TREATING RAND COMMITMENTS NEUTRALLY

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ABSTRACT
This article argues that the same legal standards should apply to RAND commitments whether they are made to standard-setting organizations or not. The arguments for concluding that RAND commitments should limit injunctive patent relief or trigger antitrust liability turn on whether the commitment reasonably induces lock-in that generates hold-up effects or market power when that commitment is breached. But RAND commitments can induce such lock-in effects when they are made outside of standard-setting organizations and do not always induce them when they are made to standard-setting organizations. Thus, any special legal rules for RAND commitments should turn on whether the commitments induced such lock-in, rather than on the institutional context. The arguments against using special legal rules for RAND commitments turn on the extent to which lock-in might fail to generate holdup problems, denying patent injunctions might generate reverse-holdup problems, and contract or promissory estoppel remedies might obviate the need for antitrust liability. But those arguments likewise apply equally inside and outside of standard-setting organizations. Thus, however one resolves the arguments for and against applying special legal rules to RAND commitments, the resulting legal standards should be the same whether or not the commitment is made to a standard-setting organization.

JEL: K21; L12; L41; O31; O34

I. INTRODUCTION

The proper legal treatment of commitments to license patents on “Reasonable and Non-Discriminatory” (RAND) terms remains an open question. Courts, agencies, and scholars dispute such basic issues as whether and when RAND commitments should (1) limit access to injunctive relief or import exclusion orders against patent infringers and/or (2) trigger antitrust claims, rather than just contract or promissory estoppel claims, against patent holders who breach such commitments.1 However, those arguing for such special legal rules when

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* President, Legal Economics LLC; Petrie Professor of Law, Harvard Law School. I am grateful for comments from Roger Brooks and Damien Geradin, and for funding by Google, Inc. The views expressed in this article are my own and do not necessarily reflect the views of Harvard University or Google, Inc.

patent holders make RAND commitments have generally limited their recommendations to commitments made to a formal standard-setting organization on standard-essential patents. This limitation is, I shall argue, unwarranted. The arguments that support special legal rules regarding RAND commitments depend on conditions that can apply inside or outside of standard-setting organizations. The counter-arguments for rejecting or limiting such special legal rules also apply in both contexts. However one resolves these issues, the same legal elements should apply equally in both contexts.

The argument for special legal rules regarding RAND commitments made to standard-setting organizations is straightforward. Patent holders make RAND commitments to standard-setting organizations in order to get their patented technology included in the standard, which increases the value of their patent. Without a RAND commitment, standard-setting organizations are often unwilling to include any patented technology in a formal standard because once the member firms are locked-in to a standard, the patent holder would be able to demand more than it could have charged before that lock-in occurred. Patent-holders that breach a RAND commitment and seek injunctive
or exclusionary enforcement of their patent might thus be able to hold up firms for more than the ex ante value of the patent, and the prospect of this hold up can deter efficient reliance on RAND commitments. When the lock-in effect makes the patent sufficiently essential commercially (as noted below, technical essentiality is neither sufficient nor necessary to the commercially essentiality that matters or to making a RAND commitment), breach of the RAND commitment can also convert ex ante competition into an ex post monopoly (or otherwise generate an unwarranted degree of market power) and thus raise antitrust issues as well.

However, these concerns are in no way limited to RAND commitments made within the standard-setting process. The general effect applies whenever a RAND commitment reasonably induces lock-in that allows a breaching patent holder to charge more than the ex ante value of its patent, and the antitrust concern arises when this lock-in makes the patent sufficiently essential commercially to convert ex ante competition among patents into an ex post monopoly, or to otherwise give the patent holder greater market power than it otherwise could have enjoyed. Patent-holders sometimes make RAND commitments outside the formal standard-setting process to encourage other firms to adopt their technology. The goal may even be to make their patents part of the de facto market standard. Such de facto market standards can create lock-in effects just as severe as formal standards, thus equally justifying any special rules.

Nor do the requisite lock-in effects necessarily have any linkage to whether a patent is adopted into a standard, regardless of whether that standard is formal or de facto. A patent holder might, for example, give a RAND commitment to maximize the number of firms in a market that incorporate its patent into a diverse set of product designs. Even though there is no common standard

commitments to charge no (or below market) royalties can raise similar lock-in issues as RAND commitments.


9 Id.; U.S. DEP’T OF JUSTICE & FED. TRADE COMM’N, supra note 1, at 34 & n.8 (“standards also may be set in the marketplace where firms vigorously compete in a winner-take-all standards war to establish their own technology as the de facto standard. . . . To win a standards war, a firm may have to . . . limit its assertion of market power in order to establish an installed base of users.”).
in these cases, these firms can be equally locked-in if it is costly to now change the product designs that incorporated the patent. And if changing their product design is commercially unfeasible, breaching that RAND commitment can convert ex ante competition into ex post monopoly, just as it can for standards. On the flip side, even if a RAND commitment is made on a patent essential to a formally adopted standard, that may not create a sufficient lock-in effect if it is easy to change the standard or if adherence to the standard provides little commercial value over alternatives.

Thus, assuming RAND commitments should trigger special legal rules, the law should focus neither on whether RAND commitments are made in the standard-setting context nor on whether the commitments are on patents essential to such a standard. Instead, the legal focus should be on whether RAND commitments reasonably induced lock-in that creates holdup problems and (for antitrust suits) whether that lock-in effect made the patent sufficiently essential commercially that a firm breaching that commitment would have market power it otherwise would not have obtained on the merits. Although including a patented technology in a formal standard often reflects such lock-in effects, it is neither necessary nor sufficient to do so, and thus the focus should be on the RAND-induced lock-in effects themselves, not on whether the RAND commitment was made in the standard-setting process.

