND terms. How can Mary show that she has relied specifically on Paul's commitment?¹⁷² Must Mary materially change her course of conduct by delaying the release of her product in order to demonstrate reliance and to enforce Paul's promise? Or must she show that she was specifically aware of Paul's patents that are essential to standard I-123? In complex markets characterized by thousands of patents and dozens of patent holders, demonstrating specific reliance is challenging.

Another difficulty in applying promissory estoppel to patent pledges arises with the identity of the person to whom the promise is made: the promisee. Specifically, only the promisee may seek to enforce a promise under a promissory estoppel theory. In the case of FRAND commitments, the direct promisee is typically the SDO. Although it has been postulated, the third-party beneficiary doctrine has not

other members of VESA who relied on that certification. *Id.* at 629–30 (Azcuena, Comm'r, dissenting). The Commission, however, reasoned that “limiting the order solely to those companies that relied on Dell’s certification might not fully protect the competitive process or consumers” and adopted a broader remedy by prohibiting Dell from asserting its patents against any implementer of the VL-bus standard. *Id.* at 625 n.5 (majority opinion).

¹⁷² For a discussion of why product manufacturers may (and often do) proceed with commercial product releases prior to obtaining patent licenses from all holders of standards-essential patents, see Contreras, *supra* note 4, at 48–53.

been widely recognized in the context of promissory estoppel.¹⁷³ Thus, if a manufacturer is not the direct recipient of the patent holder's promise (as is typically the case), it may face further difficulty in enforcing that promise.¹⁷⁴

Some SDOs, recognizing the value of promissory estoppel to potential implementers of their standards, have attempted to create policy workarounds to overcome obstacles to estoppel claims. For example, IEEE includes the following text in its standard LOA form: "By signing this Letter of Assurance, you . . . acknowledge that users and implementers of the [Proposed] IEEE Standard identified . . . above are relying or will rely upon and may seek enforcement of the terms of this LOA."¹⁷⁵

Such statements are intended to establish that the promisor (the patent holder) is aware that others are likely to rely on its FRAND commitment—a useful showing when making a case for detrimental reliance.¹⁷⁶ Such statements may also support a promisee's argument that its reliance on the patent holder's commitment was reasonable and justifiable. But such statements do little to establish that the implementer did, in fact, rely on the patent holder's specific promise. Thus, despite this well-intentioned policy language, the doctrine of promissory estoppel currently remains an imperfect solution for the enforcement of FRAND commitments and other patent pledges.

3. *Efficient Placement of the Burden of Reliance*

Unlike a common law contract, a promise enforced by estoppel does not reflect a "meeting of the minds" by the parties. As such, one party is likely to be disadvantaged, or at least placed in a situation that he or she did not wish to be placed, by the enforcement of the promise. As Professor Avery Katz observes, such a result is consistent with a view of promissory estoppel as a "regulatory" mechanism, one that operates to achieve socially beneficial normative outcomes,

¹⁷³ RESTATEMENT (SECOND) OF CONTRACTS § 90 cmt. c (1981) ("If a promise is made to one party for the benefit of another, it is often foreseeable that the beneficiary will rely on the promise. Enforcement of the promise in such cases rests on the same basis and depends on the same factors as in cases of reliance by the promisee.").

¹⁷⁴ Of course, the definition of "promisee" may be somewhat flexible. If a patent holder makes a declaration to an SDO that it will license its patents on FRAND terms, it may be possible to construe the other members of the SDO as recipients of that promise, in addition to the SDO entity itself. As noted by one commentator, however, "[t]hird parties who did not participate in the standards-setting activity and had no contact with the patentee would be unable to establish detrimental reliance." Janice M. Mueller, *Patent Misuse Through the Capture of Industry Standards*, 17 BERKELEY TECH. L.J. 623, 659 (2002) (discussing patent equitable estoppel rather than promissory estoppel). *But see* Lemley, *supra* note 14, at 1915 (arguing that both members and nonmembers of an SDO *should* be entitled to rely on a promissory estoppel theory to enforce provisions of an SDO's IP policy).

¹⁷⁵ IEEE LOA, *supra* note 64, § G.

¹⁷⁶ RESTATEMENT (SECOND) OF CONTRACTS § 90 cmt. b (1981) ("The promisor is affected only by reliance which he does or should foresee . . .").

rather than merely to reflect the intentions of the affected parties.¹⁷⁷ In the case of promissory estoppel, Katz measures social benefit in terms of efficiency.¹⁷⁸ He concludes that it is efficient to enforce a precontractual promise only if the promisor would have greater bargaining power than the promisee after making the promise.¹⁷⁹

The reasoning underlying this conclusion is straightforward. Economic efficiency requires that the benefits of reliance and the risk that it will be wasted be balanced against each other at the margin. The level of reliance that is privately profitable for the parties will coincide with the socially optimal level under two conditions: The person who controls the reliance must enjoy its marginal benefits, and he or she must also pay the costs when it is wasted. Since in preliminary negotiations both parties control the reliance and the party with the *ex post* bargaining power gets the gains, it is that party who should also bear the costs.¹⁸⁰

Katz's reasoning, which he developed from case law relating to precontractual construction disputes, is extensible to patent pledges. When a pledge, particularly a FRAND commitment in the standards context, is made, it is likely to induce the promisee to incur substantial development, marketing, training, and other costs (i.e., lock-in).¹⁸¹ Thus, it is reasonable to enforce the pledge against the patent holder, as the patent holder will likely have substantially greater bargaining power after the potential licensee has made investments and become locked-in on the basis of that promise.¹⁸²

4. *Promissory Versus Equitable Estoppel*

Promissory estoppel should not be confused with the related but distinct doctrine of *equitable* estoppel in patent cases. Both equitable estoppel and promissory estoppel may be invoked when a patent holder represents in some way that it will not enforce a patent against an infringer.¹⁸³ However, while promissory estoppel is based on a promise made by the patent holder, equitable estoppel typically involves deceptive *conduct* of some other kind, such as a long period of

¹⁷⁷ Avery Katz, *When Should an Offer Stick? The Economics of Promissory Estoppel in Preliminary Negotiations*, 105 YALE L.J. 1249, 1253 (1996).

¹⁷⁸ *Id.* at 1254 (stating that “reliance is reasonable when its expected benefits exceed its expected costs—as in Learned Hand’s celebrated formula for determining negligence liability in tort” (citing *United States v. Carroll Towing Co.*, 159 F.2d 169, 173 (2d Cir. 1947))).

¹⁷⁹ *Id.* at 1257.

¹⁸⁰ *Id.*

¹⁸¹ See *supra* notes 34–40 and accompanying text.

¹⁸² *Id.*

¹⁸³ See 6A DONALD S. CHISUM, CHISUM ON PATENTS § 19.05, at 19-542 (2014).

silence implying the patent holder's assent to a potentially infringing activity.¹⁸⁴ As explained by the Michigan Supreme Court, "Equitable estoppel is essentially a doctrine of waiver. . . . Promissory estoppel, in contrast[,] . . . substitutes for consideration in a case where there are no mutual promises"¹⁸⁵

There is admittedly a place for equitable estoppel in policing private behavior in the standards-setting context. Professor Henry E. Smith describes equitable estoppel as a viable "anti-opportunism safety valve" for standard setting, noting that it has the advantage of offering recourse to nonmembers of SDOs, as well as members.¹⁸⁶ The doctrine was successfully invoked as a defense in *Broadcom Corp. v. Qualcomm Inc.*,¹⁸⁷ a case in which the patent holder allegedly deceived an SDO by withholding information in violation of SDO rules.¹⁸⁸

Likewise, Professor Robert P. Merges and Jeffrey M. Kuhn, seeking to address cases of deceptive conduct in standard setting, propose that standards implementers accrue a reliance interest in their continued use of standardized technologies not through *promise* (as this Article proposes), but through *use*.¹⁸⁹ Their doctrine of "standards estoppel" provides that once a standardized technology becomes broadly adopted in the market, implementers gain immunity from patent infringement, whether SDO participants or nonparticipants hold patents, and whether or not they have expressed any willingness to license these patents.¹⁹⁰

While this proposed doctrine is appealing, at a practical level it would expand the estoppel defense to patents held by third parties who are *not* part of the standards-development process. Such a proposal would enable opportunistic SDO participants to draft standards to intentionally embody technologies claimed by nonparticipants' patents.¹⁹¹ Nonparticipants, not being part of the standards-development process, would have no ability to negotiate with SDO participants to withdraw their patented

¹⁸⁴ See, e.g., *Radio Sys. Corp. v. Lalor*, 709 F.3d 1124, 1126–32 (Fed. Cir. 2013) (holding that the patentee's misleading silence for four and a half years following the initial demand letter estopped the patentee from asserting its patent against alleged infringer).

¹⁸⁵ *Huhtala v. Travelers Ins. Co.*, 257 N.W.2d 640, 647 (Mich. 1977).

¹⁸⁶ Smith, *supra* note 151, at 1086.

¹⁸⁷ 501 F.3d 297 (3d Cir. 2007).

¹⁸⁸ See *id.* at 303. *Rambus* also contemplated the possibility of equitable estoppel in deciding on a course of action prior to its participation in various lawsuits with respect to its involvement in the JEDEC SDO. See *Rambus, Inc.*, No. 9302, 2006 WL 2330117, at *38, 44 (F.T.C. Aug. 2, 2006), *rev'd sub nom.* *Rambus Inc. v. FTC*, 522 F.3d 456 (D.C. Cir. 2008). But see George S. Cary et al., *The Case for Antitrust Law to Police the Patent Holdup Problem in Standard Setting*, 77 ANTITRUST L.J. 913, 939 (2011) (observing that both "reliance" and "material prejudice" elements of equitable estoppel may be difficult to prove in the standards context).

¹⁸⁹ Robert P. Merges & Jeffrey M. Kuhn, *An Estoppel Doctrine for Patented Standards*, 97 CALIF. L. REV. 1, 4 (2009).

¹⁹⁰ *Id.*

¹⁹¹ This tactic of deliberately incorporating a third party's patented technology into a standard has been referred to as "guerilla standardization." See Lerner & Tirole, *supra* note 4, at 24–26.

technologies from the standard, and the simple use of this technology by a sufficient number of implementers, against the will of the patent holder, could result in the estoppel of any infringement claim. As such, the Merges-Kuhn proposal could allow SDO participants to appropriate the patented technology of nonparticipants in a standard without their acquiescence (or even knowledge) and would thus unduly tilt the playing field in favor of standards implementers.

Suffice it to say that if market participants and courts are going to accept a proposal for the general enforcement of patent pledges, the proposal must be fair both to patent holders and standards implementers. But even if “standards estoppel” as proposed by Merges and Kuhn were otherwise viable, both it and other forms of equitable estoppel are based on deception, making them less useful in the many cases in which patent pledges are sought to be enforced but deceptive conduct does not occur.¹⁹² For this reason, equitable estoppel is not an ideal theoretical framework for the general enforcement of patent pledges.

C. Antitrust

Antitrust law has also been proposed as a means for enforcing patent pledges. Enforcement agencies in both the United States and European Union have recently indicated a willingness to prosecute potential breaches of patent pledges using the tools of antitrust and competition law.¹⁹³ Numerous commentators have also advocated the use of antitrust remedies and enforcement as a means for policing compliance with standards-related commitments.¹⁹⁴ But, as discussed below, claims under antitrust and competition law often require the demonstration of antitrust harm and exclusionary conduct, which may not always be present when seeking to enforce patent pledges.

¹⁹² Cf. *infra* Part III.C.1 (discussing limitations of deception-based antitrust theories).

¹⁹³ Statement of the Federal Trade Commission, Google Inc., F.T.C. File No. 121-0120, at 3 (F.T.C. Jan. 3, 2013) [hereinafter Google F.T.C. Statement], available at <http://www.ftc.gov/sites/default/files/documents/cases/2013/01/130103googlemotorolastmtofcomm.pdf>, archived at <http://perma.cc/9PFE-FQDC>; Statement of the Federal Trade Commission, Robert Bosch GmbH, F.T.C. File No. 121-0081, at 3 (F.T.C. Nov. 26, 2012) [hereinafter Bosch F.T.C. Statement], available at <http://www.ftc.gov/sites/default/files/documents/cases/2012/11/121126boschcommissionstatement.pdf>, archived at <http://perma.cc/S83K-TYY4>.

¹⁹⁴ See, e.g., Cotter, *supra* note 97, at 315–22 (discussing whether parties have a right to seek enforcement of contractual obligations and whether the law of remedies can be applied to patent rights); Cary et al., *supra* note 188, at 921 (“[I]t is unsurprising that antitrust has long been applied to the conduct of standard-setting organizations. . . . Indeed, because the opportunistic conduct resulting in patent holdup specifically ‘concerns the inefficient acquisition of market power,’ many commentators have ‘generally assumed that [such] opportunism in the standard-setting process is an antitrust problem.’” (citations omitted)).

1. *Monopolization and Deception*

Section 2 of the Sherman Act makes it unlawful to “monopolize, or attempt to monopolize . . . any part of the trade or commerce among the several States.”¹⁹⁵ To prevail on a claim for monopolization or attempted monopolization, the plaintiff must prove that the defendant had power in the relevant market and willfully sought, acquired, or maintained that power in an unlawful manner.¹⁹⁶ The FTC may also bring claims for monopolization and attempted monopolization under Section 5 of the Federal Trade Commission Act (FTC Act).¹⁹⁷

The theory underlying monopolization claims in the context of patent pledges holds that standards, once adopted broadly in the marketplace, can confer market power on the holders of patents covering those standards.¹⁹⁸ Abuse of such market power could constitute unlawful monopolization or attempted monopolization.¹⁹⁹ Accordingly, some have argued that claims of monopolization may serve as effective means of ensuring that parties comply with their FRAND commitments.²⁰⁰

¹⁹⁵ 15 U.S.C. § 2 (2012).

¹⁹⁶ *See, e.g., Verizon Commc’ns Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 407 (2004) (“It is settled law that this offense requires, in addition to the possession of monopoly power in the relevant market, ‘the willful acquisition or maintenance of that power’” (quoting *United States v. Grinnell Corp.*, 384 U.S. 563, 570–71 (1966))).

