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THE LIMITS OF ANTITRUST AND PATENT HOLDUP: A REPLY TO CARY ET AL.

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In their recent article in this *Journal*, Cary et al.[1] critique our prior article, *Federalism, Substantive Preemption, and Limits on Antitrust: An Application to Patent Holdup*.[2] In that article, we assess the marginal costs and benefits of applying antitrust tools to the so-called patent holdup problem, contend that the costs of applying antitrust rules tools outweigh the benefits, and argue that our analysis is consistent with recent Supreme Court antitrust jurisprudence.

As with much of the patent holdup literature,[3] Cary et al. focus on the question of *how* to apply antitrust analysis to the problem of patent holdup in the

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[1] George S. Cary, Mark W. Nelson, Steven J. Kaiser & Alex R. Sistla, *The Case for Antitrust Law to Police the Patent Holdup Problem in Standard Setting*, 77 ANTITRUST L.J. 913 (2011).

[2] Bruce H. Kobayashi & Joshua D. Wright, *Federalism, Substantive Preemption, and Limits on Antitrust: An Application to Patent Holdup*, 5 J. COMPETITION L. & ECON. 469 (2009).

[3] *See, e.g.*, Michael A. Carrier, *Innovation for the 21st Century: A Response to Seven Critics*, 61 ALA. L. REV. 597 (2010); Thomas F. Cotter, *Patent Holdup, Patent Remedies, and Antitrust Responses*, 34 J. CORP. L. 1151 (2009); Stacey L. Dogan & Mark A. Lemley, *Antitrust Law and Regulatory Gaming*, 87 TEX. L. REV. 685, 686 nn.3 & 5 (2009); Christopher B. Hockett & Rosanna G. Lipscomb, *Best FRANDS Forever: Standard-Setting Antitrust Enforcement in the United States and European Union*, ANTITRUST, Summer 2009, at 19; Richard Schmalensee, *Standard-Setting, Innovation Specialists and Competition Policy*, 57 J. INDUS. ECON. 526 (2009); Adam Speegle, *Antitrust Rulemaking as a Solution to Abuse of the Standard Setting Process*, 110 MICH. L. REV. 847 (2012). Others have analyzed the case for applying antitrust relative to other institutions, such as state or patent laws, to patent holdup behavior without addressing the issues we have previously raised. *See, e.g.*, Richard A. Epstein, F. Scott Kieff & Daniel F. Spulber, *The FTC, IP, and SSOs: Government Hold-Up Replacing Private Coordination*, 8 J. COMPETITION L. & ECON. 1 (2012); Keith Klovers, Note, *Unfit for Prime Time: Why Cable Television Regulations Cannot Perform* Trinko*'s "Antitrust Function,"* 110 MICH. L. REV. 489 (2011); Daryl Lim, *Misconduct in Standard Setting: The Case for Patent Misuse*, 51 IDEA 559 (2011); Jessica A. Rebarber, Credit Suisse v. Billing: *The Limited Impact on Application of Antitrust Laws in Federally Regulated Industries Following the 2008 Financial Crisis and Beyond*, 6 J. BUS. & TECH. L. 417 (2011); Howard A. Shelanski, *The Case for Rebalancing Antitrust Regulation*, 109 MICH. L. REV. 683 (2011).

standard-setting context. However, we believe that the antecedent question of *whether* it makes economic sense to use antitrust rather than alternatives, such as contract and patent law, to police patent holdup is an important consideration that has received too little attention.[4]

Although we find Cary et al.'s arguments unpersuasive, we appreciate the authors' thoughtful criticism. The primary source of our disagreement is their assumption that the costs of antitrust enforcement in the patent holdup context, including error costs and the costs of administering the antitrust laws, are zero. Not surprisingly, basing their analysis on this assumption leads them to erroneously conclude that the net benefits of applying (costless) antitrust enforcement to patent holdup are always positive. This unwarranted assumption also leads their critique astray, causing them to misunderstand our analysis and to make a number of critical errors in analyzing the law and economics of patent holdup. As a result, their critique avoids addressing much of the substance of our analysis. Given that Cary et al. and others demonstrate some confusion concerning our analysis of the marginal benefits of antitrust treatment of patent holdup,[5] we are pleased to have this opportunity for clarification.

Our analysis begins with two uncontroversial premises. The first premise is that patent holdup may generate undesirable consequences from a consumer welfare perspective. The second premise is that rules, including antitrust rules, can and should be set to *optimally* deter undesirable conduct. Legal rules may over- or under-deter undesirable conduct, and efficient legal rules minimize the sum of the social costs incurred by committing either of these errors, as well as administrative costs. Cary et al. clearly agree with the first premise,[6] but give the second premise insufficient consideration, which undermines their analysis.

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[4] Others have reached similar conclusions about the costs of antitrust in the patent holdup setting. *See* Jacob A. Kling, *Securities Regulation in the Shadow of the Antitrust Laws: The Case for a Broad Implied Immunity Doctrine*, 120 YALE L.J. 910 (2011). The most closely related economic analysis comes from Ganglmair, Froeb, and Werden, who demonstrate that ex post antitrust litigation cannot improve upon bargaining outcomes in the SSO context and therefore may act as a "tax" on innovation. *See* Bernhard Ganglmair, Luke M. Froeb & Gregory J. Werden, *Patent Hold Up and Antitrust: How a Well-Intentioned Rule Could Retard Innovation*, 60 J. INDUS. ECON. 249 (2012); *see also* Timothy J. Brennan, *Essential Facilities and* Trinko*: Should Antitrust and Regulation Be Combined?*, 61 FED. COMM. L.J. 133 (2008); Adam Mossoff, *A Simple Conveyance Rule for Complex Innovation*, 44 TULSA L. REV. 707 (2009) (noting similar costs in applying antitrust rules to patent licenses).

[5] *See*, *e.g.*, Dogan & Lemley, *supra*, note 3, at 686 nn.3 & 5 (characterizing Kobayashi & Wright, *supra* note 2, as arguing that antitrust laws should be impliedly repealed by government regulation of a particular industry). R

[6] Cary et al., *supra* note 1, at 915–17; *see also* George S. Cary, Larry C. Work-Dembowski & Paul S. Hayes, *Antitrust Implications of Abuse of Standard-Setting*, 15 GEO. MASON L. REV. 1241 (2008).

Our discussion begins with the claim that when an alternative legal structure competently regulates the relevant activity, the marginal benefits of applying antitrust enforcement to this activity may be outweighed by the costs of doing so (including error and litigation costs). From a consumer welfare perspective, when applying antitrust enforcement will result in over-deterrence and decrease welfare, antitrust should be rejected in favor of those alternatives. The question is whether these conditions hold with respect to patent holdup. Answering this question requires a detailed, context-specific analysis of the possibility of error costs[7] in the patent holdup setting, as well as an examination of the alternative regulatory structures, to understand the costs and benefits of antitrust at the margin.