Further, the arguments for rejecting or limiting special rules regarding RAND commitments also apply both inside and outside the standard-setting process. The threat of patent holdup may not always lead to excessive royalties, depending on the degree of lock-in and other market conditions. Denying injunctive relief might lead to a reverse holdup problem where infringers refuse to voluntarily pay a FRAND royalty because they know that the worst that can result from litigation is being ordered to pay FRAND royalties and that they might be able to bargain for a lower royalty than that. Antitrust remedies like treble damages might be deemed unnecessary or excessive given the availability of contract or promissory estoppel remedies. One might or might not find

10 See U.S. DEP’T OF JUSTICE & FED. TRADE COMM’N, supra note 1, at 35 n.11 (noting that the hold-up problem created when standard-specific investments lock in firms is just a special case of the broader set of hold-up problems created when relationship-specific investments lock in firms); Farrell, Hayes, Shapiro & Sullivan, supra note 1, at 612–15.
11 U.S. DEP’T OF JUSTICE & FED. TRADE COMM’N, supra note 1, at 36 n.15.
13 See USTR Letter, supra note 1, at 2; U.S. DEP’T OF JUSTICE & U.S. PATENT & TRADEMARK OFFICE, supra note 1, at 7; Joshua D. Wright, Commissioner, Fed. Trade Comm’n, SSOs, FRAND, and Antitrust: Lessons from the Economics of Incomplete Contracts 29 (Sept. 12, 2013), available at ftc.gov/speeches/wright/130912cip.pdf; see also Elhauge, supra note 12, at 557–59 (explaining that even symmetric errors in assessing patent damages can have an asymmetric effect because bargaining will be capped by the true economic value of the patent and because errors might vary for different industries).
14 Swanson & Baumol, supra note 2, at 58; Wright, supra note 13, at 31–33.
these sorts of arguments persuasive, but to whatever extent one does find them persuasive, they counsel for limiting special rules regarding RAND commitments both inside and outside the formal standard-setting process.

This article proceeds in four main stages. Part I shows why the basic economic concerns about patent opportunism in standard setting flow from lock-in effects induced by RAND commitments, rather than from whether the commitment was made to a standard-setting group or involves a patent essential to its standard. In doing so, Part I also rebuts the arguments that have been made for treating RAND commitments categorically differently depending on whether or not they were made to a standard-setting organization. Part II then establishes that the relevant law does not turn on whether RAND commitments are made to a standard-setting organization. Part III explains why other dimensions of RAND-related controversies also do not turn on whether the commitment is made to a standard-setting group. Part IV points out that treating RAND commitments more leniently if they are made outside the standard-setting process will create an unlevel playing field that favors standards set in standard-setting organizations over de facto standards, thus perversely favoring standards reached through horizontal agreement over standards reached through market competition.

Thus, to the extent that RAND commitments are deemed worthy of special legal rules, the legal standards should focus not on whether the commitment was made to a standard-setting organization and involves a patent essential to its standard, but rather on whether the commitment reasonably induced lock-in effects that generated holdup and unwarranted market power. The same legal standards should apply neutrally to all RAND commitments that have such effects.15

II. THE CONCERNS ABOUT OPPORTUNISTIC PATENT HOLD-UP APPLY REGARDLESS OF THE INSTITUTIONAL CONTEXT

Breaking a RAND commitment can raise the same concerns about hold-up and anticompetitive effects whether or not the commitment was made to a standard-setting organization. Take, for example, a communications protocol.

15 Some prior work has suggested a similar conclusion. John Harkrider argues that antitrust standards should treat RAND-encumbered patents the same whether or not they involve standard-essential patents as long as there is a lock-in effect. See John D. Harkrider, REPs Not SEPs: A Reasonable and Non-Discriminatory Approach to Licensing Commitments, CPI ANTITRUST CHRON. 9 (Oct. 2013). Nadia Soboleva and Lawrence Wu argue that any limits on injunctive relief for RAND-encumbered patents should perhaps apply equally within and outside the standard-setting process. Soboleva & Wu, supra note 8, at 7–9. This article builds on those articles to add more support for those conclusions, to offer a more general theory encompassing both antitrust and remedial issues, and to stress that the antitrust concerns require not only a lock-in effect, but also evidence that the lock-in makes the patent sufficiently essential commercially that a firm breaching the commitment has market power it otherwise would not have had.
A “host” and a “terminal” need to be able to use the same protocol to talk with each other. A manufacturer of “hosts” has a strong interest in having manufacturers of “terminals” adopt its protocol to create interoperability and increase the utility of the host manufacturer’s product. If the host manufacturer develops a proprietary standard for this protocol (covered by patent rights), it could induce manufacturers to adopt its proprietary standard by committing to license its patents on RAND terms.

Absent such a RAND commitment, the terminal manufacturers might be unwilling to adopt the host manufacturer’s protocol, even if it is better than any competing protocol, because they fear that once they incur the costs of designing their terminals to use that protocol, the host manufacturer will hold them up by charging much higher royalties, which they will have to pay because they will then be locked in by their technological choice. To avoid being subject to that holdup, they might instead use their own protocols or the protocols of rival hosts that are willing to commit to RAND or lower pricing, even if those other protocol options are worse. Their adoption of other protocols might prevent the emergence of any common standard, reducing interoperability, or perhaps result in them settling on a common protocol that is technologically inferior.

In this circumstance, the host manufacturer’s RAND commitment induces reliance that locks the terminal manufacturers into the host’s standard. If the host manufacturer abides by its RAND commitment, this arrangement is pro-competitive. Although the host manufacturer will end up with a nominal monopoly over the protocol standard, the price for licensing that protocol will be set by the RAND price that courts determine is appropriate given ex ante competition between protocols (or the negotiated price set based on expectations of what courts will determine), resulting in a price that reflects the value of that protocol before any lock-in occurred. Terminal manufacturers will have incentives to choose the best standard at that price, and through that competitive process may converge on a common standard that also provides the pro-competitive benefit of widespread interoperability.

If, however, the host manufacturer reneges on its RAND commitment, it could exploit industry lock-in by engaging in widespread holdup. The host manufacturer could raise its royalty demand for all terminal licensees to reflect not only the pre-lock-in value of its protocol, but also the costs of switching to an alternative protocol, which include not only any redesign costs but also the costs of deviating from a standard that now has widespread interoperability. If these lock-in costs make the protocol commercially essential, then the host manufacturer will, through improper conduct, have gained a power to inflict monopoly pricing that it did not earn by making a better product. Moreover, if the law does not deter such breaches of RAND commitments, then terminal manufacturers would have been unwilling to rely on the commitment in the first place, thus depriving the market of all the pro-competitive benefits of converging on the best standard at prices set during a competitive pre-standard process.
Nothing in this hypothetical requires the existence of a standard-setting organization. This is made clear by simply reimagining the hypothetical with a single difference: the RAND commitment on the protocol is instead made to a standard-setting organization in order to induce it to adopt the protocol in its standard. By making this commitment to a standard-setting organization, the host manufacturer is still able to induce reliance that increases the value of its protocol, and is still able to lock terminal manufacturers into its protocol standard. The danger of hold-up by the patent holder also remains the same, as does the risk that this lock-in may be sufficiently severe to convert ex ante competition into ex post monopoly.