¹⁹⁷ 15 U.S.C. § 45. The FTC may choose to bring an action for monopolization or attempted monopolization under either or both of Section 2 of the Sherman Act and Section 5 of the Federal Trade Commission Act (FTC Act). The decision regarding which statutory provision to proceed under is largely a tactical one, and may depend on whether the Commission wishes to seek retrospective monetary damages available under the Sherman Act or prospective (injunctive) relief under the FTC Act. *See Dell Computer Corp.*, 121 F.T.C. 616, 626 (1996) (“[U]nlike other antitrust statutes, Section 5 provides only for prospective relief. In fact, the judicious use of Section 5—culminating in carefully tailored relief—is particularly appropriate in this type of case, in which the legal and economic theories are somewhat novel.”); Google F.T.C. Statement, *supra* note 193, at 2–3 (“A stand-alone Section 5 unfair methods of competition claim allows the Commission to protect consumers and the standard-setting process while minimizing the often burdensome combination of class actions and treble damages associated with private antitrust enforcement.”); *see also* Bruce H. Kobayashi & Joshua D. Wright, *Federalism, Substantive Preemption, and Limits on Antitrust: An Application to Patent Holdup*, 5 J. COMPETITION L. & ECON. 469, 495 (2009) (arguing that the FTC may have brought action under Section 5 rather than Section 2 due to the difficulty of meeting more stringent Section 2 liability standards or a desire to achieve a broad reading of Section 5).

¹⁹⁸ *See generally* AM. BAR ASS’N, ABA SECTION OF ANTITRUST LAW, HANDBOOK ON ANTITRUST ASPECTS OF STANDARD SETTING 115–17 (2d ed. 2011) [hereinafter ABA ANTITRUST HANDBOOK] (discussing cases in which federal courts have addressed “whether a monopolist’s refusal to license intellectual property may provide a basis for a monopolization claim”).

¹⁹⁹ *Id.*

²⁰⁰ *See, e.g.,* Hesse, *supra* note 28, at 19 (asking rhetorically, “Is it potentially a violation of Section 2 when a F/RAND-encumbered SEP owner exercises the monopoly

Most actions for monopolization in the standards context have involved claims that the patent holder deceived either an SDO or other SDO participants regarding its patents. As explained by the FTC, “Exclusionary conduct such as deception may distort the selection of technologies and evade protections designed by [SDOs] to constrain the exercise of monopoly power, with substantial and lasting harm to competition.”²⁰¹

This theory received at least some support from the Third Circuit Court of Appeals in *Broadcom Corp. v. Qualcomm, Inc.*, which reasoned that a patent holder’s intentionally false promise to license standards-essential patents on FRAND terms *could* violate Section 2.²⁰² Such deception, the court noted, “harms the competitive process by obscuring the costs of including proprietary technology in a standard and increasing the likelihood that patent rights will confer monopoly power on the patent holder.”²⁰³ Despite the specter of such liability, however, the court in *Broadcom* found that the plaintiff lacked standing to bring a claim for monopolization (as it did not yet compete in the relevant market), and that it failed to allege an antitrust injury.²⁰⁴ Thus, the court did not ultimately apply the Sherman Act to the alleged misconduct.

The FTC has also brought monopolization claims based on deceptive conduct within an SDO. These cases have included actions against Dell,²⁰⁵ Rambus,²⁰⁶ and Unocal,²⁰⁷ each of which involved charges that the patent holder deceptively withheld information regarding patents essential to the practice of a standard and later sought to collect royalties under those patents.²⁰⁸ In each case, this deception was claimed to constitute exclusionary conduct giving rise to a claim for

power that he or she acquired through participation in the standard-setting process in breach of the SEP owner’s F/RAND commitment?”); ABA ANTITRUST HANDBOOK, *supra* note 198, at 87–93 (“Courts have long held that a firm may violate Section 2 of the Sherman Act by using monopoly power in one market to monopolize or attempt to monopolize the market.”); George S. Cary et al., *Antitrust Implications of Abuse of Standard-Setting*, 15 GEO. MASON L. REV. 1241, 1244–54 (2008) (noting cases that address monopolization claims to ensure FRAND commitments); Erica S. Mintzer & Logan M. Breed, *How to Keep the Fox Out of the Henhouse: Monopolization in the Context of Standards-Setting Organizations*, INTELL. PROP. & TECH. L.J., Sept. 2007, at 1, 2–3 (discussing *Rambus*, the “first-of-its-kind ruling,” in which the FTC unanimously held the unlawful monopolization warranted imposing “liability on a single firm for subverting the standards-setting process”).

²⁰¹ See *Rambus, Inc.*, No. 9302, 2006 WL 2330117, at *18 (F.T.C. Aug. 2, 2006), *rev’d sub nom.* *Rambus Inc. v. FTC*, 522 F.3d 456 (D.C. Cir. 2008).

²⁰² 501 F.3d 297, 314 (3d Cir. 2007).

²⁰³ *Id.*

²⁰⁴ *Id.* at 303.

²⁰⁵ *Dell Computer Corp.*, 121 F.T.C. 616 (1996).

²⁰⁶ *Rambus*, 2006 WL 2330117.

²⁰⁷ *Union Oil Co. of Cal. (Unocal)*, 138 F.T.C. 1 (2004).

²⁰⁸ See *Dell*, 121 F.T.C. at 618, 624–25; *Unocal*, 138 F.T.C. at 2; *Rambus*, 2006 WL 2330117, at *2.

monopolization.²⁰⁹ The FTC settled its cases against Dell and Unocal, in both instances entering a consent order effectively rendering the asserted patents unenforceable.²¹⁰ In *Rambus, Inc.*,²¹¹ however, the FTC found Rambus liable for violation of Section 5, based on an underlying violation of Section 2 of the Sherman Act.²¹² In analyzing the element of deception constituting Rambus's exclusionary conduct, the FTC relied on its 1983 policy statement on deception, which requires a "misrepresentation, omission, or other practice" that was likely to mislead others acting reasonably under the circumstances.²¹³ The FTC concluded that Rambus engaged in such deception, and when combined with the resulting harm to competition, found Rambus liable for monopolization.²¹⁴

While monopolization and attempted monopolization are powerful legal claims, they do not seem well suited as general means for policing FRAND commitments and other patent pledges. First, under the formulation stated by the Third Circuit, a deception of some kind must be shown to make a claim of monopolization.²¹⁵ For example, to avoid triggering the FRAND commitment, the patent holder must know that it holds patents subject to a FRAND commitment and then conceal them from the SDO and its other participants. This conduct has been termed patent "ambush," and is generally viewed as deserving of sanction.²¹⁶ However, patent ambush does not appear to be common, or even the focus of most litigation over FRAND commitments today.²¹⁷ Claims of monopolization seem inapplicable to cases of genuine disagreement by parties over the scope of FRAND

²⁰⁹ See *Dell*, 121 F.T.C. at 629–32 (Azcuena, Comm'r, dissenting); *Unocal*, 138 F.T.C. at 92; *Rambus*, 2006 WL 2330117, at *2.

²¹⁰ Press Release, Fed. Trade Comm'n, Dell Computer Settles FTC Charges (Nov. 2, 1995), available at <http://www.ftc.gov/news-events/press-releases/1995/11/dell-computer-settles-ftc-charges>, archived at <http://perma.cc/JFR4-83C2>; Press Release, Fed. Trade Comm'n, Announced Action for August 2, 2005 (Aug. 2, 2005), available at <http://www.ftc.gov/news-events/press-releases/2005/08/announced-action-august-2-2005>, archived at <http://perma.cc/87EP-XGGS>.

²¹¹ *Rambus, Inc.*, No. 9302, 2006 WL 2330117 (F.T.C. Aug. 2, 2006), *rev'd sub nom. Rambus Inc. v. FTC*, 522 F.3d 456 (D.C. Cir. 2008).

²¹² *Id.* at *2.

²¹³ *FTC Policy Statement on Deception*, FED. TRADE COMM'N (Oct. 14, 1983), <http://www.ftc.gov/public-statements/1983/10/ftc-policy-statement-deception>, archived at <http://perma.cc/4LMY-W4AX>.

²¹⁴ *Rambus*, 2006 WL 2330117, at *2.

²¹⁵ *But see* Hesse, *supra* note 28, at 21 (noting that some commentators have suggested that a monopolization claim under Section 2 may not in fact require deception during the standardization process).

²¹⁶ See Gil Ohana et al., *Disclosure and Negotiation of Licensing Terms Prior to Adoption of Industry Standards: Preventing Another Patent Ambush?*, 24 EUR. COMPETITION L. REV. 644, 648–50 (2003); Robert A. Skitol & Kenneth M. Vorrasi, *Patent Holdup in Standards Development: Life After Rambus v. F.T.C.*, ANTITRUST, Summer 2009, at 26, 26 n.2.

²¹⁷ See Contreras, *supra* note 4, app. (cataloging U.S. FRAND litigation through 2012).

commitments and cases in which patents have been disclosed (i.e., not concealed), yet the parties have otherwise failed to enter into a license agreement.

Second, as the D.C. Circuit held in *Rambus, Inc. v. FTC*,²¹⁸ even when deceptive conduct is present, it “must have an anticompetitive effect in order to form the basis of a monopolization claim.”²¹⁹ In overturning the FTC’s holding, the court explained that deception “simply to obtain higher prices normally has no particular tendency to exclude rivals and thus to diminish competition.”²²⁰ Accordingly, the court held the Commission failed to establish that Rambus unlawfully monopolized the relevant markets.²²¹

Given the difficulty of establishing a claim for monopolization and the potential lack of deception in many cases, it seems unlikely that an antitrust monopolization theory will prove to be useful as a general legal theory for enforcing parties’ patent pledges.²²² This being said, in some cases a patent holder’s deceptive or otherwise abusive conduct should continue to be actionable as monopolization or attempted monopolization.

2. *Exclusion and Essential Facilities*

Another approach that has been suggested to enforce patent pledges under Section 2 of the Sherman Act is to characterize a patent holder’s failure to grant (or offer) an appropriate license, or its attempt to enjoin a manufacturer from using a standardized technology, as a unilateral refusal to deal. Such refusals can give rise to liability under Section 2 if they are intended to create or maintain a monopoly or

²¹⁸ 522 F.3d 456 (D.C. Cir. 2008).

²¹⁹ *Id.* at 464.

²²⁰ *Id.*

²²¹ *Id.* at 467. The D.C. Circuit decision in *Rambus* has been controversial and the subject of substantial debate. *See, e.g.*, Richard Dagen, *Rambus, Innovation Efficiency, and Section 5 of the FTC Act*, 90 B.U. L. REV. 1479, 1480–82, 1518 (2010) (discussing the D.C. Circuit’s two fundamental errors in deciding *Rambus*); Joel M. Wallace, *Rambus v. F.T.C. in the Context of Standard-Setting Organizations, Antitrust, and the Patent Hold-Up Problem*, 24 BERKELEY TECH. L.J. 661, 661–62 (2009) (arguing that the D.C. Circuit’s decision in *Rambus* is inconsistent with precedent); Richard Wolfram, Commentary, “Analyze This!” *Deconstructing Rambus Following the Supreme Court’s Denial of Certiorari—The Mechanics of How the D.C. Circuit’s Decision ‘Jumped the Tracks,’* AM. ANTITRUST INST. 5 (2009), http://www.antitrustinstitute.org/files/Rambus%20-%20Analyze%20This%20-%20Deconstructing%20Rambus%20-%20AAI%20Commentary_042720092020.pdf, archived at <http://perma.cc/838T-EQGL> (explaining that the D.C. Circuit’s decision in *Rambus* was inconsistent and erroneous); Joshua D. Wright, *Why the Supreme Court Was Correct to Deny Certiorari in F.T.C. v. Rambus 1* (Geo. Mason Univ. L. & Econ. Res. Paper Series, Working Paper No. 09-14), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1349969, archived at <http://perma.cc/5NZ3-D2R2>.

²²² *See* Skitol & Vorrasi, *supra* note 216, at 31.

withhold access to an “essential facility.”²²³ A limited number of cases have considered whether the actions of an SDO can constitute exclusionary practices. In *Addamax Corp. v. Open Software Foundation, Inc.*,²²⁴ the First Circuit held that an SDO’s exclusion of a small security software vendor’s technology from the UNIX operating system did not violate the Sherman Act, as adequate technological grounds existed to prefer an alternative security technology.²²⁵

As Professor Tom Cotter observes, refusal to deal claims, both generally and relating to essential facilities, have become increasingly difficult given courts’ generally expansive view of patent holders’ right to exploit their assets in the manner they select.²²⁶ Thus, in addition to demonstrating that a patent holder seeks to exclude a competitor through its conduct, it must show that “the defendant intended to engage in predatory—and not merely competitive—behavior.”²²⁷ In the context of patent pledges, this is a high burden of proof. In fact, even in *Broadcom*, in which the court found that Qualcomm had engaged in exclusionary conduct in violation of Section 2, the court refrained from applying the refusal to deal doctrine.²²⁸ Accordingly, monopolization claims based on refusals to deal in the context of patent pledges, while possibly effective in a limited number of cases, are unlikely to form a consistent and reliable basis for the enforcement of patent pledges.

²²³ See 3 PHILLIP E. AREEDA & HERBERT HOVENKAMP, *ANTITRUST LAW: AN ANALYSIS OF ANTITRUST PRINCIPLES AND THEIR APPLICATION* ¶ 709 (3d ed. 2008); 2 JULIAN O. VON KALINOWSKI, ET AL., *ANTITRUST LAWS & TRADE REGULATION* § 25.04(3)(a) (2d ed. 2014). Such claims are based on the principles set out by the Supreme Court in *Verizon Communications Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 407 (2004) (holding that possession of monopoly power combined with anticompetitive conduct may violate the Sherman Act); see also Jonathan B. Baker, *Exclusion as a Core Competition Concern*, 78 *ANTITRUST L.J.* 527, 532 (2013) (arguing that “anticompetitive exclusion, like anticompetitive collusion, must be understood as a core concern of competition policy”).

²²⁴ 152 F.3d 48 (1st Cir. 1998).

²²⁵ *Id.* at 49. A similar claim was brought against several SDOs and SDO participants in *TruePosition Inc. v. LM Ericsson Telephone Co.*, 977 F. Supp. 2d 462 (E.D. Pa. 2013).

²²⁶ Cotter, *supra* note 97, at 332–34; see also 35 U.S.C. § 271(d) (2012) (“No patent owner otherwise entitled to relief . . . shall be denied relief or deemed guilty of misuse or illegal extension of the patent right by reason of his having . . . refused to license or use any rights to the patent . . .”); *SCM Corp. v. Xerox Corp.*, 645 F.2d 1195, 1204 (2d Cir. 1981) (providing that the patentee’s refusal to license technology “is expressly permitted by the patent laws” because “[t]he heart of (the patentee’s) legal monopoly is the right to invoke the State’s power to prevent others from utilizing his discovery without his consent” (quoting *Zenith Radio Corp. v. Hazeltine Research, Inc.*, 395 U.S. 100, 135 (1969))).