Our second claim is that the Supreme Court's recent antitrust jurisprudence embraces the type of marginal analysis we offer, including endorsing considerations of the costs associated with both judicial error and the direct costs of administration and litigation as inputs into analyses aimed at identifying the optimal scope and content of antitrust law. Moreover, notwithstanding Cary et al.'s claims to the contrary, the Supreme Court has expressly endorsed an analysis of the comparative advantages and costs of antitrust law relative to other regulatory structures.[8] Thus, our analysis is consistent with the Supreme Court's interpretation of the Sherman Act.

In this reply, we will focus on our case in support of these two claims and, along the way, address what we believe are mischaracterizations of our position in Cary et al. and clarify our analysis.

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[7] *See generally* Isaac Ehrlich & Richard A. Posner, *An Economic Analysis of Legal Rulemaking*, 3 J. LEGAL STUD. 257 (1974); Richard A. Posner, *An Economic Approach to Legal Procedure and Judicial Administration*, 2 J. LEGAL STUD. 399 (1973) (setting out the general error cost framework in which rules are designed to minimize the sum of error costs and the direct costs of administering the rules); *see also* Frank H. Easterbrook, *The Limits of Antitrust*, 63 TEX. L. REV. 1 (1984) (applying error cost framework to antitrust).

[8] *See, e.g.*, Verizon Commc'ns, Inc. v. Law Offices of Curtis V. Trinko, 540 U.S. 398, 411–12 (2004) ("Antitrust analysis must always be attuned to the particular structure and circumstances of the industry at issue. . . . One factor of particular importance is the existence of a regulatory structure designed to deter and remedy anticompetitive harm. Where such a structure exists, the additional benefit to competition provided by antitrust enforcement will tend to be small, and it will be less plausible that the antitrust laws contemplate such additional scrutiny."). Because Cary et al. assume away the relevant economic debate, the bulk of our rejoinder in Section I.B responds to their interpretation of the Supreme Court's antitrust jurisprudence. *See also* 1A PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶ 243g1, at 358 (3d ed. 2006) (noting "*Trinko* 'soft' immunity varies with incremental benefit of antitrust intervention"); *id.* ¶ 243g2, at 360–61 (noting "*Trinko* instructs that when an agency appears to be an effective overseer of the competitive process, the court must consider whether application of the antitrust laws would provide an additional benefit to competition") (internal quotation marks omitted).

I. SUPREME COURT ANTITRUST JURISPRUDENCE SUPPORTS THE APPLICATION OF OPTIMAL DETERRENCE PRINCIPLES TO PATENT HOLDUP

A. OPTIMAL DETERRENCE, ANTITRUST, AND PATENT HOLDUP

Cary et al. critique several minor points raised in our prior article, but do not address the crux of our argument—that optimal deterrence simply does not support the application of antitrust to the patent holdup problem, once the potential for error costs and the costs of administering the antitrust laws are taken into account. This omission causes them to misunderstand the law and economics relating to several of our arguments and, accordingly, to leave the bulk of our analysis unchallenged. Because Cary et al. do not discuss optimal deterrence, we briefly describe its basic theoretical underpinnings and its application to patent holdup.

Optimal deterrence dictates that legal penalties should be sufficient to induce offenders to internalize the entire expected social cost of their crimes.[9] This approach implies a sanction that is equal to the offender's expected gain from the anticompetitive behavior multiplied by the inverse of the probability of detection. A multiplier is necessary because enforcement is often costly and far from perfect—two conditions that generally obtain in the antitrust context, where there are direct costs associated with enforcing and complying with competition laws. Under these conditions a failure to equate the expected sanction with the expected private benefits of the offending antitrust conduct will result in under-deterrence because the socially detrimental conduct will remain ex ante profitable.

These conditions characterize some business activity that can be subject to antitrust scrutiny. Many have noted, for example, that cartels engaged in horizontal price fixing involve unambiguously anticompetitive activity that is inherently and intentionally difficult to detect.[10] In these circumstances, the availability of antitrust sanctions, including criminal penalties, fines, and treb-

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[9] This concept underlies the economics of optimal legal systems and has been a cornerstone of the economic analysis of law for at least four decades and perhaps much longer. *See* Gary S. Becker, *Crime and Punishment: An Economic Approach*, 76 J. POL. ECON. 169 (1968); William M. Landes, *Optimal Sanctions for Antitrust Violations*, 50 CHI. L. REV. 652 (1983). The principle that sanctions must be adjusted upward if the offender can escape liability dates at least back to Bentham's work in the mid-19th century. *See* Jeremy Bentham, *Principles of Penal Law*, *in* THE WORKS OF JEREMY BENTHAM 401–02 (Russell & Russell, Inc. 1962).

[10] *See, e.g.*, Bruce H. Kobayashi, *Antitrust, Agency & Amnesty: An Economic Analysis of the Criminal Enforcement of the Antitrust Laws Against Corporations*, 69 GEO. WASH. L. REV. 715 (2001). Indeed, the best available estimates suggest a detection rate below 20 percent. *See* Peter G. Bryant & E. Woodrow Eckard, Jr., *Price Fixing: The Probability of Getting Caught*, 73 REV. ECON. & STAT. 531, 535 (1991) (estimating a probability of detection ranging from 13 to 17 percent based on U.S. indictment data from 1968 and 1988). Some recent empirical evidence suggests that strategic leniency programs have increased detection rates in the United States as much as 60 percent. *See* Nathan H. Miller, *Strategic Leniency and Cartel Enforcement*, 99 AM.

led civil damages, performs a valuable economic function by imposing a damage multiplier that increases expected sanctions to offset the low probability of detection.[11]

However, optimal deterrence theory does not justify supracompensatory damages when the probability of detection and punishment of undesirable conduct is high.[12] Exclusive dealing contracts and tying arrangements, for example, are not likely to be concealed from, at a minimum, the counterparties to those arrangements. Moreover, such arrangements can serve to increase efficiency and enhance welfare, and the agencies and courts may find it difficult in practice to distinguish between pro- and anticompetitive conduct.[13] The possibility that antitrust law can erroneously be used to attack procompetitive behavior provides a second reason to use supracompetitive damages with caution in such settings.[14]

When analyzing patent holdup using the optimal deterrence framework, it is clear that such conduct is more akin to vertical restraints than to price-fixing cartels for two reasons. First, the conduct at the heart of antitrust patent holdup cases, unlike naked price-fixing cartels, may produce efficiencies. For example, the theories of antitrust harm that plaintiffs in recent patent holdup cases rely on can easily cover actions by patentees that are explicitly lawful under patent law, as well as good faith modifications of existing contracts.[15]

ECON. REV. 750, 760 (2009). Assuming a baseline probability of detection of 15 percent and a 60 percent improvement implies a modern detection rate no higher than 25 percent.

[11] For an analysis suggesting that current antitrust sanctions for cartel activity are under-deterring, and proposing alternatives, *see* Douglas H. Ginsburg & Joshua D. Wright, *Antitrust Sanctions*, 6 COMPETITION POL'Y INT'L J. 3 (2010). Of course, penalties above the optimal level will deter efficient conduct and cause corporations to overinvest in compliance, which increases marginal costs and prices. *See also* Kobayashi, *supra* note 10, at 733–34.