The above logic also applies whether or not the host protocol is ultimately incorporated into a common standard. The host manufacturer still benefits from making a RAND commitment that induces as many terminal manufacturers as possible to incorporate its protocol into their technologies, even if those technologies do not reflect a common standard. Once the terminal manufacturers have relied on that commitment to incorporate the patent into their varying technologies, the patent holder still has incentives to hold up terminal manufacturers by increasing royalties to rates that reflect not only the pre-adoption value of its patent but the lock-in costs of changing from it. And if those lock-in costs are high enough, then switching will be commercially unfeasible and the patent holder will have improperly converted a situation of ex ante competition into an undeserved ex post monopoly.

Thus, in each scenario, the rationale for making the RAND commitment is the same, the possible motives for breaking that commitment are the same, and breach of the commitment can cause the same inefficiencies and anticompetitive effects. Whether it does so turns on whether a RAND commitment induces lock-in that gives a firm breaching that commitment a level of market power that it otherwise would not have had. To be sure, as an empirical matter, it may be that those conditions will be met more often in the standard-setting context. One might, for example, think it is more likely that clear RAND commitments will be made during a formal standard-setting process because standard-setting organizations are more likely to demand RAND commitments as a condition of participation.16 Or one might think that when a group agrees on a common standard for their technologies, lock-in is more likely and the existence of a common standard is more likely to make that lock-in commercially essential in a way that gives a firm breaching that commitment unwarranted monopoly power. But those are just overall empirical tendencies that do not alter the need to focus on the underlying conditions in each case. RAND commitments can be made outside standard-setting

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16 Of the 43 standard-setting organizations that Professor Lemley examined in his 2002 study, 29 required RAND commitments and 6 required royalty-free licenses. Lemley, supra note 2, at 1904, 1906.
organizations, and are often absent inside them. Lock-in that makes the patent commercially essential can, as noted above, result from adoption of a de facto standard and indeed without any common standard at all. Nor does inclusion in a standard formally adopted by a standard-setting organization necessarily result in lock-in that makes the patent commercially essential in a way that gives a firm breaching a RAND commitment market power it otherwise could not have obtained.

Indeed, focusing on the underlying conditions cuts through two confusions created by the alternative approach of stressing whether a “standard-essential patent” is at issue: the formalism confusion and the end-result confusion. The formalism confusion is the tendency to focus on whether the standard-setting organization defines the patent to be essential to the standard. One problem with the formalist approach is that standard-setting organizations often define patents to be “essential” to a standard even when the patents are entirely optional. Another problem is that even if the organization defines the standard to make the patented technology non-optional, the technology might be sufficiently unimportant that the organization could easily change the standard to exclude the patent if there were any breach of a RAND commitment. Thus, regardless of whether an organization defines a patent to be essential, there is no lock-in for patents that are optional or unimportant to the relevant standard, unless firms would have to incur significant product redesign costs to avoid practicing those patents. Moreover, even if there is lock-in, the standard itself may not provide any significant commercial value over alternatives, in which case the patent holder cannot obtain unwarranted market power by breaching the RAND commitment.

The end-result confusion results from the alternative of focusing on whether the patent is essential to a standard and commercial success, rather than on whether the RAND commitment induced lock-in that made the patent essential — by which I simply mean gave the patent more market power than it

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17 Soboleva & Wu, supra note 8, at 4.
19 Scott-Morton, supra note 2, at 9 n.11 (noting that the IEEE defines an “essential patent” to include patents necessary to implement either “mandatory or optional” portions of the standard).
20 U.S. DEP’T OF JUSTICE & FED. TRADE COMM’N, supra note 1, at 36 n.15.
otherwise would have had. Suppose, for example, an innovator created a protocol that is so valuable that any standard-setting organization and its members would find it essential to whatever standard they wanted to adopt, regardless of whether a RAND commitment were made. In this case, there is no period of ex ante competition, and the standard-setting organization would adopt the protocol even if the innovator refuses to make a RAND commitment. The innovator controls a standard-essential patent, but it has no obligation to offer it on RAND terms, and if it does so and later reneges, it has not converted ex ante competition into ex post monopoly or increased the degree of monopoly power it enjoys, and thus has not committed an antitrust violation.\footnote{Monopolization requires not just monopoly power and anticompetitive conduct, but some causal connection between that anticompetitive conduct and the degree of monopoly power that was obtained or maintained. See Verizon Communications v. Law Offices of Curtis V. Trinko, 540 U.S. 398, 415 n.4 (2004); Einer Elhauge, U.S. Antitrust Law & Economics 310–12 (2d. Ed. Foundation Press 2011); Einer Elhauge, Defining Better Monopolization Standards, 56 Stan. L. Rev. 253, 331–34 (2003).}

The issue would be different if, despite the lack of competitive ex ante alternatives, the organization or its members would, absent a RAND commitment, have refrained from incorporating the technology or making the product at all. In that alternative case, making the RAND commitment could cause firms using the standard to incur significant sunk costs of design, which would increase the degree of monopoly power because an innovator who reneges on a RAND commitment could raise royalties to reflect the costs of redesign.\footnote{See Farrell, Hayes, Shapiro & Sullivan, supra note 1, at 615.}

But that is simply because there the RAND commitment did induce lock-in, which remains the requisite ingredient. If there are no significant sunk costs of design, then the RAND commitment would not induce any lock-in, and the power of the patent holder to charge a monopoly price would not involve any holdup power, but rather would reflect its proper patent reward for making an innovation so much more valuable than other market options that it enjoys monopoly power.

When she was the Antitrust Division’s head of economics, Professor Fiona Scott-Morton offered various arguments for treating RAND commitments on standard-essential patents differently than those on other commercially essential patents. But none of her arguments are, I think, ultimately convincing.