²²⁷ *MiniFrame Ltd. v. Microsoft Corp.*, No. 11 Civ. 7419 (RJS), 2013 WL 1385704, at *4 (S.D.N.Y. Mar. 28, 2013), *aff’d*, 551 F. App’x 1 (2d Cir. 2013), *cert. denied*, 135 S. Ct. 223 (2014).

²²⁸ 501 F.3d 297, 316–17 (3rd Cir. 2007); Herbert Hovenkamp, *Patent Deception in Standard Setting: The Case for Antitrust Policy* 26 (July 20, 2010) (unpublished manuscript), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1138002, archived at <http://perma.cc/A647-TTKT> (“The court also rejected the complaint of the defendant and some amici that the complaint was of refusal to deal by another name . . .”).

3. *Unfair Methods of Competition*

In addition to the enforcement authority described above, the FTC has authority under Section 5 of the FTC Act to prosecute “unfair methods of competition” and “unfair or deceptive acts or practices.”²²⁹ While monopolization and attempted monopolization are actionable under Section 5, Section 5 also encompasses conduct beyond monopolization.²³⁰ In the standards context, it is possible that breaches of a patent holder’s FRAND commitments may themselves constitute unfair methods of competition or unfair acts and practices actionable under Section 5, even without deception.

In 2008, the FTC brought a Section 5 action against Negotiated Data Solutions (N-Data) in connection with a patent reading on IEEE’s 802.3 Fast Ethernet standard.²³¹ In 1994, the patent’s original owner, National Semiconductor, pledged to IEEE that it would license the patent for a flat fee of \$1,000 to any party implementing the standard.²³² National Semiconductor eventually transferred the patents to Vertical Networks, which then transferred the patents to N-Data, which allegedly indicated that it did not intend to honor National’s original \$1,000 licensing offer.²³³ The FTC, in bringing an action under Section 5, argued that N-Data’s disavowal of National’s earlier patent pledge constituted an unfair method of competition, as well as an unfair act or practice.²³⁴ The case was resolved through a consent order in which N-Data agreed to honor National’s original patent pledge.²³⁵ Nevertheless, Chairman Deborah Platt Majoras, who dissented from the decision, observed that, unlike Dell, Unocal, and Rambus, N-Data did not appear to have engaged in deceptive conduct, and the Commission’s reliance on Section 5 may have inappropriately expanded the reach of Section 5.²³⁶

The FTC renewed its use of Section 5 to address suspected violations of FRAND commitments in 2012 and 2013, when it initiated investigations of both

²²⁹ 15 U.S.C. § 45(a)(1) (2012); *see supra* note 197 and accompanying text.

²³⁰ *See, e.g.*, William E. Kovacic & Marc Winerman, *Competition Policy and the Application of Section 5 of the Federal Trade Commission Act*, 76 ANTITRUST L.J. 929, 930–32, 934–37 (2010) (“Congress intended Section 5 to be a mechanism for upgrading the U.S. system of competition law by permitting the FTC to reach behavior not necessarily proscribed by the other U.S. competition statutes, including the 1890 Sherman Act and the Clayton Act.”).

²³¹ Negotiated Data Solutions LLC, No. C-4234, 2008 WL 4407246, at *1–5 (F.T.C. Sept. 22, 2008).

²³² *See id.* at *2.

²³³ *See id.* at *4–5.

²³⁴ *See id.* at *1.

²³⁵ *See id.* at *6, *9.

²³⁶ *See* Negotiated Data Solutions LLC, No. 051-0094, 2008 WL 258308, at *25–28 (F.T.C. Jan. 22, 2008) (Majoras, Chairman, dissenting).

Robert Bosch GmbH²³⁷ and Motorola Mobility/Google.²³⁸ Both cases involved allegations that patent holders improperly used FRAND-committed patents to seek injunctive relief against potential vendors of standardized products.²³⁹ According to the FTC's complaint in *Robert Bosch GmbH*,²⁴⁰ SPX, a firm that Bosch sought to acquire, had participated in an SDO developing standards for automotive cooling systems.²⁴¹ Despite having made a FRAND commitment to an SDO, SPX asserted two patents covering the SDO's standards against alleged infringers and then sought injunctive relief to prevent future sales of infringing products.²⁴² The FTC argued

²³⁷ See Bosch F.T.C. Statement, *supra* note 193, at 1–3. For a more in-depth analysis of this case and its antitrust implications, see Cotter, *supra* note 97, at 327–29.

²³⁸ See Google F.T.C. Statement, *supra* note 193, at 1–5.

²³⁹ The propriety of seeking injunctive relief in the face of FRAND commitments implicates other legal issues as well, including the application of the “public interest” test under Section 337 of the International Trade Commission Act and the Supreme Court’s four-part *eBay* test for injunctive relief. See, e.g., BRIAN T. YEH, CONG. RESEARCH SERV., R42705, AVAILABILITY OF INJUNCTIVE RELIEF FOR STANDARD-ESSENTIAL PATENT HOLDERS 9–20 (2012); U.S. DEPT. JUSTICE & U.S. PATENT & TRADEMARK OFFICE, POLICY STATEMENT ON REMEDIES FOR STANDARDS-ESSENTIAL PATENTS SUBJECT TO VOLUNTARY F/RAND COMMITMENTS (2013), available at <http://www.justice.gov/atr/public/guidelines/290994.pdf>, archived at <http://perma.cc/Y3CX-CM8Z>; Colleen V. Chien & Mark A. Lemley, *Patent Holdup, the ITC, and the Public Interest*, 98 CORNELL L. REV. 1, 14, 20 (2012); Suzanne Michel, *Bargaining for RAND Royalties in the Shadow of Patent Remedies Law*, 77 ANTITRUST L.J. 889, 904–910 (2011); Colleen V. Chien et al., *RAND Patents and Exclusion Orders: Submission of 19 Economics and Law Professors to the International Trade Commission* (Santa Clara Univ. Sch. of Law Legal Studies Research Paper Series, Paper No. 07-12, 2012), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2102865, archived at <http://perma.cc/QPG4-73AE>. This issue has prompted both congressional hearings, see *International Trade Commission and Patent Disputes: Hearing Before the Subcomm. on Intellectual Prop., Competition, & the Internet of the H. Comm. on the Judiciary*, 112th Cong. 1 (2012); *Abusive Patent Litigation: The Impact on American Innovation and Jobs, and Potential Solutions: Hearing Before the Subcomm. on Courts, Intellectual Prop., & the Internet of the H. Comm. on the Judiciary*, 113th Cong. (2013), and a presidential order, see Office of the Press Secretary, *FACT SHEET: White House Task Force on High-Tech Patent Issues*, THE WHITE HOUSE (June 4, 2013), <http://www.whitehouse.gov/the-press-office/2013/06/04/fact-sheet-white-house-task-force-high-tech-patent-issues>, archived at <http://perma.cc/HBS2-ZZHB>. Such conduct has also prompted investigations by the European Commission Directorate General for Competition under applicable provisions of EU competition law. Commission Decision (EC) No. COMP/M.6381 of Feb. 13, 2012, art. 6(1)(b), 2012 O.J. (C 75) 1 [hereinafter EC Google/Motorola Mobility Decision]; Press Release, European Comm’n, Samsung—Enforcement of ETSI Standards Essential Patents (SEPs) (Dec. 21, 2012) [hereinafter EC Samsung Press Release], available at http://europa.eu/rapid/press-release_MEMO-12-1021_en.htm, archived at <http://perma.cc/4RML-PFHD>.

²⁴⁰ Robert Bosch GmbH, 155 F.T.C. 713 (2013).

²⁴¹ See *id.* at 715–19 (2013).

²⁴² See *id.* at 718–19.

that SPX's attempt to obtain injunctive relief in the face of its FRAND commitment was inherently coercive and oppressive, and thereby constituted an unfair method of competition in violation of Section 5.²⁴³ In an attempt, perhaps, to defuse Chairman Majoras's criticism in *Negotiated Data Solutions LLC*²⁴⁴ regarding the expanding scope of Section 5,²⁴⁵ the FTC offered the caveat that "[w]hile not every breach of a FRAND licensing obligation will give rise to Section 5 concerns," enforcement may be required "when such a breach tends to undermine the standard-setting process and risks harming American consumers"²⁴⁶

The FTC again took action to address a patent holder's attempt to obtain injunctive relief in the face of a prior FRAND commitment in *Motorola Mobility LLC and Google, Inc.*²⁴⁷ In that case, Motorola (later acquired by Google) held patents essential to practice standards promulgated by IEEE, ITU, and ETSI.²⁴⁸ Motorola participated in, and made FRAND commitments to, each of these SDOs.²⁴⁹ Nevertheless, in separate suits asserting these patents against Apple and Microsoft, Motorola sought exclusion orders at the ITC and injunctions in federal court to prevent future sales of standards-compliant products, even though both defendants were allegedly willing to acquire licenses to Motorola's patents.²⁵⁰ The FTC asserted that Motorola's attempt to enjoin sales of Apple and Microsoft products using its standards-essential patents constituted an unfair method of competition in violation of Section 5.²⁵¹ As in *Bosch*, the Commission's decision finding a violation of

²⁴³ However, the FTC also acknowledged that SPX's conduct likely did not violate Section 2 of the Sherman Act. *Id.* at 833 n.7.

²⁴⁴ *Negotiated Data Solutions LLC*, No. 051-0094, 2008 WL 258308 (F.T.C. Jan. 22, 2008).

²⁴⁵ *Id.* at *25–28.

²⁴⁶ *Robert Bosch GmbH*, 155 F.T.C. at 835. Despite this caveat, Commissioners Maureen K. Ohlhausen and J. Thomas Rosch nevertheless dissented from the Commission's decision regarding injunctive relief. *See id.* at 835–36 (Ohlhausen, Comm'r, concurring in part and dissenting in part) ("Simply seeking injunctive relief on a patent subject to a fair, reasonable, and non-discriminatory ('FRAND') license, without more, even if seeking such relief could be construed as a breach of a licensing commitment, should not be deemed either an unfair method of competition or an unfair act or practice under Section 5." (citations omitted)).

²⁴⁷ *Motorola Mobility, LLC*, No. 121-0120, 2013 WL 124100 (F.T.C. Jan. 3, 2013).

²⁴⁸ *Id.* at *2.

²⁴⁹ *Id.* at *4.

²⁵⁰ *Id.*

²⁵¹ Google F.T.C. Statement, *supra* note 193, at 2–3. The FTC's original complaint also asserted that Motorola's conduct constituted an unfair or deceptive act, *see id.* at *5, but this allegation was dropped when the final order was adopted. Letter from Donald S. Clark, Sec'y, Fed. Trade Comm'n, to Commenters 2 n.2 (July 23, 2013), *available at* <http://www.ftc.gov/sites/default/files/documents/cases/2013/07/130724googlemotorolaletter.pdf>, *archived at* <http://perma.cc/D7S9-6P8K>.

Section 5 in *Motorola/Google* was split 3 to 2.²⁵² The dispute was settled after Google agreed not to seek injunctive relief with regard to standards-essential patents unless and until it complied with a series of procedural steps intended to facilitate agreement with prospective licensees regarding FRAND terms and conditions.²⁵³

Despite the FTC's invocation of Section 5 to condemn nondeceptive breaches of FRAND commitments in *N-Data*, *Bosch*, and *Motorola/Google*, it is not clear that Section 5 offers an optimal general theory for enforcing patent pledges. First, the boundaries of Section 5 in actions that do not involve monopolization and deception are relatively unclear, and there is still significant disagreement both among commentators²⁵⁴ and FTC commissioners themselves²⁵⁵ regarding the appropriate extent of Section 5 liability. Relying on such an uncertain and judicially untested standard as the principal mechanism for enforcing patent pledges could make the enforcement of such pledges less predictable and thus diminish their value as market-wide assurances.²⁵⁶ Second, even if the parameters of Section 5 were clarified to cover breaches of patent pledges with greater reliability, an action under

²⁵² Commissioner Ohlhausen dissented with respect to both the unfair methods of competition and unfair acts and practices analyses. *Motorola Mobility*, 2013 WL 124100, at *26–27 (Ohlhausen, Comm'r, dissenting). Commissioner Rosch disagreed with the majority on the unfair methods of competition analysis. *Id.* at *29–31 (Rosch, Comm'r, dissenting). Professor Cotter offers a cogent analysis of the likely disposition of the commission following a series of personnel changes in mid-2013. *See Cotter, supra* note 97, at 331–32.

²⁵³ *Id.* at *11–15 (majority opinion).

²⁵⁴ In favor of a broad use of antitrust enforcement to address FRAND breaches, see, for example, Cary et al., *supra* note 188, at 943 (“[I]t is fair to ask why antitrust law should not reach opportunism, whether it was the patent holder’s intent all along or whether it occurred to the patent holder only after the standard was adopted.”); Farrell et al., *supra* note 35, at 605–06 (arguing that “similar economic logic underlies some cases where patents were disclosed but users assert that the patent holder is not meeting its duty to license in a reasonable fashion” in the context of alleged violations of FRAND commitments). And for a skeptical look at the broad use of antitrust to address such claims, see, for example, Cotter, *supra* note 97, at 332 (“[T]he role of U.S. antitrust law as a means for enforcing FRAND commitments seems quite limited.”); Dagen, *supra* note 221, at 1503 (“Many believe that the interpretation of Section 5 as broader than the Sherman Act is a remnant of a bygone era.”); Kobayashi & Wright, *supra* note 197, at 495 (calling a broad expansion of Section 5 liability “unsound antitrust policy”).

²⁵⁵ *See supra* note 193; *see also* Joshua D. Wright, Comm'r, Fed. Trade Comm'n, Proposed Policy Statement Regarding Unfair Methods of Competition Under Section 5 of the Federal Trade Commission Act 2–5 (June 19, 2013), *available at* <http://www.ftc.gov/public-statements/2013/06/statement-commissioner-joshua-d-wright>, *archived at* <http://perma.cc/4CSW-X8AL> (supporting a relatively narrow interpretation of “unfair methods of competition”).