[12] Others, including Dennis Carlton, Frank Easterbrook, and Richard Posner, have made this argument in the monopolization context. *See* Frank H. Easterbrook, *Detrebling Antitrust Damages*, 28 J.L. & ECON. 445, 459 (1985) (detrebling is likely to be appropriate when there are alternative remedies and the plaintiffs are business rivals); *see also* Copperweld Corp. v. Independence Tube Corp., 467 U.S. 752, 777 (1984) (finding that it is desirable to "eliminate treble damages from private state tort suits masquerading as antitrust actions"); Separate Statement of Commissioner Dennis W. Carlton, *in* ANTITRUST MODERNIZATION COMM'N, REPORT AND RECOMMENDATIONS 399–400 (2007) ("I favor a reduction in the multiple to single damages when the actions are overt" on the grounds that treble damages might "deter efficient behavior.").

[13] *See* 3A AREEDA & HOVENKAMP, *supra* note 8, ¶ 749a, at 306 (describing the current state of the law of monopolization as possessing "no shortage of theories, but a frightening inability of courts to assess them").

[14] *See* Kobayashi, *supra* note 10.

[15] Cary et al., *supra* note 1, at 942, suggest that we are addressing a non-issue in raising this concern, claiming that "these concerns simply have not been observed in practice." *Id.* That statement is certainly incorrect in light of *FTC v. N-Data*, in which the Commission appears to contend that any deviation from ex-ante contractual commitments to the SSO amounts to an antitrust violation. Statement of the Federal Trade Commission, Negotiated Data Solutions LLC, FTC File No. 051-0094 (Jan. 23, 2008), *available at* http://www.ftc.gov/os/caselist/0510094/080122statement.pdf; *see also* Kobayashi & Wright, *supra* note 2, at 493–96, 511. Follow-on

Thus, as with the antitrust analysis of vertical restraints, there is a possibility of conflating anticompetitive patent holdup with welfare-neutral or welfare-increasing behavior. And as with vertical restraints, the task of identifying and distinguishing the former from the latter is one that is both complex and prone to error. Despite Cary et al.'s assumptions to the contrary, the problem of false positives and the concept of error-costs that guide the appropriate legal response in the context of vertical restraints also apply in the patent holdup setting.[16]

Second, unlike price-fixing cartels, patent holdup is not difficult to detect. The various activities challenged in patent holdup cases all share one common characteristic: the patentee "holds up" licensees. This is not furtive activity. To the contrary, a holdup attempt that is kept secret from potential licensees is

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claims are a separate source of potential liability. *See, e.g.*, Class Action Complaint at 2, 11, 13, 14, 16–17, Luther Enters., Inc. v. Pool Corp., No. 8:12-cv-00018-JVS-RNB (C.D. Cal. Jan. 4, 2012), *available at* http://www.nationscourts.com/m_January/luther.pdf (relying substantially on the FTC's conclusion that Pool Corp. violated Section 5 of the FTC Act to allege Pool Corp. engaged in unlawful monopolization in violation of Section 2 of the Sherman Act and to seek treble damages under Section 4 of the Clayton Act); *see also Pool Corp. Becomes Focus of Antitrust Lawsuits*, NEW ORLEANS CITY BUS. (Jan. 16, 2012), http://neworleanscitybusiness.com/blog/2012/01/16/pool-corp-becomes-focus-of-antitrust-lawsuits/ ("The lawsuits mirror language in the FTC's complaint, which accuses the company of using 'unfair methods of competition' and 'impeding market entry by potential rivals.' "). Additionally, state consumer protection legislation––so called "little FTC Acts"––provides another avenue for follow-on litigation. State Consumer Protection Acts spur a substantial amount of litigation, are often modeled on the language of the FTC Act, and often offer private plaintiffs multiple damages and weakened liability standards. *See generally* Joshua D. Wright, *State Consumer Protection Acts: An Empirical Investigation of Private Litigation* (Nov. 12, 2010) (Searle Civil Justice Institute Preliminary Report 2009), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1708175; Henry N. Butler & Joshua D. Wright, *Are State Consumer Protection Acts Really Little-FTC Acts?*, 63 FLA. L. REV. 163 (2011). Thus, limiting enforcement to Section 5 of the FTC Act does not ameliorate the potential for serious collateral consequences. Moreover, the Department of Justice has recently expressed a willingness to employ antitrust policy to intervene in the contractual relationships between patent holders and SSOs via merger review. Press Release, U.S. Dep't of Justice, Statement of the Department of Justice's Antitrust Division on Its Decision to Close Its Investigations of Google Inc.'s Acquisition of Motorola Mobility Holdings Inc. and the Acquisitions of Certain Patents by Apple Inc., Microsoft Corp. and Research in Motion Ltd. (Feb. 13, 2012), *available at* http://www.justice.gov/opa/pr/2012/February/12-at-210.html.

[16] Cary et al. also assume that all conduct underlying patent holdup cases is "unlikely to be defended as efficient" and is presumptively welfare-reducing. Cary et al., *supra* note 1, at 932. It is therefore unsurprising they conclude, operating from this assumption, that the risk of over-deterrence is quite limited. Cary et al. make a short-lived but failed attempt to give empirical content to their assumption when they contend that concerns about false positives would only be valid if it could be shown that patent holdup generally "does not harm competition," a possibility they find "counterintuitive given that standard-compliant products usually come to dominate particular industries, and that, at its core, standard-setting efforts are collective decisions by an industry to select a single technology over competing alternatives." *Id.* at 937. For empirical evidence that inclusion in the standard may not generally lead to market power, and certainly does not warrant such a presumption as a matter of law, *see* Anne Layne-Farrar & A. Jorge Padilla, *Assessing the Link Between Standards and Patents*, 9 INT'L J. IT STANDARDS & STANDARDIZATION RES. 19 (2011).

as much a holdup as engaging in a routine bank withdrawal while secretly thinking to one's self about demanding that the teller open the vault. For the patentee's holdup to be profitable he must at some point reveal to the SSO exactly what he is doing; that is, the patentee must actually tell the SSO that he is no longer willing to abide by his previous commitments.[17]

The implications of the optimal deterrence literature for the antitrust treatment of patent holdup are clear. The case for imposition of antitrust sanctions that exceed damages is weak so long as the probability of detection is sufficiently high. Because multiple damages are not required to generate optimal deterrence, remedies for breach of contract, or preventing the enforcement of the patent through estoppel, waiver, or other equitable doctrines, can serve to optimally deter undesirable patent holdup if they impose approximately single damages. This analysis does not imply that patent holdup is desirable, or that firms that engage in the type of patent holdup with which Cary et al. are concerned should be able to avoid the obligation to pay optimal penalties. It is rather a question of efficiency—a question which Cary et al. never address.[18]

Thus far, our analysis implies only that optimal damages for patent holdup need not be trebled and does not answer the question of whether the source of the penalty should be antitrust law, contract law, tort, patent, or something else. Cary et al. argue that the very *nature* of the conduct at issue in patent holdup cases, which ranges from deception to good faith renegotiation of ex ante contractual commitments with SSOs, somehow inherently invokes the antitrust liability. One might reasonably respond that optimal deterrence theory would be perfectly consistent with characterizing patent holdup as a violation of the Sherman Act, but reforming the law to limit damages to an appropriate level. Of course, not only is such a reform unlikely and impracticable, but this distinction misses the fundamental point discussed above and that Cary et al. ignore: the scope of the Sherman Act itself does indeed respond to concerns regarding the social costs of over-enforcement.