First, Scott-Morton stressed that, unlike other patents, standard-essential patents obtain market power as a result of horizontal agreements at standard-setting organizations.\footnote{Scott-Morton, supra note 2, at 5 (“One question that I have been asked is, ‘What’s so special about standard essential patents versus other patents?’ Standard essential patents achieve their status through the collective action at the SSOs. . . . [T]he holdup power of the non-SEP owner does not stem from a collective decision by competitors. Rather, it springs only from a single innovation deployed unilaterally by its owner. This is the difference that causes F/RAND encumbered SEPs to be of concern to competition authorities including the Department of Justice.”).}

But she does not explain why this should make RAND
commitments to such organizations subject to special enforcement over other RAND commitments. It is the RAND commitment that induces reliance that creates lock-in effects, whether those relying are horizontally organized or not. Moreover, the holdup problem and anticompetitive effect are created not by any horizontal agreement, but rather by the breach of the RAND commitment, which is a unilateral act. To the extent the horizontal status of the organization bears on the enforceability of this commitment, it tends to cut the other way because it means that a RAND commitment required by the standard-setting organization involves a form of horizontal price-fixing.\(^\text{24}\) If (as is usually supposed) that commitment is reasonably necessary to the procompetitive purposes of the standard-setting process, then it is valid and enforceable, but that is also true for a RAND commitment that is not the product of horizontal agreement. If the RAND commitment does not satisfy that test, then it is invalid and unenforceable. Thus, the horizontal status is either irrelevant or provides a reason to make RAND commitments less enforceable when insisted on by standard-setting organizations, not more so.

Second, Scott-Morton claims that, “all truly essential patents for a successful standard inherently have market power.”\(^\text{25}\) However, as noted above, a standard-essential patent might not actually confer market power depending on how the organization defines essentiality, on whether it can change the standard, and on how commercially essential that standard is. To be sure, we could define “truly essential” and a “successful standard” to mean situations where the standard cannot feasibly be changed and the standard is commercially essential — i.e., there is no reasonably interchangeable substitute for it — but then we are relying on those functional criteria rather than on whether it is a standard-essential patent. Moreover, the holdup issue does not arise simply because a patent is truly essential for a successful standard: it would not be present if the patent were disclosed, no RAND commitment was made, but the patent was so valuable that it would have been truly essential to any reasonable choice of a successful standard. The holdup problem arises only when the patent holder breaches a commitment that induced lock-in that made its patent commercially essential when it otherwise would not have been.

Third, Scott-Morton argues that any holdup problem for non-standard essential patents simply results from patent law. She reasons:

Note that non-SEPs can also be used to hold up licensees. If the licensee has already invested in a product and faces costs to designing around the patent, the licensor can extract

\(^{24}\) The royalty level is generally left to future bilateral negotiations rather than set by the RAND commitment, but a RAND commitment reached with a standard setting organization does amount to a horizontal agreement that royalties not be discriminatory or unreasonable and thus is a horizontal agreement on price.

\(^{25}\) Scott-Morton, supra note 2, at 5.
some of the licensee’s investment, not just the value of his IP. But this is an issue that arises out of the power that a patent gets when it is issued, which may or may not be market power in a competition law sense.  

But this reasoning does not hold when the owner of a non-standard essential patent makes a RAND commitment that induces the licensee investments that create lock-in. In those cases, the holdup power does not arise simply from “the power the patent gets when it is issued.” It arises because the RAND commitment induces reliance that creates lock-in effects that allow a firm breaching the commitment to exercise more market power than it had from the issuance of the patent.

Fourth, Scott-Morton raises the concern that non-standard essential patents require the difficult task of determining whether a patent is “commercially essential.” However, as noted above, this is not a task avoided for standard-essential patents under proper analysis. She suggests that perhaps we can simply rely on whatever rules the standard-setting organization adopts for defining essentiality, but as she herself notes some organizations have defined essentiality to include optional features. If that is so, or if the standard can easily be modified, there may be no lock-in effect. And if the standard is not commercially essential, there may be no anticompetitive conversion of ex ante competition to ex post monopoly or unwarranted market power, as the Department of Justice and FTC concluded in a prior report. Proper antitrust analysis of breaches of RAND commitments will thus require inquiries into commercial essentiality whether those commitments are made to standard-setting organizations or not.

III. THE RELEVANT LAW DOES NOT TURN ON THE INSTITUTIONAL CONTEXT

The law that bears on how to penalize breaches of RAND commitments does not turn on whether the RAND commitments are made to a standard-setting organization or not. I consider in turn contract law on the enforceability of RAND commitments, remedial law that may limit injunctions or exclusion orders to enforce patents when a RAND commitment has been breached, and antitrust law on when improper conduct converts ex ante competition into ex post monopoly or otherwise gives a firm a degree of market power it did not merit.

26 Scott-Morton, supra note 2, at 5–6.
27 Scott-Morton, supra note 2, at 9 (“I have heard arguments that the Division should be as concerned with commercially essential patents as it is with F/RAND-encumbered standard essential patents. . . . [I]t is not clear to me what it means to be commercially essential; nor does there appear to be industry consensus on a definition.”).
28 Scott-Morton, supra note 2, at 9 & n.11.
29 U.S. DEP’T OF JUSTICE & FED. TRADE COMM’N, supra note 1, at 36 n.15.
A. Contract Law Does Not Turn on the Institutional Context

The relevant law that bears on the contractual enforceability of RAND commitments does not depend on whether those RAND commitments are made to a standard-setting organization or to less organized market actors. A RAND commitment is a promise that can be enforced (1) as an ordinary contract when the return consideration is provided, (2) by intended beneficiaries even when they are not parties to such a contract, or (3) under promissory estoppel when the commitment induces reasonably-expected reliance and must be enforced to avoid injustice.30 Of course, it may be true empirically that in the standard-setting context patent holders are more likely to make promissory RAND commitments, more likely to receive return consideration, more likely to intend others to be beneficiaries, and/or more likely to induce reasonably-expected reliance that makes it unjust not to enforce the commitment. But that does not alter the reality that in each case contractual enforcement depends on those elements actually being satisfied, which may not always be true when patents are essential to a standard set by a standard-setting organization. Nor does it alter the fact that outside the standard-setting context patent holders sometimes do make RAND commitments, sometimes receive return consideration and intend others to benefit, and sometimes induce reasonably-expected reliance that makes it unjust not to enforce the commitment, which makes the commitments enforceable even though no standard-setting organization is involved.