²⁵⁶ One need only recall the D.C. Circuit’s reversal of the FTC’s decision in *Rambus* for a stark reminder that, while U.S. enforcement agencies may have theories regarding the scope and applicability of the law, such agencies do not *make* the law, and their actions are ultimately subject to review by the courts. *See Rambus Inc. v. FTC*, 522 F.3d 456, 468–69 (D.C. Cir. 2008).

Section 5 can be brought by only the FTC in its enforcement capacity, and not by private litigants. Thus, such actions depend on the enforcement priorities and resources of the FTC and as such cannot provide a reliable means for enforcing patent pledges across the board.

4. *Antitrust Approaches, Generally*

Beyond the technical considerations discussed above, several commentators have raised policy-oriented concerns regarding the use of antitrust theories, in general, to enforce FRAND commitments and other patent pledges. To a significant degree, this debate mirrors the larger debate within the antitrust community regarding the advisability of weak versus strong antitrust enforcement in the area of intellectual property.²⁵⁷ Professor David J. Teece and Edward F. Sherry, for example, argue that greater (and presumably unpredictable) intervention by antitrust enforcement authorities could erode patent holder confidence and willingness to participate in standards-development activities.²⁵⁸ The net result of such decreases in participation they argue would be an overall decline in innovation. George S. Cary and coauthors have criticized this position, finding little evidence supporting the specter of declining SDO participation resulting from greater antitrust enforcement.²⁵⁹

More importantly, Professors Bruce H. Kobayashi and Joshua D. Wright²⁶⁰ have argued that antitrust remedies should be avoided when private legal remedies

²⁵⁷ See, e.g., Christina Bohannon & Herbert Hovenkamp, *IP and Antitrust: Reformation and Harm*, 51 B.C. L. REV. 905, 931 (2010) (“Antitrust law should stand aside when a government agency is an active regulator, but not when economic decision making is left entirely in private hands. As a result, antitrust rightfully has a place when the anticompetitive conduct occurs subsequent to patent issuance.”); Herbert Hovenkamp, *Antitrust and Innovation: Where We Are and Where We Should Be Going*, 77 ANTITRUST L.J. 749, 750 (2011) (“[W]here intellectual property law leaves questions open, antitrust policy should feel free to seek the most competitive outcomes as long as they do not frustrate the underlying regulatory regime.”); Bruce H. Kobayashi & Joshua D. Wright, *The Limits of Antitrust and Patent Holdup: A Reply to Cary et al.*, 78 ANTITRUST L.J. 505, 506 n.4 (2012) (providing additional relevant sources into the relationship between intellectual property law and antitrust law).

²⁵⁸ David J. Teece & Edward F. Sherry, *Standards Setting and Antitrust*, 87 MINN. L. REV. 1913, 1986 (2003).

²⁵⁹ Cary et al., *supra* note 188, at 923–24. I too am skeptical of predictions that participation in SDOs will decline because of greater constraints on potentially opportunistic behavior. Cf. Contreras, *supra* note 80, at 204–10 (finding little evidence of adverse effects on SDOs implementing requirements for greater disclosure of patent royalty rates).

²⁶⁰ Wright was subsequently appointed as a commissioner of the FTC. *Commissioners*, FED. TRADE COMM’N, <http://www.ftc.gov/about-ftc/commissioners>, archived at <http://perma.cc/T7XY-8TQ5> (last visited Feb. 2, 2015).

(such as contract and tort law) are available to redress the relevant harms.²⁶¹ They reason first that antitrust law offers “little marginal benefit” over other legal regimes, and that the application of antitrust law to alleged instances of patent hold-up will thus yield inappropriate “false positives” (i.e., condemnation of behavior that does not otherwise give rise to liability).²⁶² They further argue that the Supreme Court in a number of related areas has discouraged the use of antitrust law when such conditions are met.²⁶³ Cary and coauthors have critiqued Professors Kobayashi and Wright’s position, both with respect to their analysis of Supreme Court precedent²⁶⁴ as well as their contention that antitrust offers little benefit beyond existing legal remedies.²⁶⁵ To this last point, Cary argues, consistently with Parts III.A and III.B of this Article, that doctrines such as contract, estoppel, and tort are probably available only to parties having a direct relationship with the patent holder or SDO, and offer little recourse to third-party consumers who may be harmed by a patent holder’s failure to abide by its commitments.²⁶⁶ While Cary looks to antitrust law to fill the gap left by these other legal doctrines, the market reliance theory proposed in this Article offers a viable alternative without implicating the enforcement concerns raised by Professors Kobayashi and Wright.²⁶⁷

D. Patent Misuse

Some commentators, notably Professor Daryl Lim, have suggested that violations of FRAND commitments and other misconduct in the standard-setting

²⁶¹ See Kobayashi & Wright, *supra* note 197, at 506–16 (discussing the comparative advantage of tort and contract law in regulating breach of FRAND commitments).

²⁶² *Id.* at 486.

²⁶³ See *id.* at 472–86 (going so far as to refer to these cases as resulting in the implied preemption of antitrust law by state liability doctrines in such cases).

²⁶⁴ See Cary et al., *supra* note 188, at 925–37. *But see* Kobayashi & Wright, *supra* note 257, at 508–21 (responding to criticisms).

²⁶⁵ See Cary et al., *supra* note 188, at 937–44; *see also* Thomas F. Cotter, *Patent Holdup, Patent Remedies, and Antitrust Responses*, 34 J. CORP. L. 1151, 1197 (2009) (criticizing Kobayashi and Wright’s “false positive” analysis). *But see* Kobayashi & Wright, *supra* note 257, at 521–26 (responding to criticisms).

²⁶⁶ See Cary et al., *supra* note 188, at 937–44.

²⁶⁷ While Professors Kobayashi and Wright speak to the virtues of contract law as a mechanism for enforcing patent-related commitments and addressing patent holdup, Kobayashi & Wright, *supra* note 257, at 523–26, their position does not speak exclusively to common law contract doctrine as I have outlined it in Part III.A above. And while Professors Kobayashi and Wright describe various benefits afforded by “contract” doctrine, their analysis appears to encompass both common law contract and promissory estoppel under this general contract rubric. *See id.* at 524–26. Accordingly, I believe that the Kobayashi and Wright analysis would equally favor the application of the market reliance doctrine proposed in this Article.

context should be addressed under a patent misuse theory.²⁶⁸ Patent misuse is an equitable defense to a claim for patent infringement that excuses infringement upon a showing that the patent holder sought to exceed the scope of the patent grant.²⁶⁹ Patent misuse doctrine finds roots in both antitrust and patent law²⁷⁰ and has been used to address conduct including the tying of a patent license to the purchase of unpatented articles,²⁷¹ the collection of royalties following the expiration of a patent's term,²⁷² and the collection of royalties on sales of unpatented articles.²⁷³ The consequences of a finding of misuse are severe and often result in a patent becoming unenforceable until the effects of the misuse have been sufficiently dissipated or "purged."²⁷⁴

Despite the potential of the patent misuse defense, its application to the enforcement of most patent pledges is not promising. Under current judicial interpretations, a finding of patent misuse requires that the patent holder attempted to exceed the bounds of the patent grant. Charging a royalty to license a valid, unexpired patent, even an unreasonably high one, is squarely within a patent holder's statutory rights. In fact, the U.S. Patent Act goes even further and expressly provides that a patent holder's complete refusal to license a patent will *not* constitute an act of patent misuse.²⁷⁵ Thus, it is difficult to see how a patent holder could be found to

²⁶⁸ See Daryl Lim, *Misconduct in Standard Setting: The Case for Patent Misuse*, 51 IDEA 559, 559–60 (2011); Daryl Lim, *Standard Essential Patents, Trolls and the Smartphone Wars: Triangulating the End Game*, 119 PENN. ST. L. REV. 1, 86–90 (2014) [hereinafter Lim, *Standard Essential Patents*].

²⁶⁹ See *Scott Paper Co. v. Marcalus Co.*, 326 U.S. 249, 256 (1945) (stating that "any attempted reservation or continuation in the patentee or those claiming under him of the patent monopoly, after the patent expires, whatever the legal device employed, runs counter to the policy and purpose of the patent laws"); *Brulotte v. Thys Co.*, 379 U.S. 29, 33–34 (1964) ("The exaction of royalties for use of a machine after the patent has expired is an assertion of monopoly power in the post-expiration period when, as we have seen, the patent has entered the public domain. . . . [A]n attempt to project it into another term by continuation of the licensing agreement is unenforceable." (citations omitted)).

²⁷⁰ See Christina Bohannon, *IP Misuse as Foreclosure*, 96 IOWA L. REV. 475, 476 (2011) (referring to the patent misuse doctrine as "a schizophrenic doctrine that vacillates between IP and antitrust law").

²⁷¹ See *Morton Salt Co. v. G.S. Suppiger Co.*, 314 U.S. 488, 489–91 (1942).

²⁷² See *Brulotte*, 379 U.S. at 33–34. *But see* *Aronson v. Quick Point Pencil Co.*, 440 U.S. 257, 265–66 (1979) (holding that an unsuccessful applicant for a patent may charge royalties indefinitely if a patent never issues); *Scheiber v. Dolby Labs., Inc.*, 293 F.3d 1014, 1018 (7th Cir. 2002) (permitting postexpiration royalties as reflective of an economic bargain between parties).

²⁷³ See *Zenith Radio Corp. v. Hazeltine Research, Inc.*, 395 U.S. 100, 135 (1969) (holding that conditioning the license of one patent on the licensing of another and payment of royalties on unpatented articles constitute misuse).

²⁷⁴ *U.S. Gypsum Co. v. Nat'l Gypsum Co.*, 352 U.S. 457, 465 (1957).

²⁷⁵ 35 U.S.C. § 271(d)(4) (2012) ("No patent owner . . . shall be . . . deemed guilty of misuse or illegal extension of the patent right by reason of his having . . . refused to license . . . any rights to the patent . . .").

commit patent misuse by charging a royalty that exceeds a promised “reasonable” rate, or enforcing a patent that it promised not to enforce.

Lim argues that the doctrine of patent misuse should be expanded to provide a more general equitable tool for policing unfair and inequitable conduct using patents.²⁷⁶ Such a judicial expansion of the misuse doctrine may be warranted, though the breadth and potential subjectivity of such a doctrine would need to be taken carefully into account. But in any event, until such an expansion of the patent misuse doctrine occurs, it does not present itself as a likely candidate for the general enforcement of patent pledges.

E. Equitable Servitude

Building on the work of Professors Thomas W. Merrill and Henry E. Smith,²⁷⁷ Professor Jay P. Kesan and Carol Hayes liken FRAND commitments to encumbrances on real property (i.e., equitable servitudes “running with the land”).²⁷⁸ Professor Kesan and Hayes argue that FRAND commitments should be treated as servitudes appurtenant to the patents they encumber, and that such commitments should, in effect, “run with the patent.”²⁷⁹ They identify several areas in which this property-based characterization would yield benefits: FRAND commitments would more readily bind subsequent owners of pledged patents, FRAND commitments would be harder to avoid and negate in bankruptcy proceedings, and specific performance might be more readily available to enforce such commitments.²⁸⁰

A property-based theory for enforcing patent pledges is attractive, as it could bind the affected patents themselves, in an *in rem* manner, rather than patent holders, which may be transient and subject to change. Professor Smith himself acknowledges the benefits of property-based theories when dealing with standards setting, though in a somewhat different context.²⁸¹ While a property-based characterization of FRAND commitments has benefits, it is not clear that such an approach is viable on a theoretical or practical level. At a theoretical level, Professor Kesan and Hayes acknowledge²⁸² one of the primary difficulties in analogizing patent-related encumbrances to real property servitudes: patents are not real property; they are, at most, treated in some respects as personal property,²⁸³ and

²⁷⁶ Lim, *Standard Essential Patents*, *supra* note 268, at 89 (“The need to do justice allows courts to look beyond the form of a misuse to its effects.”).

²⁷⁷ Thomas W. Merrill & Henry E. Smith, *The Property/Contract Interface*, 101 COLUM. L. REV. 773, 776–811 (2001).

²⁷⁸ See Kesan & Hayes, *supra* note 5, at 285–86.

²⁷⁹ *Id.* at 297–300.

²⁸⁰ *Id.* at 296–300.

²⁸¹ Smith, *supra* note 163, at 16–17 (discussing property-like aspects of the standardization function itself, as implemented through the SDO).

²⁸² Kesan & Hayes, *supra* note 5, at 286–87.

²⁸³ 35 U.S.C. § 261 (2012) (deeming patents to “have the attributes of personal property”).

servitudes on personal property are generally disfavored in the law.²⁸⁴ In arguing against this presumption, Professor Kesan and Hayes cite commentators who have recently urged an application of property-based rules to copyright licenses.²⁸⁵ However, FRAND commitments are not, themselves, intellectual property licenses, but merely promises to grant licenses, thus running into one of the same obstacles that impede common law contract theory in this area.²⁸⁶ Moreover, Professor Christina M. Mulligan has argued that servitudes grounded in real property law should not be extended to personal property, in general, or intellectual property licenses, in particular, due to increased information costs associated with identifying and handling servitudes applicable to numerous, frequently transferred forms of property.²⁸⁷

At a practical level, the equitable servitude approach might prove useful in describing FRAND commitments that are clearly delineated and attached to one or more identified patents, like easements recorded in the deeds of parcels of realty. But as illustrated by *Table 1*, most FRAND commitments are not so well specified. And a real property analogy is less likely to hold as to FRAND commitments that are made with respect to a patent holder's portfolio in general, without reference to particular patents, or by means of implied commitments to abide by an SDO's bylaws.²⁸⁸ Thus, the equitable servitude theory, even if theoretically viable, might

²⁸⁴ See, e.g., Thomas W. Merrill & Henry E. Smith, *Optimal Standardization in the Law of Property: The Numerus Clausus Principle*, 110 YALE L.J. 1, 18 & n.68 (2000) ("American precedent is largely, if not quite exclusively, in accord" with the principle that "one cannot create servitudes in personal property"); Glen O. Robinson, *Personal Property Servitudes*, 71 U. CHI. L. REV. 1449, 1455 (2004). In fact, there is a large body of cases involving covenants relating to real property that have been deemed by the courts to be contractual in nature, rather than encumbrances affecting title to the property. See, e.g., *Mountain Brow Lodge No. 82 v. Toscano*, 64 Cal. Rptr. 816, 818–19 (Ct. App. 1967) (holding a covenant not to sell a property for use other than as a fraternal lodge acted as a condition subsequent rather than a restraint on alienation).