The only answer Cary et al. offer on this point is that they view patent holdup as a case of clearly undesirable conduct akin to a horizontal price-

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[17] We make this point repeatedly, noting "[t]he likelihood that this conduct would go unnoticed by the SSO members . . . approximates zero," "the case for treble damages for this sort of 'open and notorious' conduct is weak," and the case for multiplied damages is even further undermined "when one considers follow-on private litigation and state remedies." Kobayashi & Wright, *supra* note 2, at 509. Others have also made this point in the context of patent holdup. *See*, *e.g.*, Cotter, *supra* note 3, at 1157–58.

[18] Indeed, a premise of our analysis is that patent holdup is capable of generating social harms, and much of our analysis is devoted to making the case that the combination of contract and patent law is more likely to generate optimal deterrence and avoid error costs than is antitrust law.

fixing case.[19] Indeed, the theories of antitrust harm relied on by the plaintiffs in recent patent holdup cases can easily cover actions by patentees that are either explicitly lawful under patent law, good faith modifications of existing contracts, or both.[20] As we explain in more detail in our prior paper and below, there are many reasons that contract law applied to the case where there is breach without deception is substantively superior to antitrust law in distinguishing between undesirable patent holdup and desirable good faith modifications. Thus, forcing plaintiffs toward contract remedies and not trebled antitrust remedies has the dual benefits of providing optimal deterrence for undesirable conduct and reducing the deterrence of desirable conduct.[21]

Likewise, patent law provides a measured solution to patent holdup with deception through equitable doctrines like estoppel and waiver. Indeed, despite Cary et al.'s complaints about the limits courts have placed on application of the equitable estoppel doctrine in patent holdup cases,[22] the Federal Circuit has applied an implied waiver theory to prevent enforcement of the patents at issue.[23] Moreover, limiting the use of equitable estoppel to cases in

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[19] *See* Cary et al., *supra* note 1, at 932, noting that it is "unclear what would constitute a false positive in the context of SSO-patent holdup" and describing conduct reachable as patent holdup by the antitrust laws as "unlikely to be defended as efficient." *Id.* Cary et al. never deal with the key distinction in our analysis between patent holdup by deception and what we describe as holdup without deception, or "mere breach." The latter category is especially susceptible to false positives, as we discuss in the article. Further, Cary et al.'s reliance on the presence of "deception" in holdup to suggest that the conduct lacks any efficiencies virtues, unlike cases of mere breach or renegotiation, is somewhat misleading as they would label deceptive a patentee's subsequent breach of a FRAND obligation made in good faith at the time the technology is adopted by the standard. In fact, Cary et al. make clear they favor antitrust liability for "mere breach" cases lacking any allegation of ex ante deception. See Cary et al., *supra* note 1, at 941 (asserting antitrust liability is an appropriate remedy when "participants in the standard-setting process, who agreed collectively to support one technology over all others, mutually agree to license on FRAND terms but then, after the standard is adopted, each independently chooses to increase its royalty significantly . . ."). This scenario makes no explicit mention of ex ante deception. Cary et al. later suggest that the timing of deception has little to do with their analysis of the appropriate role of antitrust in patent holdup cases. *Id.* at 943 ("The potential anticompetitive consequences of raising royalty rates to monopoly levels after entrenchment of a standard is the same whether the patent owner intended to do so when making his FRAND commitment or whether it only occurred to the owner of the patent afterward."). As our earlier analysis makes clear, we do not believe the mere allegation that the maker of a FRAND commitment did not intend to keep its promise converts a breach of contract and possible tort suit into an antitrust claim. To do so creates considerable opportunity for false positives. What if the plaintiff is wrong about the parties' intentions? What if the patentee is merely attempting to modify the original FRAND commitment in light of market changes that require pricing adjustments in a long-term contract, rather than engaging in ex post opportunism?

[20] Kobayashi & Wright, *supra* note 2, at 493–96.

[21] *Id.* at 506–13. As a result, we find it unwise to allow antitrust plaintiffs to decode "whether one legal enforcement regime provides a 'marginal benefit' to another." Cary et al., *supra* note 1, at 924.

[22] Cary et al., *supra* note 1, at 938–41.

[23] Qualcomm Inc. v. Broadcom Corp., 548 F.3d 1004 (Fed. Cir. 2008). Indeed, Professor Hovenkamp suggests that "As to *Broadcom* . . . . [t]he more obvious remedy for breach of a

which there is misrepresentation, substantial reliance on the patentee's misleading conduct or statements, and material prejudice has the desirable effect of reducing error costs associated with the erroneous invalidation or waiver of a patentee's rights.[24]

More generally, and as touched on above, this reveals a fundamental conceptual divide between our approach, on the one hand, and Cary et al.'s, on the other, with respect to the nature of antitrust rules. Cary et al.'s analysis implicitly endorses the view that the scope of antitrust liability is exogenous to the costs of its application and that patent holdup inherently, by its very nature, falls within the scope of antitrust law. Indeed, their analysis assumes that if conduct can generate anticompetitive consequences through the exercise, creation, or acquisition of market power, it falls within the scope of the antitrust laws—regardless of the costs of applying the antitrust laws. We believe that this view of antitrust results in bad economic policy and is inconsistent with the law. Consider, for example, Easterbrook's description of the change in antitrust doctrine, which began decades ago, linking antitrust remedies and costs of enforcement to the scope and content of antitrust rules:

> The Court's reassessment of private remedies has coincided with a sustained review of the substantive goals of antitrust. Today's antitrust doctrine is designed to promote allocative efficiency rather than the welfare of particular participants in the market—competition, not competitors, in the accepted jargon. The change in substantive emphasis meant that firms claiming injury as competitors could not recover without showing that the recovery would aid competition. It meant that the simple fact of injury, even injury to a consumer, did not require that the injured party recover. . . . Perhaps most important, the Court began to see that there can be too much enforcement of the antitrust laws.[25]

Easterbrook's characterization of the law is part and parcel of a much larger point about error-costs and antitrust doctrine. Cary et al.'s conception of the role of the antitrust system is inconsistent with the fact that the Supreme Court has relied on error-cost concerns to limit the reach of Section 2,[26] while acknowledging that this approach does not reach all instances of anticompetitive conduct and will necessarily result in some false negatives.