In the situation of interest, where a patent holder makes a RAND commitment outside the standard-setting context in order to induce others to use its patent (whether in a de facto standard or in diverse technologies), it seems particularly likely that the elements of promissory estoppel will be satisfied. (1) The RAND commitment constitutes a promise. (2) It is hard to see why one would make a RAND commitment unless one wanted to induce others to use the patent, which indicates a clear reasonable expectation of reliance. (3) The fact that others relied in a way that locks them in makes it clearly unjust not to enforce the commitment.

B. Remedial Law Does Not Turn on Institutional Context

Remedial law also does not turn on institutional context. Courts that have denied injunctive relief on patents subject to RAND commitments have articulated standards that do not turn on whether the commitments were made to a standard-setting organization. Courts have stressed that the RAND commitment itself indicates that money must be an adequate remedy, thus flunking the ordinary legal requirement that injunctive relief cannot be awarded when there is an adequate remedy “at law” (that is, through an award of damages).31

30 Restatement (Second) of Contracts §§ 17, 90, 302.
This factor clearly applies equally to RAND commitments that were not made to standard-setting organizations and indeed applies without any standard at all. Courts have also relied on the point that the RAND commitment induced lock-in that created a holdup problem to conclude that injunctive relief or an exclusion order would be inequitable. This point applies equally to RAND commitments that are not made to standard-setting organizations but induce lock-in that creates a hold-up problem.

C. Antitrust Law Does Not Turn on the Institutional Context

Likewise, antitrust law does not turn on institutional context. Because the breach of a RAND commitment is a unilateral act, the relevant U.S. antitrust law is usually Sherman Act § 2, which makes it illegal for a firm to obtain or maintain monopoly power through conduct, other than competition on the merits, that excludes rivals. A firm that persuades others to use its patent by offering a RAND commitment does not really obtain monopoly power as long as it honors that commitment because RAND prices are set according to the price it could have obtained during the period of ex ante competition; a firm that honors a RAND commitment thus does not gain the power to price above competitive levels that is the hallmark of monopoly power. Further, any non-pricing monopoly it did obtain would have been achieved through competition on the merits because it succeeded by making an offer during a competitive period that was accepted by other firms. In contrast, a firm that persuades others to use its patent by offering a RAND commitment and then breaches that commitment can obtain monopoly power to price above competitive levels in a relevant technology market (or to exclude rivals in a downstream product market) if the commitment induces other firms to lock themselves in to using the patent in a way that made the patent sufficiently essential commercially to give a firm breaching that commitment monopoly power that it otherwise would not have enjoyed. Such monopoly power is not obtained through competition on the merits because it is obtained by breaching a commitment that had persuaded firms to give up their competitive options.

32 Id. at 914.
34 The focus of this article is on the acquisition of market power in technology markets to obtain supracompetitive royalties, but a firm can also exploit the lock-in effect of a RAND commitment by holding up rivals in downstream products markets.
35 Similar logic applies under EC competition law Article 102 TFEU, which makes it illegal for a firm with a dominant position to hinder its competition through conduct that does not reflect normal competition. Case 85/76, Hoffmann-La Roche & Co. AG v. Comm’n, 1979 E.C.R. 461, [1979] 3 C.M.L.R. 211, ¶ 91. A firm that honors a RAND commitment is constrained to charge the price it could have obtained during the period of ex ante competition, and thus generally does not exercise dominant market power. And any hindrance of competition would simply reflect the normal competition of offering a better deal than patent rivals offered during that period of ex ante competition.
The antitrust elements for showing monopolization do not turn on whether the commitment was made to a standard-setting organization or not. They depend on whether breaching the RAND commitment gives a firm monopoly power, which turns on the commercial feasibility of other potential options, and on whether the firm obtained that monopoly power through conduct that was not competition on the merits, which turns on whether the power was obtained by inducing lock-in with a commitment that was not honored. Those elements can be met by RAND commitments outside the standard-setting context, and might not be met by RAND commitments that are made to standard-setting organizations.

Unilateral breaches of RAND commitments could also be actionable under FTC Act § 5. That act bans “unfair methods of competition,” which requires conduct that “causes or is likely to cause substantial injury to consumers which is not reasonably avoidable by consumers themselves and not outweighed by countervailing benefits to consumers or to competition.” Honoring a RAND commitment creates no such anticompetitive injury, but breaching it can when the RAND commitment induces lock-in that gives a firm breaching that commitment a level of market power it would not otherwise enjoy. Thus, as applied to RAND breaches, the FTC Act does not change the essential structure of the inquiry, but simply lowers the monopoly power requirement to a market power requirement. This lowered power requirement is consistent with the fact that the FTC Act creates lower overdeterrence concerns because it is enforceable only by a financially-disinterested, politically accountable FTC that is limited to seeking prospective remedies. In contrast, the Sherman Act is enforceable by financially-interested, politically-unaccountable private parties who can seek treble damages. Accordingly, the Sherman Act raises more severe overdeterrence problems, which are addressed by using a monopoly-power screen that limits antitrust inquiry to cases involving high levels of market power that raise the greatest anticompetitive concerns.

37 This is not to say that the FTC Act always requires proof of market power in cases involving unilateral conduct. For example, unilateral practices that facilitate oligopolistic coordination could be actionable under the FTC Act even though no single firm has market power. ELHAUGE, supra note 21, at 563. Direct proof of anticompetitive effects could also obviate the need to prove market power under the principle of FTC v. Indiana Federation of Dentists, 476 U.S. 447, 460–61 (1986), and a reverse payment in a patent settlement that exceeds future expected patent-holder litigation costs could also obviate the need to prove market power, FTC v. Actavis, 133 S.Ct. 2223, 2236–37 (2013); Einer Elhauge & Alex Krueger, Solving the Patent Settlement Puzzle, 91 TEX. L. REV. 283, 310–11 (2012). But where the claim is based on breach of a RAND commitment, it is hard to see how any anticompetitive injury could result unless that commitment induced some lock-in that gave a firm breaching that commitment market power that was elevated above but-for levels, although direct proof of anticompetitive effects may of course establish such market power directly.
38 ELHAUGE, supra note 37, at 11.
Consistent with this analysis, cases and agency decisions on patent holder
conduct that takes advantage of induced lock-in effects to generate unwarrant-
ed market power do not turn on whether that conduct occurred in the context
of a private standard-setting organization. That sort of context has been neither
necessary nor sufficient for cases to find antitrust law violations. Instead, those
violations turn on whether the defendant improperly took advantage of induced
lock-in effects in a way that gave the defendant a degree of market power it
would not have enjoyed through competition on the merits.