²⁸⁵ See Kesan & Hayes, *supra* note 5, at 285–88 (citing Christopher M. Newman, *A License Is Not a "Contract Not To Sue": Disentangling Property and Contract in the Law of Copyright Licenses*, 98 IOWA L. REV. 1101 (2013); Molly Shaffer Van Houweling, *The New Servitudes*, 96 GEO. L.J. 885 (2008)).

²⁸⁶ See *supra* Part III.A.

²⁸⁷ Christina M. Mulligan, *The Cost of Personal Property Servitudes: Lessons for the Internet of Things 1* (July 14, 2014) (unpublished manuscript), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2465651, archived at <http://perma.cc/R6PM-VDEA> (theorizing that "greater flexibility in property interests is most beneficial when property is distinct, valuable, and rarely encountered" and arguing that "[i]n comparison, greater standardization is appropriate when property is fungible, lacks value, and is casually or frequently interacted with").

²⁸⁸ An analogy in the real property context might be a public announcement by the owner of a hotel chain that "room rates at our properties will always be fair and reasonable." While consumers who allege that such rates are unreasonably high during the summer travel season may have actions in contract, promissory estoppel, and various consumer protection

only have limited applicability to a subset of FRAND commitments and even less to the broader realm of patent pledges.

IV. MARKET RELIANCE

Part III identified deficiencies in current contract, promissory estoppel, antitrust, and other theories used to justify the enforcement of FRAND commitments. Part IV offers a new “market reliance” theory that looks to securities regulation and the doctrine of fraud-on-the-market to adapt the doctrine of promissory estoppel for the enforcement of FRAND commitments and other patent pledges.

A. Public Securities Law and “Fraud-on-the-Market”

Rule 10b-5, promulgated under Section 10(b) of the Securities Exchange Act of 1934,²⁸⁹ prohibits the making of untrue statements or omissions of material fact in connection with the purchase or sale of securities.²⁹⁰ Private litigants may invoke Rule 10b-5 when bringing claims against issuers of public securities, generally, when they incur trading losses resulting from such untrue statements or omissions (i.e., selling at an artificially low price or buying at an artificially high price). The basic elements of a private Rule 10b-5 claim stem from the common law actions for fraud and deceit.²⁹¹ To prevail on a common law fraud claim, the plaintiff must establish that the defendant made a false statement or omission of material fact with the intent to induce the plaintiff’s action, and that the plaintiff justifiably *relied* on the statement to his or her detriment.²⁹² Thus, like a claim for promissory estoppel, a claim for fraud requires reliance by the injured party.

But unlike a traditional claim for fraud or for promissory estoppel, the injured party’s reliance in a Rule 10b-5 action may be *presumed* under a doctrine that has come to be known as fraud-on-the-market. Fraud-on-the-market is based on the efficient capital markets hypothesis, which posits that in an efficient securities market all available information, true or false, will be reflected rapidly in the price of a company’s stock. Thus, as soon as the company or one of its officers makes a false statement, the company’s stock price will either rise or fall based on the false information, and the plaintiff, so long as he or she purchased stock in the open market, need not demonstrate specific reliance on the statement in order to make a claim.

laws, it is hard to envision a scenario in which the properties themselves can be said to be burdened by an equitable servitude.

²⁸⁹ 15 U.S.C. § 78j(b) (2012).

²⁹⁰ 17 C.F.R. § 240.10b-5 (2014).

²⁹¹ See 7 LOUIS LOSS ET AL., SECURITIES REGULATION 426–55 (4th ed. 2012); 4 THOMAS LEE HAZEN, TREATISE ON THE LAW OF SECURITIES REGULATION § 12.10[6][B] (6th ed. 2009).

²⁹² See LOSS ET AL., *supra* note 291, at 427.

The fraud-on-the-market theory is generally attributed to Professor Daniel R. Fischel at the University of Chicago, who promoted it as a means for securities plaintiffs to overcome the requirement that they demonstrate actual reliance on particular statements made by or about a company.²⁹³ Professor Fischel's work began to be cited by federal district and circuit courts by the early 1980s,²⁹⁴ and in 1988 the Supreme Court adopted the fraud-on-the-market theory in *Basic, Inc. v. Levinson*,²⁹⁵ a little over a decade after the theory's emergence.

In 1976, Basic Inc., a publicly traded chemical manufacturer, began merger discussions with Combustion Engineering.²⁹⁶ During 1977 and 1978, however, Basic's officers made a number of public announcements, including statements to the press and public securities filings, that denied any potential merger activity.²⁹⁷ A number of shareholders sold their shares of Basic stock during this period.²⁹⁸ Then, in December 1978, Basic announced the pending merger with Combustion, causing the price of its stock to rise.²⁹⁹ The shareholders who sold before the merger was announced sued the company for securities fraud, alleging that the prices at which they sold their shares would have been higher had Basic truthfully disclosed its ongoing merger discussions before they sold their shares.³⁰⁰ In other words, their returns were "artificially depressed" because of Basic's misleading public statements denying the merger discussions.³⁰¹

Justice Blackmun, writing for the majority,³⁰² ruled for the plaintiffs, adopting the fraud-on-the-market theory in the court's reasoning. Specifically, he accepted the proposition that, in an efficient public securities market, all available information will be reflected in the price of a company's stock.³⁰³ If a misleading statement

²⁹³ Daniel R. Fischel, *Use of Modern Finance Theory in Securities Fraud Cases Involving Actively Traded Securities*, 38 BUS. L. 1, 9 (1982); see Barbara Black, *Fraud on the Market: A Criticism of Dispensing with Reliance Requirements in Certain Open Market Transactions*, 62 N.C. L. REV. 435, 437 n.7, 447–53 (1984); Daniel R. Fischel, *Efficient Capital Markets, the Crash, and the Fraud on the Market Theory*, 74 CORNELL L. REV. 907, 908–15 (1989).

²⁹⁴ See Black, *supra* note 293, at 447–53 (tracing early judicial adoption of the fraud-on-the-market theory).

²⁹⁵ 485 U.S. 224, 246–50 (1988).

²⁹⁶ *Id.* at 227.

²⁹⁷ *Id.* at 227–28.

²⁹⁸ *Id.* at 228.

²⁹⁹ *Id.* at 227–28.

³⁰⁰ *Id.* at 228.

³⁰¹ *Id.*

³⁰² The majority in *Basic* consisted of only four justices: Blackmun, Brennan, Marshall, and Stevens. *Id.* at 225. Justices White and O'Connor concurred in part and dissented in part. *Id.* Justices Rehnquist, Scalia, and Kennedy took no part in the consideration or decision of the case. *Id.*

³⁰³ *Id.* at 244 ("In an open and developed market, the dissemination of material misrepresentations or withholding of material information typically affects the price of the

artificially causes the price of the stock to change, then every purchaser or seller of the stock at that “incorrect” price will be injured, whether or not aware of the misleading statement.³⁰⁴ Such misleading statements will thus “defraud purchasers of stock even if the purchasers do not directly rely on the misstatements.”³⁰⁵ The holding in *Basic* thus creates a rebuttable presumption that the plaintiff relied on the defendant’s misinformation, without actual proof of reliance.³⁰⁶ The fraud-on-the-market doctrine established in *Basic* has been applied by numerous lower courts³⁰⁷ and was reaffirmed by a unanimous Supreme Court in 2014.³⁰⁸

Judicially crafted presumptions such as the one adopted in *Basic* “typically serve to assist courts in managing circumstances in which direct proof, for one reason or another, is rendered difficult.”³⁰⁹ In the case of securities fraud, the Court

stock, and purchasers generally rely on the price of the stock as a reflection of its value.” (quoting *Peil v. Speiser*, 806 F.2d 1154, 1161 (3d Cir. 1986)□).

³⁰⁴ See *id.* at 228, 242 (noting that *Basic*’s former shareholders “alleged that they were injured by selling *Basic* shares at artificially depressed prices in a market affected by petitioners’ misleading statements and in reliance thereon”).

³⁰⁵ *Id.* at 241–42 (quoting *Peil*, 806 F.2d at 1160–61).

³⁰⁶ *Id.* at 250 (“It is not inappropriate to apply a presumption of reliance supported by the fraud-on-the-market theory. . . . That presumption, however, is rebuttable.”).

³⁰⁷ See Jill E. Fisch, *The Trouble with Basic: Price Distortion After Halliburton*, 90 WASH. U. L. REV. 895, 896 (2013) (“The Supreme Court’s decision in *Basic* . . . is widely credited with spawning a vast industry of securities fraud litigation . . .”).

³⁰⁸ *Halliburton Co. v. Erica P. John Fund, Inc.*, 134 S. Ct. 2398, 2407 (2014). The efficient market hypothesis has come under recent attack by corporations seeking to limit shareholder class action suits. In *Amgen Inc. v. Connecticut Retirement Plans & Trust Funds*, 133 S. Ct. 1184 (2013), in which a six-justice majority upheld the doctrine, three dissenting justices called the decision in *Basic* “questionable.” *Id.* at 1208 n.4 (Thomas, J., dissenting). And Justice Alito, concurring in the decision, expressly suggested that “reconsideration of the *Basic* presumption may be appropriate.” *Id.* at 1204 (Alito, J., concurring). In *Halliburton*, however, the Court upheld the fraud-on-the-market doctrine and the presumption of reliance in securities fraud cases, though it confirmed that a securities fraud defendant should have the opportunity to rebut the presumption of reliance by presenting evidence that the allegedly misleading statements had no impact on a security’s price. 134 S. Ct. at 2402, 2404.

In addition to attacks on the veracity of efficient markets hypothesis, the fraud-on-the-market theory has been challenged as a matter of statutory interpretation. Professor Joseph Grundfest, in particular, has questioned the statutory underpinnings of the fraud-on-the-market theory. See Joseph A. Grundfest, *Damages and Reliance Under Section 10(b) of the Exchange Act*, 69 BUS. LAW. 307, 309–19 (2014).

But even if these challenges eventually result in a narrowing or reversal of the holding in *Basic*, they are particular to securities litigation and do not appear to have a significant impact on the general argument here—that a presumption of reliance is appropriate when a market is structured in such a way that reliance on commitments made to the market at large is both expected and necessary for its proper functioning.

³⁰⁹ *Basic*, 485 U.S. at 245; cf. U.C.C. § 2-313 cmt. 3 (2008) (“[A]ffirmations of fact made by the seller about the goods during a bargain are regarded as part of the description

in *Basic* concluded that it would be exceedingly difficult for a plaintiff to prove that he specifically relied on particular misstatements when making a decision to purchase or sell a security.³¹⁰ Given the normal efficient operation of the public securities markets, however, a plaintiff should be entitled to rely on the market price of a security as an accurate reflection of all public information concerning the issuer, and a plaintiff will be presumed to have done so absent a showing that he did not so rely (the rebuttable nature of the presumption).³¹¹

In *Basic*, the Court acknowledged its deviation from the standards underpinning the traditional common law actions for fraud and deceit, which require a specific showing of detrimental reliance by the plaintiff.³¹² It justified this departure from precedent by pointing to the realities of modern securities markets “literally involving millions of shares changing hands daily” and emphasizing how today’s markets “differ from the face-to-face transactions” on which traditional fraud doctrine is based.³¹³ The Court concluded that, as a matter of “fairness” and “public policy,” the law must evolve to accommodate this new market paradigm.³¹⁴

B. A Market Reliance Theory for Patent Pledges

1. A Presumption of Reliance

Like public statements made to influence securities markets, patent pledges have an inherently public audience. Though they may take many different forms (e.g., clauses in agreements, provisions of SDO bylaws, declarations posted on a web site, and subsequent clarifications of the same), all of these commitments are intended to assure the market that products complying with a standard or using a common technology platform may be manufactured and sold without the threat of patent litigation. This public assurance is essential to induce firms to invest capital

of those goods; hence no particular reliance on such statements need be shown in order to weave them into the fabric of the agreement.”)

³¹⁰ *Basic*, 485 U.S. at 245 (“Requiring a plaintiff to show a speculative state of facts, *i.e.*, how he would have acted if omitted material information had been disclosed, or if the misrepresentation had not been made, would place an unnecessarily unrealistic evidentiary burden on the . . . plaintiff who has traded on an impersonal market.” (citations omitted)). This burden of proof would effectively have made securities class actions impossible to bring.

³¹¹ *See id.* at 248 (“Any showing that severs the link between the alleged misrepresentation and either the price received (or paid) by the plaintiff, or his decision to trade at a fair market price, will be sufficient to rebut the presumption of reliance.”). For example, if a company cautions the public about the reliability of information that it has released—the “bespeaks caution” doctrine—the presumption of reasonable reliance may be overcome. THOMAS LEE HAZEN, *PRINCIPLES OF SECURITIES REGULATION* § 92 (2d ed. 2006).

³¹² *Basic*, 485 U.S. at 241–50.

³¹³ *Id.* at 243–44.

³¹⁴ *Id.* at 245.

in standards-based technologies and thereby create positive network effects and enhance social welfare.³¹⁵

As this Article has shown, however, common law contract doctrine, rooted in notions of bilateral bargaining and the formal requirements of mutual assent and consideration, poorly models the diverse and public-facing character of FRAND commitments. Antitrust law, at best, may serve as a means for addressing cases involving deception by parties having some degree of market power. Promissory estoppel, which focuses on the promise made by a patent holder to the public, most accurately reflects the paradigm of patent pledges, but still requires a showing of specific, justifiable reliance on the part of the promisee. Were this reliance requirement relaxed, promissory estoppel could become an effective doctrinal tool for analyzing and enforcing these commitments.

Accordingly, I propose a novel “market reliance” theory for the analysis of FRAND commitments and other patent pledges. Under this theory, patent pledges would be subject to a modified version of the promissory estoppel doctrine in which there is a rebuttable presumption of reliance. This rebuttable presumption arises from the promisor’s public statements regarding its commitments, as well as its participation in an industry-wide activity that yields significant welfare benefits. Following the reasoning of *Basic* and subsequent cases, a presumption of reliance is appropriate when a market is structured in such a way that reliance on commitments made to the market at large is both expected and necessary for its proper functioning.³¹⁶ Because technology markets are dependent on FRAND commitments and other patent pledges, this dependence is well-known to market participants (both patent holders and potential licensees), nearly all SDOs require or encourage FRAND licensing (at a minimum), and manufacturers of products including industry standards or other common technology platforms are justified in relying on the pledges that patent holders make covering such standards and platforms. These manufacturers are also justified in making investments on that basis. The justification for reliance echoes that described by the Court in *Basic*: “[I]t is hard to imagine that there ever is a buyer or seller who does not rely on market integrity. Who would knowingly roll the dice in a crooked crap game?”³¹⁷

Under the market reliance theory, it is unnecessary for a manufacturer who seeks to enforce a patent pledge to prove that it specifically relied on the pledge made by a specific patent holder. It is enough that the patent holder made such a commitment to the market, and that the manufacturer is or becomes a participant in that market by manufacturing or selling a product that uses a standard or other

³¹⁵ See *supra* Part II.A.