In contrast, we argue that the scope of the antitrust laws, what conduct they reach, and the allocation of burdens are endogenous to the benefit of enforcement as well as the costs of over-enforcement, which in turn, are a function of

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promise to license at a certain rate would be a contract suit, or perhaps use of a doctrine such as equitable estoppel . . . ." Herbert J. Hovenkamp, *Patent Deception in Standard Setting: The Case for Antitrust Policy* 28 (Univ. Iowa Legal Studies Research Paper, July 20, 2010), *available at* http://ssrn.com/abstract=1138002.

[24] *Qualcomm*, 548 F.3d at 1019–22.

[25] Easterbrook, *supra* note 12, at 446–47.

[26] *See infra* Section I.B.

remedies.[27] The broader legal and regulatory environment, including other laws and regulations that apply to the conduct in question, affects these costs and benefits.

B. The Scope and Content of the Antitrust Laws Are a Function of the Costs and Benefits of Their Application

Our analysis contains a straightforward application of the error-cost framework and the uncontroversial claim that the Supreme Court's antitrust jurisprudence has recognized that the proper scope of the antitrust laws will depend upon the marginal costs and benefits of their application. We demonstrate the Court's repeated use of the error-cost framework in many antitrust actions, including recent cases such as *linkLine*,[28] *Trinko*,[29] *Weyerhaueser*,[30] *Leegin*,[31] and *Twombly*.[32] We argue that application of the error-cost framework should be no less important in the emerging realm of patent holdup. Cary et al. repeatedly reject this view, arguing that the Court's decisions regarding the scope of the antitrust laws have nothing to do with the relative costs and benefits of their application, or alternatively, if the Court engages in such a marginal analysis, it does not rely on the presence of other, overlapping laws.[33]

Perhaps the most obvious example of the Court's use of the error-cost framework is its *Brooke Group* decision. In *Brooke Group*, the Supreme Court made clear its interest in ensuring that the benefits of antitrust enforcement outweigh its costs.[34] The plaintiffs in *Brooke Group* alleged that the defendants engaged in predatory pricing. Although a jury found for the plaintiff, the Supreme Court upheld dismissal of the jury award, finding that plaintiffs in Section 2 predatory pricing cases must demonstrate both that the prices "are below an appropriate measure of . . . cost[ ]" and that the defendant had a dangerous probability of recouping its investment in below-cost pricing.[35]

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[27] *See also* Easterbrook, *supra* note 7.

[28] Pac. Bell Tel. Co. v. linkLine Commc'ns, Inc., 555 U.S. 438 (2009).

[29] Verizon Commc'ns, Inc. v. Law Offices of Curtis V. Trinko, 540 U.S. 398 (2004).

[30] Weyerhaeuser Co. v. Ross-Simmons Hardwood Lumber Co., 549 U.S. 312, 324–26 (2007).

[31] Leegin Creative Leather Prods., Inc. v. PSKS, Inc., 551 U.S. 877 (2007).

[32] Bell Atl. Corp. v. Twombly, 550 U.S. 544 (2007).

[33] *See, e.g.*, Cary et al., *supra* note 1, at 925, 927–30; *see also* Dogan & Lemley, *supra* note 3, at 706.

[34] Brooke Group Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209, 223 (1993) ("As a general rule, the exclusionary effect of prices above a relevant measure of cost either reflects the lower cost structure of the alleged predator, and so represents competition on the merits, or is beyond the practical ability of a judicial tribunal to control without courting intolerable risks of chilling legitimate price-cutting.").

[35] *Id.* at 222–23.

Brooke Group is consistent with the view that antitrust rules are not determined solely by assessing whether particular conduct should be an antitrust violation with reference to some set of exogenously imposed definitions, but rather by determining the optimal form and substance of rules so as to minimize the sum of direct and error costs. For example, if the relative cost and frequency of false positives to false negatives is high, then the optimal rule should contain both procedural and substantive safeguards that reduce the costs of false positives. The error-cost analysis can also inform whether a bright-line rule or a more nuanced standard should be adopted to lower the costs of administering the rule. As Kobayashi has written elsewhere:

> Uncertainty in the application of a nuanced standard can dramatically increase both the direct costs associated with it, raising both the frequency and cost of litigation, and the total error costs involved in enforcing such a standard. As a result, it is often the case that optimal legal rules ignore potential or speculative harms because any attempt to address them would result in an increase of direct costs far in excess of any benefit from the reduction in error costs.[36]

Justice (then Judge) Breyer has famously observed:

> [U]nlike economics, law is an administrative system the effects of which depend upon the content of rules and precedents only as they are applied by judges and juries in courts and by lawyers advising their clients. Rules that seek to embody every economic complexity and qualification may well, through the vagaries of administration, prove counter-productive, undercutting the very economic ends they seek to serve.[37]

The Court in *Brooke Group* indicated that error-cost considerations were essential in crafting the appropriate liability rule for generally procompetitive discounting conduct and in lowering administrative costs and openly endorsed the notion that this approach would lead to antitrust rules that left some potentially undesirable activities outside their scope. That is, *Brooke Group* makes it clear that the Supreme Court has held that the error-cost framework and the achievement of optimal deterrence are crucial considerations in determining whether antitrust liability will attach. Cary et al. ignore the relationship between the general concern with false positives that the Court expresses throughout antitrust law, and the specific application of these principles where

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[36] Bruce H. Kobayashi, *The Law and Economics of Predatory Pricing*, *in* ANTITRUST LAW AND ECONOMICS 116, 129 (Keith N. Hylton ed., 2010).

[37] Barry Wright Corp. v. ITT Grinnell Corp., 724 F.2d 227, 234 (1st Cir. 1983); *see also* HERBERT HOVENKAMP, THE ANTITRUST ENTERPRISE: PRINCIPLE AND EXECUTION 47 (2005) ("[T]here is relatively little disagreement about the basic proposition that often our general judicial system is not competent to apply the economic theory necessary for identifying strategic behavior as anticompetitive. This makes the development of simple antitrust rules critical. Antitrust decision making cannot consider every complexity that the market presents."); Leon B. Greenfield & Daniel J. Matheson, *Rules Versus Standards and the Antitrust Jurisprudence of Justice Breyer*, ANTITRUST, Summer 2009, at 87, 88.

other competent regulatory structures exist and where error costs are likely to be unusually high.[38]

Moreover, *Brooke Group* rested on a recognition that predatory pricing is exceedingly difficult to distinguish from cases involving legitimate, competitive pricing practices and that this difficulty inevitably leads to false positive errors. The Court accordingly rejected a more nuanced rule that might reach more potentially anticompetitive conduct in favor of a bright-line rule, both because of error-cost concerns and because applying the rule would be "beyond the practical ability of a judicial tribunal to control without courting intolerable risks of chilling legitimate price-cutting."[39] In other words, the form and content of the appropriate antitrust rule for predatory pricing was fundamentally shaped by the tradeoffs between the probability of false positives and the cost of tolerating false negatives at the margin. Such a standard makes sense when successful predation is rare, or when the broader application of antitrust laws would cause widespread deterrence of procompetitive behavior.[40]