The FTC’s *Unocal* case is illustrative. In that case, the FTC alleged the fol-
lowing. When the California Air Resources Board (CARB) was setting stan-
dards for reformulated gasoline, Unocal represented to CARB that certain
research results relating to a proposed standard were in the public domain and
non-proprietary.\(^39\) However, Unocal failed to disclose that it had pending patent
claims in these results, and that it intended to assert those proprietary inter-
ests.\(^40\) Unocal actively concealed these interests and so CARB adopted the
proposed standard “in reasonable reliance on Unocal’s representation that the
information was no longer proprietary.”\(^41\) Once the standards were adopted,
and refineries had invested billions of dollars to comply with the standards,
Unocal announced its rights and began to enforce the patents.\(^42\) Because CARB
would have chosen different standards but-for Unocal’s deception, the FTC
challenged this conduct as monopolization, attempted monopolization, and
unfair competition in the technology market for CARB-compliant gasoline.\(^43\)
Thus, participation in a standard-setting organization was not necessary for anti-
trust concerns to arise from conduct that improperly took advantage of induced
lock-in effects that gave Unocal market power it otherwise would not have had.

Similarly, in *United States v. Microsoft*, the D.C. Circuit Court of Appeals
upheld a liability determination against Microsoft based on unilateral decep-
tion that created lock-in effects that excluded rival competition.\(^44\) Microsoft
had created a set of software development tools for Java applications, and
applications made with those tools would run only on Windows, not Sun’s
Java platform.\(^45\) Although this incompatibility was not itself an antitrust viola-
tion, “Microsoft deceived Java developers regarding the Windows-specific

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\(^{39}\) *In re Union Oil Company of California*, Complaint ¶¶ 2–8 (Mar. 4, 2003), available at

\(^{40}\) Id. ¶¶ 2–8.

\(^{41}\) Id. ¶ 43.

\(^{42}\) Id. ¶ 6.

\(^{43}\) Id. ¶ 1. Despite an initial dismissal, the Commission reinstated the complaint in 2004, and
settled the matter in 2005 by a consent order in which Unocal agreed not to enforce the patents
in question, releasing them into the public domain. Press Release, FTC, Dual Consent Orders
Resolve Competitive Concerns About Chevron’s $18 Billion Purchase of Unocal, FTC’s
chevronunocal.shtm.

\(^{44}\) *United States v. Microsoft Corp.*, 253 F.3d 34, 76–77 (D.C. Cir. 2001).

\(^{45}\) Id. at 76.
nature of the tools.” By inducing developers to invest substantial sunk costs in reliance on Microsoft’s “public commitments” that applications made with Microsoft’s Java tools would run cross-platform—which was not the case—Microsoft was seeking to “thwart Java’s threat to Microsoft’s monopoly in the market for operating systems.” The case required no evidence that Microsoft made this commitment to anything resembling a standard-setting organization or even to a government body. Nor did the case require any evidence that Microsoft’s conduct induced the creation of a common technological standard. Instead, the key was simply that firms relied on Microsoft’s public commitment to develop applications that they thought would be cross-platform but that actually excluded rival competition, which achieved a level of exclusion that was not attributable to competition on the merits.

Even within the standard-setting context, antitrust liability turns on whether patent commitments induce lock-in effects that create market power, not on whether the patent is technically essential to comply with the standard. In the FTC’s N-Data case, a patent holder committed to a standard-setting organization that it would license its patent on a non-discriminatory basis for a one-time royalty fee of $1,000. Based on this commitment, the organization adopted the patent into an Ethernet standard. However, the organization made the technology covered by the patent an optional method of complying with the standard. Nonetheless, because of the patent commitment and inclusion in the standard, firms made “irreversible investments” that adopted the technology in their product designs, and became locked in to using it because “network effects and high switching costs” meant there were not “practical alternatives.” The FTC concluded that this made it a violation of the FTC Act to breach that patent commitment and demand a higher fee. The critical factors cited by the FTC were that the commitment induced

46 Id.
47 Id.
48 Id. at 77.
50 Id.
51 In re Negotiated Data Solutions L.L.C., File No. 0510094, Dissenting Statement of Chairman Majoras 2 (January 23, 2008), available at http://www.ftc.gov/os/caselist/0510094/. Although Dell was in favor of the FTC action, it too admitted that the patent was technically optional under the standard. In re Negotiated Data Solutions L.L.C., File No. 0510094, Public Comments of Dell Inc. on Proposed N-Data Consent Order, 6 (Apr. 7, 2008), available at http://ftc.gov/os/comments/negotiateddatasol/534241-00008.pdf [hereinafter N-data Dell Comments].
52 N-data FTC Analysis, supra note 49, at 2, 5, 7; see also N-data Dell Comments, supra note 51, at 6 (although optional under the standard, reliance made the technology a “commercial necessity”).
lock-in effects that meant breaching that commitment created market power that the patent would not otherwise have enjoyed. 54 But those factors do not

54 Id. at 5–9. Because the N-Data case involved no deceit when the RAND commitment was made, it supports the position that deceit is not a necessary element, at least not under FTC Act § 5. Whether deceit should be a necessary element under Sherman Act § 2 is a disputed issue. See Renata Hesse, Deputy Assistant Attorney General, Antitrust Division, IP, Antitrust and Looking Back on the Last Four Years 21 (Feb. 8, 2013), available at http://www.justice.gov/atr/public/speeches/292573.pdf. The position that it should not be seems to have the better of the argument because deceit has no necessary connection to monopolization. Imagine, for example, a firm deceptively makes a RAND commitment it intended to breach, but then management changes and it decides not to breach the RAND commitment. In that case, then as long as it honors its RAND commitment, the firm never has any monopoly power because its contract pricing is determined by RAND commitments it made during a stage of ex ante competition. To be sure, one could abstractly say the firm deceptively acquired a monopoly power and just never exercised it. But saying that a firm possesses monopoly power that is based on the possibility that it might breach its contractual commitments seems odd, and also problematic because it could lead to speculative monopoly power claims based on other hypothesized breaches of legal obligations. Defining monopoly power without considering the limits imposed by the contractual commitment also seems at odds with United States v. General Dynamics, 415 U.S. 486 (1974), which held that a court should exclude production that has already been committed by contract when assessing whether a merger gave a firm market power.