³¹⁶ See, e.g., Fisch, *supra* note 307, at 916–18, 931–32 (discussing the “market-based” approach embodied by cases following *Basic* and advantages of such an approach over traditional bilateral fraud determinations under the common law); John C.P. Goldberg & Benjamin C. Zipursky, *The Fraud-on-the-Market Tort*, 66 VAND. L. REV. 1755, 1757 (2013) (describing without adopting the view that “[f]raud-on-the-market claims are claims for a public or regulatory wrong, not a traditional tort or private wrong”).

³¹⁷ *Basic*, 485 U.S. at 246–47 (quoting *Schlanger v. Four-Phase Sys. Inc.*, 555 F. Supp. 535, 538 (S.D.N.Y. 1982)).

common technology that is subject to patent pledges. Thus, like the rebuttable presumption of reliance in securities fraud cases, the law should recognize a rebuttable presumption of reliance in the enforcement of patent pledges based on market reliance.

Returning to the illustration in Part II.D.1, manufacturer Mary may wish to release a 3D printer cartridge that complies with the I-123 standard. Mary knows that the members of 3DPP are subject to FRAND commitments, though she may not know specifically which 3DPP members hold which patents covering the I-123 standard. Under the market reliance theory, Mary may develop and release an I-123-compliant product relying on the fact that any 3DPP member holding patents covering the I-123 standard must grant her a license on FRAND terms. While there may still be disagreement over the meaning of such FRAND terms,³¹⁸ particularly any associated Content Obligations, at least it is clear that Mary may compel Paul to honor his FRAND commitments, whatever they may be. And Paul cannot evade liability for compliance with arguments that Mary is not an intended third-party beneficiary of Paul's commitment or that Mary has not proven specific reliance on Paul's commitment. The fact that Mary is a participant in a market characterized by patent pledges and that Paul has made a pledge within the framework of that market is enough to allow Mary to rely on Paul's patent pledge. Likewise, the fact that Paul's pledge may not be specific enough to form a binding contract with Mary does not allow Paul to avoid complying with his promise to the greatest extent feasible.

2. *Rebutting the Presumption*

In securities fraud cases, the presumption of reliance created under the fraud-on-the-market theory can be rebutted by evidence that the plaintiff did not, in fact, rely on the false information disseminated to the market. As the Court explains in *Basic*, "Any showing that severs the link between the alleged misrepresentation and either the price received (or paid) by the plaintiff, or his decision to trade at a fair market price, will be sufficient to rebut the presumption of reliance."³¹⁹ For example, the presumption of reliance will be rebutted if a market maker with accurate knowledge of a company's status determined the price at which the company's stock traded, without regard to false information disseminated by the company; the false statements made by the company were corrected before the plaintiff transacted in the company's stock; the false statement can be demonstrated to have had no impact on the price of the stock; or the plaintiff entered into a transaction for reasons independent of the market price (e.g., it was forced to sell due to political pressure or antitrust concerns).³²⁰ These circumstances would demonstrate that the plaintiff did not, or could not have, relied on the false statements made by the company in

³¹⁸ For a discussion of the extensive debate over the meaning of FRAND, see *supra* note 22 and accompanying text.

³¹⁹ *Basic*, 485 U.S. at 248.

³²⁰ *Id.* at 249.

deciding to enter into a stock transaction. On the other hand, merely showing that the plaintiff did not read an offering circular in which false information was distributed does not rebut the presumption of reliance, as the company's false statements would still affect the market price of the stock.³²¹ Plus, the plaintiff is presumed to have relied on the accuracy of the market price in conducting the transaction.³²²

In the case of patent pledges, an implementer's ability to enforce a pledge against a patent holder, and to sue for breach of that pledge, should also be subject to a rebuttable presumption of reliance. Evidence supporting rebuttal of the presumption might include (a) the implementer's knowledge that the patent holder's patents are not valid or not essential to a standard (thus eliminating the need for a license), (b) the patent holder's abandonment of the patents (also eliminating the need for a license), (c) the implementer's entering into a license with the patent holder (though a claim could still be brought if the implementer asserted that the terms of that license were not FRAND), (d) the implementer's purchase of all necessary components implementing the standard from the patent holder's existing licensees (thus exhausting the patent holder's rights in those patents), or (e) the implementer's unequivocal refusal to enter into good faith negotiations to obtain a FRAND license from the patent holder (demonstrating that the implementer did not rely on the patent holder's promise to grant a FRAND license). Each of these cases would potentially "sever the link" between the patent holder's breach of its FRAND commitment and the implementer's failure to obtain a license under the patent holder's standards-essential patents, thus justifying rebuttal of the presumption of reliance and, most likely, eliminating the implementer's market reliance claim against the patent holder.

3. Which Promises to Enforce?

Like both contract and promissory estoppel, the market reliance theory depends on the making of a promise by a patent holder. A promise embodying a patent pledge may be conveyed through a variety of different mechanisms, including an SDO membership agreement containing a pledge, an SDO's bylaws or policies, a letter of assurance (LOA) submitted by a patent holder, or another form of public statement pledging some form of conduct with respect to one or more patents. Statements and conduct falling short of a promise, however, should not bind a patent holder under market reliance or other theories.³²³

Thus, if an SDO's policies are so ambiguous, indefinite, or incomplete that they do not reasonably convey a promise to the other participants or to the market in

³²¹ See *Shores v. Sklar*, 647 F.2d 462, 481 (5th Cir. 1981) (en banc) (Randall, J., dissenting).

³²² See *id.* at 468.

³²³ See Contreras, Patent Pledges, *supra* note 9 (manuscript at 34–35) ("In order for a corporate pledge to be actionable, it should be of a type that would reasonably be assumed by the pledgor to induce action or forbearance in the pledgee.").

general, then an action for market reliance should not succeed.³²⁴ This situation arose in a series of cases involving Rambus Inc., a technology developer that participated in the Joint Electron Device Engineering Council (JEDEC), a voluntary SDO developing standards for computer memory chips. Though Rambus later withdrew from JEDEC and asserted its patents against manufacturers of devices using JEDEC standards, the Federal Circuit exonerated Rambus of liability, observing that the JEDEC policy suffered from “a staggering lack of defining details” that left SDO participants with nothing but “vaguely defined expectations as to what they believe the policy requires.”³²⁵

Likewise, a statement by a patent holder that should reasonably be construed as a nonbinding turn of phrase, marketplace exaggeration, or mere “puffery” should not be enforced as a patent pledge. The legal disregard for such gratuitous statements has roots both in the law of contract and estoppel.³²⁶ Such statements are also discounted under federal securities laws, in which the so-called “bespeaks caution” doctrine limits the liability of issuers for statements of opinion and estimates that are fairly interpreted as such.³²⁷

These examples suggest that reliance on patent pledges should be justified only to the extent that they are both clear and intended to be binding when made. Thus, if market reliance is adopted as a mechanism for the enforcement of patent pledges, a body of jurisprudence, agency guidelines, or private sector best practices may need to develop surrounding the metes and bounds of enforceable pledges versus statements that are too vague, imprecise, or insincere to be enforced.

³²⁴ See, e.g., *Hynix Semiconductor Inc. v. Rambus, Inc.*, 441 F. Supp. 2d 1066, 1074 (N.D. Cal. 2006) (concluding that “since there was no clear and unambiguous promise by Rambus that it would abide by the JEDEC rules, Hynix does not have a viable promissory estoppel claim based upon Rambus’s membership in JEDEC”). The issue of indefiniteness of commitments applies equally to estoppel and contract-based arguments. See *supra* Part III.A.2.c.

³²⁵ *Rambus, Inc. v. Infineon Techs. AG*, 318 F.3d 1081, 1102 (Fed. Cir. 2003).

³²⁶ See 1 ARTHUR LINTON CORBIN, CORBIN ON CONTRACTS § 2.4 (rev. ed. 1993) (stating that statements by a seller should not be considered warranties if they would “be taken by a reasonable person to be mere ‘puffing’ or expressions of opinion”); see also *Marable v. Michael J. Auto Sales*, 2013 WL 1820811, at *3 (Ohio Ct. App. May 1, 2013) (holding that the buyer was not justified in claiming reliance on statements that were mere “puffing”).

³²⁷ See, e.g., *In re Donald J. Trump Casino Sec. Litig.*, 7 F.3d 357, 371 (3d Cir. 1993) (“[W]hen an offering document’s forecasts, opinions or projections are accompanied by meaningful cautionary statements, the forward-looking statements will not form the basis for a securities fraud claim if those statements did not affect the ‘total mix’ of information the document provided investors. In other words, cautionary language, if sufficient, renders the alleged omissions or misrepresentations immaterial as a matter of law.”). See generally Royce de R. Barondes, *The Bespeaks Caution Doctrine: Revisiting the Application of Federal Securities Law to Opinions and Estimates*, 19 J. CORP. L. 243, 267 (1994) (discussing the Third Circuit’s decision in *In re Donald J. Trump*).

This is not to say, however, that in most cases it will not be possible to determine whether a public statement made by a patent holder is of sufficient gravity, formality, and specificity to qualify as an enforceable pledge. In fact, it is likely that most such pledges will be easily identifiable as such. As described in Part II.B, many patent pledges are made through formal SDO procedures that, while falling short of the requirements for common law contract, at least evidence a clear intent by the patent holder to be bound and induce action. Even among Type 7 pledges (Voluntary Non-SDO Declarations), many are written and either publicly announced, posted on corporate web sites, or incorporated in correspondence with SDOs or regulatory agencies. These pledges, too, should easily fall into the class of enforceable promises.

Some pledges, however, may be less formal. These include statements by corporate officers at public meetings and to the press. For example, Verizon's General Counsel recently stated at a recorded law school symposium that his company would no longer sell patents to nonpracticing entities.³²⁸ Should this statement forever bind Verizon? Was it made with the intention that it be enforced as a binding promise? Perhaps. But what if it were not a prepared statement (as it appeared to be), but merely a response to a question from an audience member? And what if it were phrased in terms of Verizon's then-current intention, or the speaker's opinion, but not an official corporate position? In such cases, the courts will need to develop a set of criteria to distinguish between enforceable patent pledges and unenforceable statements, just as they have done with the common law doctrines of fraud and deceit. At the end of the day, the question will be whether a particular patent pledge was made with the intent to induce market participants to act or forego action.

In some cases, firms may wish to signal to the market that they are making enforceable pledges, rather than nonbinding statements of intention or opinion. They may do so in a variety of ways, including publishing a statement on their corporate website. Another, more permanent, vehicle for indicating that pledges are intended to be enforceable is to register them in an online public repository maintained by a third party. Publishing a pledge in such a repository would indicate to the public that the patent holder wished to go "on record" as making a binding and enforceable patent pledge.³²⁹

³²⁸ Colo. Law, *Software Patents and Their Challenges Conferences: Panel Three*, YOUTUBE (Oct. 9, 2013) (statement of Randal S. Milch, Gen. Counsel, Verizon Commc'ns, starting at 40:44), <https://www.youtube.com/channel/UCQqG1L6RHJEEgDIU2rAjihg>, archived at <http://perma.cc/42C4-68AA> ("We have sold patents to nonpracticing entities. That's wrong. I shouldn't do it. . . . I have made it clear that we are not selling anymore to nonpracticing entities.").

³²⁹ See Contreras, *Patent Pledges*, *supra* note 9 (manuscript at 39–44) (proposing registry of patent pledges).

4. *Reliance and Patent Transfers*

As discussed in Part II.D.2 above, the issue of enforcing patent pledges when a patent owner has transferred an underlying patent to a new owner has attracted significant attention. Commentators have proposed many legal theories under which the acquirers of patents could be bound by prior owners' FRAND commitments and other patent pledges, including the Section 5 approach taken by the FTC in *N-Data*,³³⁰ as well as the other antitrust and servitude theories described in Part III.³³¹

In addition, some have suggested that SDOs are best equipped to ensure that patent pledges travel with pledged patents by imposing policy-based requirements on their participants who transfer patents after pledges have been made.³³² For example, an SDO could require that its participants contractually bind any subsequent purchasers of patents to the same pledges they have made and that each subsequent purchaser impose a similar commitment on later purchasers.³³³ This "cascading" contractual approach depends on each purchaser in the chain imposing the required contractual obligations on the next purchaser. Needless to say, the chain is vulnerable to being broken by any purchaser, and if the noncompliant purchaser is not an SDO participant, there seems to be little recourse available to implementers left without a license. In addition, because patent acquisition transactions are typically effected through confidential bilateral agreements, it may be difficult for implementers to verify whether patent pledge obligations were, in fact, imposed on downstream purchasers as required by the rules of the originating SDO.³³⁴ Finally, echoing the concerns of Part III.A, an SDO-based cascading contractual approach

³³⁰ See *Negotiated Data Solutions LLC*, No. C-4234, 2008 WL 4407246, at *1 (F.T.C. Sept. 22, 2008).

³³¹ See Renata Hesse, Deputy Assistant Attorney Gen., U.S. Dep't of Justice, Remarks at the ITU-T Patent Roundtable: Six "Small" Proposals for SSOs Before Lunch 9–11 (Oct. 10, 2012), available at <http://www.justice.gov/atr/public/speeches/287855.pdf>, archived at <http://perma.cc/7ZSX-JEH8> (antitrust law); Kesan & Hayes, *supra* note 5 (equitable servitudes).

³³² See NAS REPORT, *supra* note 22, at 88–94 (discussing SDO strategies for making FRAND commitments binding on subsequent purchasers of patents); ABA PATENT POLICY MANUAL, *supra* note 5, at 84 (describing SDO policy language regarding transfers); BEKKERS & UPDEGROVE, *supra* note 5, at 92 (finding that five of ten SDOs studied impose requirements on transferees of patents).

³³³ See NAS REPORT, *supra* note 22, at 89–90 (describing this "cascading" licensing obligation and discussing its implementation in the policy documents of ITU/ISO/IEC). This approach is similar to that adopted in so-called "copy-left" open source code licenses, which impose cascading obligations on subsequent users of an open source code program. See, e.g., FREE SOFTWARE FOUND., INC., GNU GENERAL PUBLIC LICENSE (2007).