In *Credit Suisse*,[41] the Court dismissed allegations by the plaintiff class that leading underwriting firms had conspired to manipulate the collective initial

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[38] Cary et al., *supra* note 1, at 925 n.51. Cary et al. demonstrate the same misunderstanding in their discussion of *Twombly*. They note that it is a case about pleading standards and suggest that to "the extent it deals with 'false positives,' it is in the sense of the false positive of allowing thinly pled cases into discovery, not the sense that Kobayashi and Wright use the term." *Id.* But forgoing procompetitive behavior in order to avoid the costs of discovery *is in fact* an error cost that results from allowing such cases to go forward. *See, e.g.*, Bruce H. Kobayashi & Timothy J. Muris, *Chicago, Post Chicago, and Beyond: Time to Let Go of the 20th Century*, 78 ANTITRUST L.J. 147 (2012) (presenting an explicit error cost analysis of the Court's decision in *Twombly*). Similarly, they argue that *Trinko* "did not turn on concerns about false positives, unless false positive is defined in a legally irrelevant way as behavior that is not illegal under antitrust laws but that has anticompetitive effects." *Id.* Yet, as we point out, this assertion simply mischaracterizes the Court's holding in *Trinko*. The Court explicitly observed that "[a]gainst the slight benefits of antitrust intervention here, we must weigh a realistic assessment of its costs. Under the best of circumstances, applying the requirements of § 2 'can be difficult' because 'the means of illicit exclusion, like the means of legitimate competition, are myriad.'" Verizon Commc'ns, Inc. v. Law Offices of Curtis V. Trinko, 540 U.S. 398, 414 (2004) (citing United States v. Microsoft Corp., 253 F.3d 34, 58 (D.D.C. 2001) (per curiam) (en banc)). Thus, the Court proscribed the bounds of antitrust in the face of the exact type of legally relevant false positives we address. *See also* 1A AREEDA & HOVENKAMP, *supra* note 8, ¶ 243g1, at 358 ("[U]nder the Supreme Court's approach in *Trinko*, the tribunal first determines how well the regulatory enterprise is functioning and the degree of incremental benefit that would result from application of the antitrust laws. Then one balances that against the administrative difficulties posed by the particular antitrust claim."); Shelanski, *supra* note 3, at 705 ("The Court's error-cost discussion tells lower courts to choose false negatives over false positives—in other words, to be generous in the definition of what constitutes expansion and parsimonious in the definition of existing law.").

[39] *Brooke Group*, 509 U.S. at 223.

[40] *Id.* at 220–24; *see also* Kobayashi, *supra* note 36.

[41] Credit Suisse Sec. (USA) LLC v. Billing, 551 U.S. 264 (2007).

public offering process by driving up the price of less attractive shares in the aftermarket in violation of Section 1 of the Sherman Act. The majority held that the antitrust claims against the investment banks arising from the underwriting transactions were impliedly preempted under a "clear incompatibility" standard, which is comprised of four critical factors: (1) the existence of regulatory authority under the securities law to supervise the activities in question; (2) evidence that the responsible regulatory entities exercise that authority; (3) a risk that the securities and antitrust laws, if both applicable, would produce conflicting guidance, requirements, duties, privileges, or standards of conduct; and (4) whether the affected practices lie squarely within an area of financial market activity that the securities laws seek to regulate.[42] Noting that only the third of these factors was at issue in the case, the Court focused its analysis on the role error costs play in limiting the usefulness of the antitrust laws. This analysis was motivated largely by the concern that the benefits of antitrust enforcement may not outweigh its costs in this setting.[43]

The Court relied on many factors in concluding that antitrust enforcement in this setting would do more harm than good. In particular, the Court observed that intricate securities-related lines separate encouraged from outlawed behaviors; that securities-related expertise is needed to properly decide such cases; that "reasonable but contradictory inferences" may be reached from the same or overlapping evidence; and that there is a substantial risk of inconsistent court results.[44] The Court then concluded that "these factors suggest that antitrust courts are likely to make unusually serious mistakes."[45]

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[42] *Id.* at 267–68, 275–76 (citing Gordon v. New York Stock Exch., Inc., 422 U.S. 659, 682 (1975); United States v. Nat'l Ass'n of Sec. Dealers, Inc., 422 U.S. 694 (1975); Silver v. N.Y. Stock Exch., 373 U.S. 341 (1963)).

[43] *Credit Suisse*, 551 U.S. 282. Writing before the Court's decision in *Credit Suisse,* Areeda and Hovenkamp suggest that in contrast to the "soft" immunity contained in cases like *Trinko*, which varies with the incremental benefit of antitrust intervention, traditional implied immunity applies "without regard to the nature of the particular antitrust claim before the court." *See* 1A AREEDA & HOVENKAMP, *supra* note 8, ¶ 243g1, at 358; *see also supra* notes 13–14 and accompanying text. But non-variation may have been due to the similar nature of the pre-*Credit Suisse* cases. *See* 1A AREEDA & HOVENKAMP, *supra*, ¶ 243g1, at 358 ("[A] great number of implied immunity cases involve naked or nearly naked price fixing, conduct in which application of the antitrust laws is not generally thought to be problematic and anticompetitive effects are clear."). However, writing after *Credit Suisse,* Areeda and Hovenkamp, in comparing the *Credit Suisse* "immunity" approach and the *Trinko* "nonimmunity" approach, note that "[n]otwithstanding . . . differences in verbal formulation, however, the differences between the modes of analysis are very slight. Both *Trinko* and *Credit Suisse* . . . emphasized the substantive difficulty of antitrust administration in the markets in question." AREEDA & HOVENKAMP, ANTITRUST LAW ¶ 243, at 41–42 (Supp. 2011). Thus, Justice Breyer's opinion in *Credit Suisse* may represent an evolution of the traditional implied immunity doctrine toward the type of marginal analysis called for in the soft preemption cases when error costs and administrative costs are not insignificant.

[44] *Credit Suisse*, 551 U.S. at 282.