Consider next a case where a firm makes a RAND commitment it intends to honor that leads to lock-in effects, but then management changes and the new management decides to breach the RAND commitment and charge monopoly prices it could not have charged without the breach. In this case, the firm has obtained monopoly power over prices in a way that does not reflect competition on the merits, but rather was generated by the improper breach of the RAND commitment that induced the lock-in effects, regardless of whether the firm intended to breach at the time it made the commitment. See Aspen Skiing Co. v. Aspen Highlands Skiing Corp., 472 U.S. 585, 595–96, 602, 605 & n.32 (1985) (concluding that monopolization was shown by “the willful acquisition or maintenance of [monopoly] power by anticompetitive or exclusionary means,” which the Court indicated was “conduct that ‘(1) tends to impair the opportunities of rivals, but also (2) either does not further competition on the merits or does so in an unnecessarily restrictive way.’”)) A contrary argument might be that the making of the RAND commitment, not the breach, was what excluded rivals and that the commitment itself was not improper because it was made honestly. But as long as the RAND commitment is honored, pricing is determined by the prior competition when rivals were not excluded. After all, in a competitive market with long-term contracts, prices on those long-term contracts are considered to reflect competitive pricing, not monopoly pricing that is based on excluding rivals. The breach of the RAND commitment is what allows the firm to set prices in a way that improperly excludes rivals from a fair opportunity to compete because of lock-in effects that were created by the expectation that the RAND commitment would instead be honored.

Also, making liability turn on whether deception can be found invites speculative inquiry into a firm’s state of mind at the time of making RAND commitments. It is often unclear what it even means for a corporation to have a state of mind, and one might think a corporation intends whatever will maximize its profits. Indeed, making deception an element of this offense would seem to perversely favor firms that are good at deceiving others as to their state of mind or at making decisions without leaving much trace of it.

There remains the argument that monopolization should not be recognized because contract remedies are sufficient when a RAND commitment induces lock-in that generates monopoly power when that commitment is breached. But whether that argument is persuasive or unpersuasive does not turn on whether the RAND commitment was made deceptively or is essential to a standard set by a standard-setting organization.
turn on technical necessity under the standard and can also be satisfied outside the standard-setting context.

To be sure, in N-data, the FTC did stress that it was important to its analysis that the commitment was made to a standard-setting organization, but the reasons it cited for why this context was important were that: (1) the commitment was made industry-wide to multiple firms, (2) the commitment led to widespread use of the technology that created lock-in effects, and (3) breach undermined reliance on commitments by standard-setting groups. All those factors can also be met when a commitment is publicly made outside a standard-setting organization to multiple firms and results in widespread use and lock-in effects because breach will undermine incentives of firms to rely on those commitments when making investments. Indeed, the FTC cited these factors simply to indicate that it thought it was “unlikely” that any “mere departure” from a licensing commitment would violate the FTC Act, not for any conclusion that breaches of commitments with similar effects would not receive equal treatment if they were not made to standard-setting organizations. Moreover, the FTC also stressed that merely breaching patent commitments that were made to standard-setting organizations would not violate the FTC Act if the commitment did not lead to adoption into a standard or if those practicing the standard could readily change the technology they used. This again confirms that liability turns on the underlying functional issue of whether the commitment induced lock-in that generated unwarranted market power when that commitment was breached.

Correspondingly, the fact that improper conduct induces a standard-setting organization to make a patented technology technically indispensable to its standard does not itself establish antitrust liability. In Rambus Inc. v. FTC, the D.C. Circuit Court of Appeals set aside the FTC’s determination that Rambus had violated Sherman Act § 2. The FTC had found that Rambus deceived a standard-setting organization into adopting a standard for which Rambus had undisclosed patents that Rambus later asserted against firms that implemented the standard. The standard-compliant technology could not be manufactured without Rambus’ patents. Nonetheless, the D.C. Circuit reversed because it held that the FTC failed to prove the necessary causal

56 Id. at 6.
57 Id. at 9.
58 Rambus Inc. v. FTC, 522 F.3d 456, 459 (D.C. Cir. 2008).
59 Id. at 460–61.
connection to monopoly power. 61 Although the D.C. Circuit’s causation holding was conceptually mistaken for other reasons, 62 the case at least established that improperly inducing a standard-setting organization to adopt a standard that includes a patent that is technically indispensable to the standard is not alone sufficient to generate antitrust liability without some causal link to the requisite level of market power.

IV. OTHER DIMENSIONS OF RAND ISSUES ALSO DO NOT TURN ON INSTITUTIONAL CONTEXT

There are many current areas of controversy in the literature on SSOs, SEPs, and RAND commitments. Here I provide a partial laundry list of some of these issues – many of which have already been touched on above – and briefly explain why there is no basis for treating the supposed problem differently based on the institutional context of the RAND commitment. Regardless of one’s preferred policy on these issues, the chosen policy should apply neutrally both inside and outside the standard-setting context.

(1) **Source of Remedy – Contract Law or Competition Law.** The relevant contract and competition law issues have already been addressed at length above. However, to the extent that there is any dispute about whether the remedy for violating a RAND commitment should be found in contract law, competition law, or both, the reasoning will apply equally regardless of the institutional context. Whether or not the RAND commitment is made to a standard-setting organization, failure to abide by a RAND commitment can lead to breach of contract, and/or to the acquisition or maintenance of monopoly power, and the same remedies should thus be available in each situation.

(2) **Ability of Third Party Beneficiaries to Sue.** This is a contract law matter that applies equally regardless of whether the commitment is made to a standard-setting organization. If an intended beneficiary of a RAND commitment to a standard-setting organization can sue under contract law, then so can intended beneficiaries of RAND commitments that are made outside the standard-setting organization. Whether a RAND commitment constitutes a contractual obligation and whether certain firms are intended beneficiaries is often contested, but the contractual standards do not vary in the two contexts, even though empirically it may be that those standards are likely to be satisfied more often for commitments made to standard-setting organizations.