³³⁴ To address this issue, some have proposed a requirement that patent transfers be recorded with a governmental agency such as the PTO, along the lines of real property title transfers. See NAS REPORT, *supra* note 23, at 90–91, 94. Such proposals are still at an early stage of discussion and do not extend to the recordation of patent pledges that may affect transferred patents.

does little to address pledges made by patent holders outside a formal SDO disclosure system (e.g., Type 6 and 7 Voluntary Declarations).

The market reliance theory proposed in this Article offers a different and more encompassing approach to making patent pledges binding and enforceable on subsequent purchasers. Unlike the cascading contract approach, it focuses on the patent holder rather than the patent. If a manufacturer is sued for patent infringement, it need not determine whether a patent pledge has been made and carried forward with respect to each patent being asserted. Rather, it need only determine whether the technology is part of a market characterized by patent pledges and whether the patents being asserted were once owned by a party making a patent pledge. If so, then the patents in the hands of the new owner (the party asserting them) should remain subject to the original owner's patent pledge.

While it is still incumbent on the manufacturer to discover, based on PTO transfer and assignment records,³³⁵ some historical information regarding ownership of the patents being asserted, it is generally easier to discover whether a particular patent was once owned by a particular party than whether that patent is subject to a continuing patent pledge. Moreover, enforcing such pledges based on market reliance rather than contract eliminates the risk that a patent owner in the "chain of title" has failed to comply with its contractual obligation to impose required contractual limitations on downstream purchasers.³³⁶ Therefore, market reliance represents a more robust and reliable means of ensuring that patent pledges are enforced against subsequent holders of pledged patents.

5. *FRAND, Not Fraud*

Though the market reliance theory described in this Article borrows from the fraud-on-the-market theory under federal securities law, it is not intended to address the same conduct as securities fraud actions. A patent holder's failure to grant a license on FRAND terms after it has committed to do so is markedly different than a public company's dissemination of false statements to the market. Patent pledges are based on *promises*, and the market reliance theory is intended to recognize and render such promises enforceable, notwithstanding the absence of formal contractual trappings or demonstrable specific reliance. This Article borrows from the doctrine of fraud-on-the-market only its presumption of reliance based on public statements intended to influence market behavior, not its other elements, nor its determination of fraud or deceit. While actions for fraud have been brought in the standards context, they have arisen primarily in relation to allegedly deceptive conduct—

³³⁵ The PTO voluntary recordation system for patent transfers is admittedly imperfect. *See id.* at 94 (stating that Recommendation 5.3 encourages more robust recordation requirements for patent transfers).

³³⁶ *See id.* at 90 (raising concern over breaks in the "chain of commitment").

namely, a failure to disclose patents under an SDO's policies.³³⁷ In other cases, claims of fraud have merely been add-ons to complaints asserting breach of contract, estoppel, antitrust, and other claims, and have generally remained unaddressed by the courts.³³⁸ When considered by courts, fraud claims based on the alleged violation of FRAND commitments and other activity relating to standards development have largely been unsuccessful.³³⁹ Thus, unless a patent holder's conduct involves deceit, its commitment to grant licenses on FRAND terms, and its actual or alleged failure to do so, should not be analyzed under a fraud theory.

6. *Impact Across Pledge Types*

The market reliance theory proposed in this Article focuses on the public pledge made by the patent holder, rather than the contractual relationship, if any, established between the patent holder and the SDO/implementers. This approach addresses the diversity of commitment structures more effectively than the application of contract doctrine. Thus, except in the relatively rare case of Type 1 commitments (direct contracts among SDO participants), market reliance "outperforms" common law contract theory in terms of enforcing FRAND commitments and other patent pledges.

One major benefit of the market reliance theory is that it eliminates the need to distinguish between SDO members and nonmembers. Under contract theory, SDO members are more clearly intended third-party beneficiaries than nonmembers, at least from the SDO's standpoint.³⁴⁰ Under a market reliance theory, however, all implementers of a standard, whether or not members of the SDO, are market participants and hence entitled to enforce the public promises made by patent holders. That is, when FRAND commitments are embodied in agreements between

³³⁷ See, e.g., *Rambus Inc. v. Infineon Techs. AG*, 318 F.3d 1081, 1109, 1112 (Fed. Cir. 2003) (Prost, J., dissenting in part) (alleging that Rambus deceptively concealed patenting activity relevant to memory chip standardization in violation of SDO rules).

³³⁸ See Counterclaim Defendant Apple Inc.'s Answer, Defenses, & Counterclaims in Reply to Samsung's Counterclaims at 70, *Apple Inc. v. Samsung Elecs. Co.*, 926 F. Supp. 2d 1100 (N.D. Cal. 2013) (No. 11-CV-01846-LHK) ("Samsung's untimely disclosures of its claimed essential IPR and/or false FRAND commitments to ETSI, and its refusal to meet its FRAND obligations regarding patents that it claims to be essential to the UMTS standard constitute (1) unlawful business acts or practices in violation of the federal antitrust laws and the California Cartwright Act, (2) *fraudulent conduct* and (3) unfair business acts or practices" (emphasis added)); *Qualcomm Inc. v. Broadcom Corp.*, 539 F. Supp. 2d 1214, 1240 (S.D. Cal. 2007), *aff'd in part, vacated in part*, 548 F.3d 1004 (Fed. Cir. 2008) (stating that in response to Qualcomm's infringement claim, Broadcom raised defenses of equitable estoppel, implied license, fraud, unclean hands, breach of contract, laches, and waiver arising from Qualcomm's alleged violation of its disclosure and FRAND obligations to SDO).

³³⁹ See *Rambus*, 318 F.3d at 1104–05 (concluding that the action for fraud failed due to lack of clarity surrounding the defendant's disclosure obligations to SDO); cf. *supra* Part III.C.1 (discussing deception cases under antitrust theories).

³⁴⁰ See *supra* notes 149–151 and accompanying text.

a patent holder and an SDO (Type 2), or in an SDO's bylaws or policies (Type 3), under common law contract theory, implementers must claim third-party beneficiary status to enforce those commitments. While third-party beneficiary status may be available, the application of third-party beneficiary rights to large classes of undefined persons is subject to a long and checkered history and has lately been disfavored by the courts.³⁴¹ Relying on this doctrine for the enforcement of FRAND commitments is thus speculative. In contrast, under the market reliance theory, the patent holder's promises under Type 2 and 3 structures are deemed to be made directly to the market and implementers, who may enforce them directly without the need to apply an intervening third-party beneficiary analysis.

Likewise, market reliance is superior to common law contract when FRAND commitments are established by letters of assurance (Type 5) and voluntary declarations (Type 6 and Type 7). The extension of common law contract theory to such unilateral statements of intent is strained, at best. In some of these cases, one can find a contractual obligation to make the relevant disclosure, but little to support the imposition of contractual duties with regard to the content of that disclosure (e.g., the Content Obligation). Under a market reliance theory, however, such public statements can be enforced as promises made to the market and its participants.

Finally, market reliance provides a means for enforcing FRAND commitments made in the particularly confusing realm of SDOs that simply follow the ANSI patent policy (Type 4). Finding a contractual commitment, and even an appropriate contractual counterparty, in these cases is challenging. However, under a market reliance theory, FRAND commitments made by patent holders to ANSI, an ANSI-accredited SDO, or the market generally should all be enforceable by market participants.

Table 3 summarizes the applicability of common law contract versus market reliance to each pledge type.

³⁴¹ *See supra* Part III.A.2.b.

Table 3

Patent Pledge Structural Variants, Contract Applicability, and Market Reliance

FRAND Commitment Type	Contract Doctrine	Market Reliance	Prevalence
1. Multilateral Agreement	Commitment is contractual among members; nonmember implementers will have difficulty relying on third-party beneficiary (TPB) theory	Promise contained in private multiparty agreement is probably not made to the market (contract theory may be preferable)	Rare
2. Membership Agreement	Commitment is contractual between patent holder and SDO; member and nonmember implementers must rely on TPB theory	Promise to the market embodied in agreement between patent holder and SDO is enforceable by implementers	Uncommon
3. SDO Bylaws/Policy	Commitment is either corporate or contractual in nature; exists between patent holder and SDO; member and nonmember implementers must rely on TPB theory	Bylaw/policy-based promise to the market is enforceable by implementers	Uncommon
4. Follow ANSI Policy	No affirmative FRAND commitment on patent holder, merely a prescription for SDO process; LOAs provided by members are probably not contractual	Promise to the market contained in LOA is enforceable by implementers	Common
5. Letters of Assurance (LOA)	Obligation to provide LOA is a contractual commitment to SDO; commitment contained in LOA is probably not contractual	Promise to the market contained in LOA is enforceable by implementers	Common
6. Voluntary SDO Declarations	Voluntary licensing declarations are almost certainly not contractual	Promise to the market contained in voluntary declaration is enforceable by implementers	Rare
7. Voluntary Non-SDO Declarations	No contract	Treated as promises with binding effect	Uncommon but increasing

7. Remedies

One of the most vexing issues associated with the enforcement of FRAND commitments and other patent pledges is how to fashion a remedy when such commitments are breached.³⁴² The customary remedy to redress the breach of a promise rendered enforceable through promissory estoppel is an award of monetary “expectation” damages.³⁴³ As with common law contracts, expectation damages are intended to restore the injured party to the position in which it would have been save for the breach.³⁴⁴ Yet monetary damages awarded to an unlicensed party do not achieve the primary purpose of patent pledges: assuring the market that patents will not be asserted to prevent the implementation of industry standards or common technology platforms.³⁴⁵ To fulfill the purpose of the pledge and promote the widespread adoption of the relevant technology or standard, a license must be granted on the promised terms. In other words, specific performance must be awarded.

As the Restatement (Second) explains, “An order of specific performance is intended to produce as nearly as is practicable the same effect that the performance due under a contract would have produced.”³⁴⁶ To achieve this purpose, the terms of the contract to be enforced must be sufficiently clear for the court to grant relief.³⁴⁷ A contract that is indefinite, or a mere agreement to agree, is not amenable to enforcement by specific performance.³⁴⁸

³⁴² A remedy would be sought only when the potential infringer asserts breach of a patent pledge as an affirmative cause of action. It is also likely, however, that market reliance may be raised as a defense against a claim of infringement, in which case dismissal of the infringement claim would be the principal relief sought.

³⁴³ See RESTATEMENT (SECOND) OF CONTRACTS § 90 cmt. a, d (1981).

³⁴⁴ See *id.* § 347 cmt. a.

³⁴⁵ This is not to say that monetary damages should be entirely out of the question to address injuries suffered by a product vendor that was improperly denied a license in violation of a patent pledge. Such damages could cover, for example, lost profits during the period that the vendor refrained from selling a standardized product due to the lack of a license.

³⁴⁶ RESTATEMENT (SECOND) OF CONTRACTS § 357 cmt. a (1981).

³⁴⁷ *Id.* § 362 (“Specific performance . . . will not be granted unless the terms of the contract are sufficiently certain to provide a basis for an appropriate order.”); see also *id.* § 362 cmt. b, illus. 1 (“A and B make a contract under which A promises to convey part of a tract of land to B and B promises to pay \$100,000 and to build ‘a first class theatre’ on it. Building the theatre will enhance the value of A’s remaining land. A conveys the land to B, who pays the price but refuses to build the theatre. A sues B for specific performance. Specific performance will be refused because of the uncertainty of the terms of the contract, although A can receive damages from B based on the failure to enhance the value of his land if he can prove them with reasonable certainty.”).

³⁴⁸ See, e.g., *Sanderford v. Duplin Land Dev., Inc.*, 531 F. App’x. 358, 362 (4th Cir. 2013) (stating that “a contract ‘leaving material portions open for future agreement is nugatory and void for indefiniteness,” and specific performance will not be awarded

In the case of patent pledges, and FRAND commitments in particular, it is useful to recall the distinction between Process Obligations and Content Obligations.³⁴⁹ Process Obligations are commitments to go through the process leading to the grant of a FRAND license or some other required outcome. Content Obligations relate to the content of the license that is actually granted, including both royalty rates and other terms such as reciprocal license commitments, defensive suspension, and the like.³⁵⁰ As discussed above, FRAND commitments and other patent pledges relating to the granting of licenses (e.g., royalty-free license commitments) are seldom specific as to content, and it is unlikely that specific performance would be granted imposing specific license terms on the parties.³⁵¹ As the oft-repeated maxim states, a court will not “make a contract for the parties.”³⁵²

With respect to Process Obligations, however, the court is more likely to succeed in fashioning a suitable order for specific performance. In doing so, it has several options. First, it could order the parties to negotiate and reach an agreement on the terms of a FRAND license agreement. This option, of course, leaves open the question of what happens if the parties cannot agree on those terms (which may not be unlikely if they are in litigation).³⁵³ Second, the court may itself determine certain key license terms (such as royalty rate) and order the parties to fashion an agreement

(quoting *Cnty. of Jackson v. Nichols*, 623 S.E.2d 277, 279 (N.C. Ct. App. 2005)); *Quirin v. Weinberg*, 830 P.2d 537, 541 (Mont. 1992) (“[A] contract to be specifically enforceable must be complete and certain in all essential matters included within its scope. Nothing must be left to conjecture or surmise, or be so vague as to make it impossible for the court to glean the intent of the parties from the instrument” (quoting *Steen v. Rustad*, 313 P.2d 1014, 1020 (Mont. 1957))); *Joseph Martin, Jr., Delicatessen, Inc. v. Schumacher*, 417 N.E.2d 541, 543–44 (N.Y. 1981) (“[M]ere agreement to agree, in which a material term is left for future negotiations, is unenforceable. . . . [And this] rule applies all the more, and not the less, when . . . the extraordinary remedy of specific performance is sought.” (citations omitted)); *Duke v. Tobin*, 96 S.E.2d 758, 760 (Va. 1957) (“[A] court of equity will not specifically enforce a contract unless it be complete and certain. All the essential terms of the contract must be finally and definitely settled. None must be left to be determined by future negotiations.”). The inability to specifically enforce indefinite agreements has been codified in the statutes of some states. *See, e.g.*, MONT. CODE ANN. § 27-1-412(5) (2013) (stating that “an agreement the terms of which are not sufficiently certain to make the precise act which is to be done clearly ascertainable” cannot be specifically enforced).