[45] *Id.* at 283 ("We believe it fair to conclude that, where conduct at the core of the marketing of new securities is at issue; where securities regulators proceed with great care to distinguish the encouraged and permissible from the forbidden; where the threat of antitrust lawsuits, through

Cary et al. offer two arguments that *Credit Suisse* does not support the view that the scope and content of antitrust rules are endogenous to the costs of their application. First, they argue that the "serious mistakes" the Court discusses are not false positives in the conventional antitrust sense, but are rather condemnations of any behavior that is actually permitted under securities law.[46] Second, Cary et al. contend that *Credit Suisse* had "nothing to do with [its] assessment of whether regulation of the securities industry would lead to a more competitive industry in the sense that the antitrust laws promote."[47]

With respect to "serious mistakes," the Court was clearly concerned about the potential error costs of applying antitrust law to an area subject to alternative regulation. Both our earlier article and Cary et al. quote the same passage from Justice Breyer's opinion:

> We believe it fair to conclude that, where conduct at the core of the marketing of new securities is at issue; where securities regulators proceed with great care to distinguish the encouraged and permissible from the forbidden; where the threat of antitrust lawsuits, through error and disincentive, could seriously alter underwriter conduct in undesirable ways, to allow an antitrust lawsuit would threaten serious harm to the efficient functioning of the securities markets.[48]

Cary et al. argue that the Court was not concerned about the costs of antitrust false positives because if it were, it would not matter whether or not the conduct at issue was lawful under the securities laws. Rather, the Court would have produced an antitrust safe harbor aimed at protecting procompetitive activities. This explanation only makes sense if one assumes that the functioning and operation of the securities laws is unrelated to the operation of the antitrust laws.[49] Such an assumption is rejected in Justice Breyer's opinion, which notes "the great care" the securities regulators took to "distinguish the encouraged and permissible from the forbidden"[50] and discusses how the threat of antitrust lawsuits, "through error and disincentive" could alter behavior and threaten serious harm to the "efficient functioning of the securities markets."[51]

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error and disincentive, could seriously alter underwriter conduct in undesirable ways, to allow an antitrust lawsuit would threaten serious harm to the efficient functioning of the securities markets.").

[46] Cary et al., *supra* note 1, at 927–28.

[47] *Id.*

[48] *Credit Suisse*, 551 U.S. at 283.

[49] Cary et al. argue that if the court was concerned about the costs of antitrust false positives, "its quibbling about evidentiary troubles and inconsistent juries and SEC oversight would not matter because *all* of the conduct under consideration would be potentially procompetitive. In other words, if cabining the 'blunt instrument of antitrust enforcement' were truly the driving force behind *Credit Suisse*, then it ought not matter whether the conduct in question were lawful under the securities laws." Cary et al., *supra* note 1, at 928.

[50] *Credit Suisse*, 551 U.S. at 283.

[51] *Id.*

The opinion clearly recognized that the efficient functioning of the securities markets depended on both the operation of the securities laws and how such laws would interact with the antitrust laws.

The Court's analysis in *NYNEX* further developed the error-cost concept in antitrust.[52] There, the Court declined to find the defendant had engaged in a per se illegal boycott by switching its purchases from the plaintiff to a rival provider, even though the defendant had used its monopoly power to avoid pricing restraints.[53] Importantly, the Court distinguished such attempts to evade pricing constraints from the unlawful acquisition or exercise of monopoly power.

Whether deception can potentially constitute actionable exclusionary conduct under Section 2 depends both on when it occurs relative to the acquisition of monopoly power and whether it results in the exclusion of rivals or only an increase in price. *NYNEX* immunizes a firm from antitrust liability if the firm (1) first lawfully acquired monopoly power and (2) then committed fraud or engaged in other deceptive conduct (3) that allowed it to evade pricing constraints to the detriment of consumers. On the other hand, *NYNEX* would not immunize a firm that (1) committed fraud and (2) thereby acquired market power (3) that it exercised in the form of evading a RAND commitment. *NYNEX* thus rejects the notion that a monopolist's evasion of a constraint on pricing—even when it involves bad conduct and results in higher prices—is sufficient to state a monopolization claim. Accordingly, *NYNEX* supports our claim that a similar "evasion of a pricing constraint" analysis is not sufficient to establish antitrust liability in cases involving patent holdup based on good faith renegotiation or modification of ex ante contractual commitments.[54]

Furthermore, Justice Breyer's opinion also recognized that the scope of antitrust rules may be properly limited by the content of other legal regimes, such as unfair competition laws, business tort laws, and regulatory laws.[55] Antitrust need not, Justice Breyer recognized, cover all varieties of business-related wrongdoing at all times. Given this recognition, the prospect that such legal regimes should be factored into the marginal analysis of antitrust enforcement does not seem as far-fetched as Cary et al. suggest.

Cary et al. object to our contention that *NYNEX* supports our view of patent holdup by asserting that Justice Breyer's reference in dicta to "alternative reg-

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[52] NYNEX Corp. v. Discon, Inc., 525 U.S. 128 (1998).

[53] *Id.* at 135.

[54] For more on this issue, *see* Joshua D. Wright, *Why the Supreme Court Was Correct to Deny Certiorari in* FTC v. Rambus, GLOBAL COMPETITION POL'Y, Winter 2009, Vol. 3, No. 2.

[55] *NYNEX Corp.*, 525 U.S. at 137.

ulatory structures" is not "a normative claim about the limits of antitrust," but rather simply an observation that "certain business activities should not give rise to per se liability under the antitrust laws."[56] However, their analysis contains little actual objection to our analysis. Cary et al. concede that Justice Breyer was *in fact* relying on the efficiency of these regulatory alternatives in deterring undesirable conduct to determine the content of the antitrust rule that should apply, in this case, finding that those regulatory alternatives mitigated against application of a per se rule.[57] They go on to note that the Court "simply concluded that there was no antitrust problem to remedy."[58] That is precisely correct. The Court determined that the monopolist's deception that caused consumer harm did not create an "antitrust problem," in part, because the Court saw little need to extend antitrust liability to such activity in the presence of these regulatory alternatives.[59]

To sum up, the Supreme Court endorsed the proposition that the application of antitrust to conduct that is adequately regulated by alternative legal rules and institutions is appropriately limited when the marginal benefit of antitrust enforcement is low or negative and the costs are high. In this context, the Supreme Court has explicitly recognized judicial error costs where the competitive effects of the conduct are difficult to reliably identify and enforcement therefore risks chilling procompetitive conduct. Recognition that the

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[56] Cary et al., *supra* note 1, at 929 n.72.

[57] *Id.* In fact, both our earlier article, Kobayashi & Wright, *supra* note 2, at 478, and Cary et al., *supra* note 1, at 929 n.72, quote some of the same language from *NYNEX* to make this point (citing Justice Breyer's argument that "other laws, for example, 'unfair competition' laws, business tort laws, or regulatory laws, provide remedies for various 'competitive practices thought to be offensive to proper standards of business morality.' Thus, this Court has refused to apply per se reasoning in cases involving that kind of activity."). Cary et al.'s inclusion of this language accordingly appears to acknowledge the relevance of regulation to the antitrust inquiry. *Id.*

[58] *Id.* at 930.