(3) **Remedial Limitations.** As discussed above, a patent holder that reneges on its RAND commitment, in order to extract extra value from

61 Rambus Inc. v. FTC, 522 F.3d at 463–64.
patent-users who relied on that commitment to create a new technology and are now “locked in” to it, can create holdup problems regardless of institutional context. Thus, any recommendation to limit those holdup problems by limiting remedies like injunctive relief or exclusion orders for patent holders who have made RAND commitments should apply equally inside and outside of standard-setting organizations. There are serious counter-arguments that the degree of lock-in or other market conditions might negate the ability of holdup to produce excessive royalties or that denying injunctive relief or exclusion orders might lead to reverse holdup problems. But those counter-arguments apply equally inside and outside of standard-setting organizations, and should be considered neutrally in both contexts.

(4) What does RAND mean? Finally, disputes over what a “reasonable” royalty is, and what a RAND commitment entails, apply equally to any RAND commitment. For instance, the manner of determining the extent to which competitive alternatives would have constrained pricing by the RAND committer before it induced lock-in are the same inside and outside the standard-setting context.

V. TREATING RAND COMMITMENTS INCONSISTENTLY WOULD CREATE AN UNLEVEL PLAYING FIELD

Standard-setting organizations themselves raise a variety of competitive concerns. They involve horizontal competitors agreeing on a common technology, which creates the risk that they might not choose the most efficient technology or might anticompetitively cooperate on other matters as well. While standard-setting organizations may be necessary and pro-competitive in many instances, there is no reason to systematically favor them over other means of establishing standards. Ex ante competition between different competitors to establish a standard can result in the eventual establishment of a de facto standard without the need for a standard-setting organization. Moreover, because competition between different potential standards leads to adoption of a standard only if firms find it preferable to other standards offered at the time, it could generally

63 See id. at text accompanying notes 13–14 (collecting literature).
64 Farrell, Hayes, Shapiro & Sullivan, supra note 1, at 603 (“Standard setting raises a variety of antitrust issues. Cooperative standard setting often involves horizontal competitors agreeing on certain specifications of the products they plan to market, implicating core antitrust issues regarding the boundary between cooperation and collusion.”); ADAM SMITH, AN INQUIRY INTO THE NATURE AND CAUSES OF THE WEALTH OF NATIONS 116 (Oxford Univ. Press 1976) (“People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices,... But though the law cannot hinder people of the same trade from sometimes assembling together, it ought to do nothing to facilitate such assemblies; much less to render them necessary.”).
be expected to lead to an efficient choice of standards. The main advantage of standard-setting organizations is that they are more likely to result in convergence on some standard, which itself can have procompetitive effects even if it is not the best standard. But that is not an advantage when, by hypothesis, a RAND commitment outside a standard-setting organization could also induce convergence on a standard.

Assuming that whatever rules we have chosen to enforce RAND commitments to standard-setting organizations are optimal, then denying similar enforcement of RAND commitments outside of standard-setting organizations will create an unlevel playing field that unduly favors standard-setting organizations. Suppose, for example, that the optimal enforcement regime involves denying injunctive relief when RAND commitments induce lock-in and applying antitrust remedies when that lock-in gives a firm breaching that commitment monopoly power. Suppose, further, that the law provides this optimal level of enforcement to RAND commitments made to standard-setting organizations, but denies it outside that context. Then, firms will be inefficiently unwilling to rely on RAND commitments made outside of standard-setting organizations, which will make offering RAND commitments less valuable to patent holders outside of standard-setting organizations. At the margin, this unequal legal treatment will disfavor standard setting through the competitive process relative to standard setting through standard-setting organizations, because only the latter will benefit from optimal enforcement of RAND commitments. Likewise, if the RAND enforcement rules chosen for standard-setting organizations are suboptimal, it will create an unlevel playing field to provide even less enforcement outside of standard-setting organizations because that would be even further from the optimum.

If, on the other hand, the RAND enforcement rules chosen for commitments made to standard-setting organizations are excessive, lessening the value of patent rights, then having heightened RAND enforcement in standard-setting organizations

65 Lemley, supra note 2, at 1897 ("[I]n some cases it may be more important that an industry coalesces around a single standard than which particular standard is chosen.").

66 Another problem is that while major SSOs like ETSI and IEEE are obvious, there are hundreds of smaller ones focused on limited issues. For example, does an informal group of five companies that decide to converge on some technology constitute an SSO? Treating RAND commitments differently when made in SSOs would require difficult line-drawing problems about what exactly suffices to constitute an SSO.

67 One might think that stronger enforcement of RAND commitments in standard-setting organizations will always make patent holders less willing to participate in them. See Soboleva & Wu, supra note 8, at 8. But that ignores the fact that RAND commitments are valuable only to the extent that they induce reliance and that other firms will be less willing to rely on a RAND commitment whose enforcement is suboptimal. If the optimal enforcement regime has been chosen, then that will increase the value of patents and make patent holders more willing to make RAND commitments on patents in standard-setting organizations.
organizations will discourage patent owners from making RAND commitments to standard-setting organizations relative to outside of them.\textsuperscript{68} This will also create an unlevel playing field, inefficiently tilting standard-setting away from standard-setting organizations even when they might otherwise have been more attractive. If so, the solution would still be to equalize RAND enforcement, only now by lowering the excessive enforcement used for RAND commitments made to standard-setting organizations down to the same level used outside that context.

However, there is an argument for, if anything, giving greater legal enforcement to RAND commitments outside of standard-setting organizations. The reason is that standard-setting organizations have greater access to non-legal self-help remedies, like excluding a RAND-commitment breacher from future standards. Outside the standard-setting context, in contrast, the patent holder has sole control over a de facto standard and does not need the agreement of users to amend that de facto standard in the future. Thus, there is actually some argument for providing RAND commitments with heightened legal enforcement outside the standard-setting context. At a minimum, the legal enforcement of RAND commitments made outside the standard-setting organization context should not be any lower than the level of enforcement deemed optimal when such commitments are made to standard-setting organizations.

VI. CONCLUSION

The issues raised by commentators regarding RAND commitments made to standard-setting organizations are undoubtedly important and worth careful consideration. However, regardless of the institutional context, such RAND commitments should be treated neutrally under the same legal standards. Those legal standards should focus on the underlying functional factors that determine whether RAND commitments raise special problems that merit special legal rules, factors that can arise inside or outside of standard-setting organizations and yet are often not present in either.

\textsuperscript{68} This may be the implicit assumption in Soboleva & Wu, supra note 8, at 8.