³⁴⁹ *See supra* Part II.C.

³⁵⁰ *See supra* note 85 and accompanying text.

³⁵¹ This is not the case, however, with respect to patent pledges relating to specific commitments, such as pledges to refrain from seeking injunctions or from transferring pledged patents to nonpracticing entities. These commitments are likely definite enough to support specific performance.

³⁵² *Three-O-Three Inv. Inc. v. Moffitt*, 622 S.W.2d 736, 738 (Mo. Ct. App. 1981) (quoting *Biggs v. Moll*, 463 S.W.2d 881, 887 (Mo. 1971)).

³⁵³ *See Apple, Inc. v. Motorola Mobility, Inc.*, No. 11-cv-178-bbc, 2012 WL 5416941, at *4 (W.D. Wis. Oct. 29, 2012) (concluding that “it makes little sense to order the parties to continue negotiating a license when they have been unable to reach an agreement through five years of negotiations”).

around those key terms.³⁵⁴ Third, the court could order the parties to submit to binding arbitration to fashion a license agreement, including its key terms. This third approach has the benefit of removing the not insubstantial burden of determining royalty rates and other licensing terms from the court and placing it in the hands of a qualified third party compensated by the litigants.³⁵⁵ And finally, courts could look to some combination of judicial or arbitral determinations of key license terms, such as royalty rates, and require that other terms of FRAND licenses comply with a known industry template agreement.³⁵⁶ While no such template agreement has yet been widely accepted for FRAND licensing, the development of such a template would not be difficult.³⁵⁷ Thus, a variety of options exist for the granting of specific

³⁵⁴ This option is closer to what the court initially ordered in *Apple, Inc. v. Motorola Mobility, Inc.* See *id.* (determining that “it makes sense to allow Apple to sue for specific performance of Motorola’s contractual obligations and for the court to determine license terms, if necessary. In fact, in situations such as this in which the parties cannot agree on the terms of a fair, reasonable and nondiscriminatory license, the court may be the only forum to determine license terms”). In a surprising turn of events, however, Apple announced that it would not commit to enter into a license agreement with Motorola at any rate the court determined. Rather, Apple would “consider” the court’s royalty rate, but reserved the right, if the rate exceeded \$1.00 per product, to continue with litigation. *Apple, Inc. v. Motorola Mobility, Inc.*, No. 11-cv-178-bbc, 2012 WL 5416931, at *1 (W.D. Wis. Nov. 2, 2012). In light of Apple’s position, the court reconsidered Apple’s petition for specific performance, which asked “whether it was appropriate for a court to undertake the complex task of determining a FRAND rate if the end result would be simply a suggestion that could be used later as a bargaining chip between the parties.” *Id.* The court’s answer was negative: it reversed its earlier decision and denied Apple’s motion for specific performance. *Id.*

³⁵⁵ Arbitration of disputes concerning standards-essential patents has gained significant currency recently and has been noted with approval in the FTC’s consent order in *Motorola Mobility, LLC*, No. 121-0120, 2013 WL 124100, at *11–12 (F.T.C. Jan. 3, 2013), as well as the European Commission’s settlement with Samsung, see Mark A. Lemley & Carl Shapiro, *A Simple Approach to Setting Reasonable Royalties for Standard-Essential Patents*, 28 BERKELEY TECH. L.J. 1135, 1160 (2013); Jorge L. Contreras & David L. Newman, *Developing a Framework for Arbitrating Standards-Essential Patent Disputes*, 2014 J. DISP. RESOL. 23, 23; Kai-Uwe Kühn et al., *Standard Setting Organizations Can Help Solve the Standard Essential Patents Licensing Problem*, CPI ANTITRUST CHRON., Mar. 2013, at 2, 4; EC Google/Motorola Mobility Decision, *supra* note 239; EC Samsung Press Release, *supra* note 239 (noting that arbitrators, in addition to courts, are “well equipped” to determine FRAND-compliant reasonable royalty rates); Hesse, *supra* note 331, at 10.

³⁵⁶ Courts have also shown a willingness to grant specific performance of incomplete bargains that involve the use of template agreements. See, e.g., *Wolvos v. Meyer*, 668 N.E.2d 671, 676–77 (Ind. 1996) (ordering specific performance of a real estate purchase option when the parties had agreed on a description of the property, the purchase price, and a time frame for closing, and consented to the use of a standardized real estate purchase form to memorialize their agreement).

³⁵⁷ Standardized contracts developed through collaborative mechanisms can both reduce transaction costs and assure balanced treatment of issues. See Mark R. Patterson, *Standardization of Standard-Form Contracts: Competition and Contract Implications*, 52

performance of patent pledges enforced through the market reliance theory proposed in this Article.

8. *Implementing Theory in Law*

The market reliance theory and its rebuttable presumption of reliance represent a modest, albeit critical, modification to the doctrine of promissory estoppel in the

WM. & MARY L. REV. 327, 377–80 (2010). Industry-specific template agreements have been adopted successfully in a number of different markets from online advertising, *e.g.*, *Terms and Conditions*, INTERACTIVE ADVER. BUREAU, <http://www.iab.net/guidelines/508676/tscs3>, archived at <http://perma.cc/MVU9-X3YN> (last visited Feb. 4, 2015), to residential real estate, *e.g.*, CAL. ASS'N OF REALTORS, SAN FRANCISCO PURCHASE AGREEMENT AND JOINT ESCROW INSTRUCTIONS (2011), available at <http://www.car.org/media/pdf/legal/standard-forms/507939/>, archived at <http://perma.cc/7QHH-2N4D>. In addition, standardized intellectual property license agreements, most notably the Creative Commons suite of content licenses, see *About the Licenses*, CREATIVE COMMONS, www.creativecommons.org/licenses/, archived at <http://perma.cc/H4RV-6RX4> (last visited Feb. 4, 2015), have gained widespread acceptance.

While a detailed program for the development of an industry standard FRAND license template is beyond the scope of this Article, it is worth noting that there are several neutral bodies that could act as facilitators for such a project. For example, a committee of the American Bar Association (ABA) acted as the facilitator in drafting the Model Trading Partner Agreement for Electronic Data Interchange (EDI), which has become the *de facto* standard for EDI transactions. See JANE K. WINN & BENJAMIN WRIGHT, LAW OF ELECTRONIC COMMERCE, at 5-62 (4th ed. 2012); Elec. Messaging Servs. Task Force, *The Commercial Use of Electronic Data Interchange—A Report and Model Trading Partner Agreement*, 45 BUS. LAW. 1645, 1649 (1990). The ABA has also been active in the area of technical standardization, and two of its committees have produced reference works that are widely used in the field. See ABA PATENT POLICY MANUAL, *supra* note 5; ABA ANTITRUST HANDBOOK, *supra* note 198. Another potential facilitator is ANSI, which represents the interests of the U.S. standards community and has approximately 230 SDO members. See *About ANSI*, AM. NAT'L STANDARDS INST., http://www.ansi.org/about_ansi/overview/overview.aspx?menuid=1, archived at <http://perma.cc/5BBT-R9VF> (last visited Feb. 4, 2015); *Domestic Programs (American National Standards) Overview*, AM. NAT'L STANDARDS INST., http://www.ansi.org/standards_activities/domestic_programs/overview.aspx?menuid=3, archived at <http://perma.cc/HQC6-ZAL2> (last visited Feb. 4, 2015). As discussed above, the ANSI Essential Requirements form is the basis for many SDO patent policies, lending substantial legitimacy to any such ANSI-led activity. See *supra* text accompanying notes 72–74. ANSI also has a well-organized Intellectual Property Rights Policy Committee that represents a broad cross section of the standardization community, and it meets regularly and forms task groups to address issues of interest to the membership. *Intellectual Property Rights Policy Committee (IPRPC)*, AM. NAT'L STANDARDS INST., http://www.ansi.org/about_ansi/structure_management/policy_commit_councils/intel_rights.aspx?menuid=1, archived at <http://perma.cc/7LN7-E6YS> (last visited Feb. 4, 2015). Finally, it is possible that a neutral governmental agency such as the National Institute of Standards and Technology (NIST) could convene such an effort and help to ensure that its results were acceptable to a broad range of constituents.

context of patent pledges. The clearest path to adoption of such a presumption would be through judicial recognition.³⁵⁸ Courts are well equipped to develop common law doctrine and have done so for centuries. The doctrines of promissory estoppel and the common law of contracts are both the products of gradual judicial development. In contrast, the rapid judicial recognition of the fraud-on-the-market theory was remarkable given the centuries of common law precedent surrounding actions for fraud and deceit.³⁵⁹ Nevertheless, the courts, when confronted with a legal framework that was ill-suited to address the realities of modern markets, recognized the need to adapt these traditional common law rules with contemporary theory and supporting empirical data. It is hoped that courts considering cases involving FRAND commitments and other patent pledges may find the market reliance theory useful and adopt it as a general theory for enforcing patent pledges.

While judicial recognition of the market reliance doctrine would help to address current uncertainty, judicial adoption occurs sporadically as cases are brought, and there is no assurance that such adoption would be rapid or widespread.³⁶⁰ A more general and timely solution could potentially be achieved through legislative action. As noted throughout this Article, patent pledges, and FRAND commitments in particular, are key elements of the technology infrastructure. As such, they should be as strongly and transparently enforceable as possible. Legislation clarifying that such commitments are enforceable promises and establishing by statute the presumption of reliance that is proposed in this Article, as well as the binding effect of patent pledges on subsequent purchasers of pledged patents, would significantly benefit the technology marketplace by reducing uncertainty and litigation.³⁶¹ Such

³⁵⁸ Cf. DAN L. BURK & MARK A. LEMLEY, *THE PATENT CRISIS AND HOW THE COURTS CAN SOLVE IT* 104–06 (2009) (arguing that in the area of patent law, judicial rather than legislative solutions are more likely to be effective and within reach).

³⁵⁹ See *supra* notes 293–295 and accompanying text (noting the rapid adoption of the fraud-on-the-market theory in judicial decisions).

³⁶⁰ As noted above, judicial recognition of the fraud-on-the-market theory, which was regarded as remarkably quick, took over a decade.

³⁶¹ The operative language of such legislation would be relatively straightforward. For example:

SEC. X. ENFORCEMENT OF PATENT PLEDGES.

(a) Definitions.—In this section—

(1) the term ‘covered person’ means a person who has an interest in the manufacture, sale, use, or import of a product or process that would, or is likely to, infringe a patent subject to a patent pledge, either directly or contributorily, or that would induce infringement of such patent;

(2) the term ‘patent pledge’ means a statement, commitment, promise, or pledge made by a controlling party regarding the licensing or nonassertion of a patent (including a patent not yet issued at the time the patent pledge is made), whether the patent is specifically identified or part of a defined group or portfolio of patents, that is—

legislation could be effected through a relatively modest amendment to the Patent Act;³⁶² the Standards Development Organization Advancement Act of 2004 (SDOAA),³⁶³ a statute enacted a decade ago to insulate SDOs from certain antitrust claims; or one of the several bills currently proposed to address various aspects of the U.S. patent system.³⁶⁴

In addition to judicial and legislative recognition of the market reliance theory, either federal agencies or Congress may wish to consider legal incentives to encourage firms to make patent pledges, or to register them in a public repository as discussed in Part IV.B.3 above. Such incentives might include lessening the antitrust penalties for allegedly anticompetitive conduct involving pledged patents,³⁶⁵ akin to the relief from treble damages available to SDOs under the Standards Development Organization Advancement Act.³⁶⁶

V. CONCLUSION

Patent pledges are intended to preserve the many social welfare benefits afforded by the broad adoption of interoperability standards and other technology

(A) made to the public or in a manner intended to be known by the public; and

(B) intended to be binding on the controlling party; and

(3) the term ‘controlling party’ shall include any owner, assignee, transferee, licensee, or other person having the authority to license or enforce a patent.

(b) Binding Effect.—A patent pledge shall be binding upon and obligate (i) the controlling party originally making such patent pledge and (ii) any subsequent controlling party to the same degree as the controlling party that originally made the patent pledge.

(c) Enforcement.—A covered person may bring a civil action to enforce a patent pledge against any controlling party that is bound by such patent pledge pursuant to subsection (b).

(d) Presumption of Reliance.—A covered person shall not be required to demonstrate actual reliance on a patent pledge in order to succeed in enforcement under subsection (c).

³⁶² 35 U.S.C. §§ 1–42 (2012).

³⁶³ Pub. L. No. 108-237, 118 Stat. 661 (2004) (codified as amended at 15 U.S.C. §§ 4301–06 (2012)).

³⁶⁴ See, e.g., Jimmy Hoover, *Patent Reform to Get New Life in GOP-Led Congress*, LAW 360 (Jan. 29, 2014, 1:34 PM), http://www.law360.com/ip/articles/616444?utm_source=shared-articles&utm_medium=email&utm_campaign=shared-articles, archived at <http://perma.cc/ZLN3-3VVR> (discussing bills likely to emerge in the 115th Congress); see also Innovation Act, H.R. 3309, 113th Cong. (2013) (including provisions relating to disclosure of the real parties in interest, discovery and joinder, and fee shifting, and correcting several defects in the America Invents Act); Patent Litigation Integrity Act of 2013, S. 1612, 113th Cong. (2013) (seeking “[t]o deter abusive patent litigation by targeting the economic incentives that fuel frivolous lawsuits”).

³⁶⁵ See *supra* Part III.C.

³⁶⁶ See 15 U.S.C. §§ 4301–06 (2012).

platforms by assuring the market that patents will not be used to block the manufacture and sale of products conforming to such standards. As such, it is critical that FRAND commitments and other patent pledges be binding and enforceable. However, the currently prevailing contractual understanding of commitments is both inaccurate and incomplete. While the equitable doctrine of promissory estoppel more closely hews to the nature of such commitments, its requirement of actual detrimental reliance is problematic.

This Article recognizes the public character of FRAND commitments with a novel “market reliance” theory that combines aspects of traditional promissory estoppel with the federal securities fraud-on-the-market doctrine. This approach, which focuses on a patent holder’s reliance-inducing statements to the market at large, avoids the artificial application of inapposite doctrinal constructs to promises that do not fit the contractual mode. It would make patent pledges binding and enforceable whether made in an SDO setting or in a broader statement to the market, and it would make such pledges enforceable against subsequent purchasers of pledged patents. Recognizing patent pledges as the market-wide assurances they are intended to be, whether through the courts or Congress, will create a stronger and more defensible foundation for the enforcement of these crucial commitments.