[59] Cary et al. further contest that "[s]tate-action immunity is not a doctrine created by the Court's desire to defer to regulatory regimes." *Id.* at 930. Rather, they proffer the Court "held that, due to principles of dual-sovereignty in our federalist system, Congress did not intend to interfere with those regimes when it enacted the antitrust laws." *Id.* While we agree that principles of federalism rightly proscribe antitrust liability, it is not obvious why Cary et al. believe it is *Congress*, and not the courts, that has limited the bounds of antitrust in this context. Nothing in the Sherman Act prevents it from reaching such activity. And, over the years, the courts have spent significant time and resources articulating precisely when state action immunity applies. *See* Parker v. Brown, 317 U.S. 341 (1943); Cal. Retail Liquor Dealers Ass'n v. Midcal Aluminum, Inc., 445 U.S. 97 (1980); Town of Hallie v. City of Eau Claire, 471 U.S. 34 (1984); *see also* John T. Delacourt & Todd J. Zywicki, *The FTC and State Action: Evolving Views on the Proper Role of Government*, 72 ANTITRUST L.J. 1075 (2005). This effort indicates both that (1) the Sherman Act does, in fact, reach some state conduct, and (2) it is the courts—and not Congress—that decide when federal antitrust law may "interfere[ ] with [state] regimes." Cary et al., *supra* note 1, at 930. Moreover, the Court has established as a key component of state action immunity that there be a "clearly articulated and affirmatively expressed as state policy"—which almost necessarily means that antitrust law defers only when an alternative regulatory regime exists. *Midcal*, 445 U.S. at 105.

costs of extending the scope of the antitrust laws might exceed the benefits of doing so pervades current Supreme Court antitrust jurisprudence, and has consistently informed what constitutes actionable activity under Section 2 of the Sherman Act and the burdens facing plaintiffs bringing claims under that statute.

II. THE MARGINAL VALUE OF ANTITRUST ENFORCEMENT OF PATENT HOLDUP IS LIKELY NEGATIVE

In our earlier article, we identify two necessary conditions for antitrust to provide negative marginal value: (1) the costs of false positives from antitrust enforcement are high because it is difficult to reliably identify anticompetitive conduct, and (2) the benefits from antitrust enforcement are low because a competent alternative regulatory regime exists. With respect to the first condition, we contend that antitrust rules, by focusing on the ex post harm to consumers, are more likely to condemn good faith changes as opportunistic behavior. Second, the marginal benefit of antitrust enforcement in the patent holdup setting is low because alternative regulatory regimes are capable of providing optimal deterrence.

It is critical to recognize, as discussed above, that optimal deterrence in the patent holdup setting is likely to require approximately single damages.[60] The central economic question is whether, in the absence of antitrust remedies, the combination of contract, patent, and tort law highlighted in our earlier article move us closer to the level of damages required for optimal deterrence—an expected sanction equal to the actual social harm caused by patent holdup. Here, we focus on the superiority of patent law and contract law in deterring undesirable patent holdup without deterring socially beneficial conduct (such as adjusting contract prices ex post to reflect market conditions or exercising property rights granted by patent law).

A. THE CONFLICT BETWEEN ANTITRUST AND PATENT REVISITED

Cary et al.'s analysis of our arguments regarding the conflicts between antitrust and patent law focuses on an argument that we did not make. They argue that the only conflict that we identify is that "antitrust may impose upon patent holders a duty to disclose in the SSO context that the patent laws supposedly do not."[61] Yet in supporting this assertion, they seem to assume that the *rules of the SSO* require disclosure, as they go on to note that "patent laws do not privilege a possessor of intellectual property to refrain from disclosing it when the possessor voluntarily agreed to do so."[62] If this characterization

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[60] *See supra* Part I.A.

[61] Cary et al., *supra* note 1, at 933.

[62] *Id.*

properly captured our claim, then we would agree with Cary et al. that there is "no conflict at all."[63] But that is not what we said.[64]

Rather, our analysis examined, as did the District of Columbia[65] and Federal Circuit Courts of Appeals[66] in *Rambus*, the case where the general duty to disclose desired by the Federal Trade Commission was *broader* than that required by patent law—and, in fact, even broader than the disclosures required by the SSO.[67] Imposing an antitrust duty to disclose patent applications and other information that is broader than required by patent law and not required by contract or the rules of the SSO would obviously conflict with disclosure rules governed by patent law. Such an expanded duty to disclose would alter the balance struck by patent law between allowing patentee flexibility in prosecuting patents and the potential for opportunistic behavior.[68]

Cary et al. go on to assert that "[i]t is not the case in SSO-patent holdup that the antitrust laws would condemn lawful conduct that patent law encourages or protects (the concern in *Credit Suisse*). The patent laws do not countenance fraudulent or inequitable conduct on the part of patent holders."[69] Again, if the antitrust laws were brought to bear on cases of fraud or inequitable conduct that would be condemned by patent law or contract, then the antitrust laws would merely be redundant, not in conflict with, the patent laws. But our point is that deception-based antitrust claims similar to the ones in *Rambus*[70] and *N-Data*[71] would go further and reach activities that are explicitly approved under the patent laws. As Hovenkamp notes in a recent article:

> [T]he Federal Circuit has expressly approved the use of continuation and divisional applications to write updated claims on a competitor's existing products or technology. The notice and publication provisions are part of the law as well.
>
> While I believe such an approach to the giving of notice deters rather than promotes innovation, the fact that it is conduct approved by law cannot form

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[63] *Id.* at 933 nn.85–86.

[64] *See* Kobayashi & Wright, *supra* note 2, at 503. In fact, such a claim simply ignores our extensive discussion of the superiority of contract law to deal with the nature and scope of the disclosure requirements.

[65] Rambus Inc. v. FTC, 522 F.3d 456 (D.C. Cir. 2008).

[66] Rambus Inc. v. Infineon Techs. AG, 318 F.3d 1081 (Fed. Cir. 2003).

[67] Kobayashi & Wright, *supra* note 2, at 503. **R**

[68] *See, e.g.,* 35 U.S.C. § 122(b) (requiring publication of patent applications eighteen months after they are filed, but only if the patent will also be filed abroad). *See also* Mark A. Lemley & Kimberly A. Moore, *Ending Abuse of Patent Continuations,* 84 B. U. L. REV. 63 (2004) (discussing patent law's current balance and concluding that patent law should be altered to further reduce opportunistic behavior).

[69] Cary et al., *supra* note 1, at 934.

[70] *Rambus*, 522 F.3d 456.

[71] FTC v. N-Data, File No. 051-0094 (Jan. 23, 2008).

> the basis of an antitrust claim when the patentee later files an infringement action based on such an after-acquired right.[72]

Cary et al. claim that our analysis "cannot be squared"[73] with the Court's holding in *Walker Process Equipment, Inc. v. Food Machinery and Chemical Corp.*,[74] which allows Section 2 Sherman Act claims against a patentee knowingly enforcing a patent acquired by fraud on the patent office and rejected the notion that the antitrust laws are invariably preempted in the patent context. But they fail to recognize that our analysis, as well as the Court's analysis, is a *marginal* one. Recognition that conflicts between the antitrust and patent law may have implications regarding how one of the conflicting laws should be limited in no way implies that such limits should be absolute. Thus, the error-cost analysis can actually quite easily be "squared" with Similarly, the recognition of petitioning immunity under *Noerr-Pennington*[75] does not rule out exceptions for sham litigation, for patents fraudulently acquired, or for the knowing enforcement of fraudulent patents.[76]

B. ANTITRUST AND THE BENEFITS OF CONTRACT LAW

We also claim that contract law is both better suited to the identification and regulation of ex post opportunism associated with patent holdup than is antitrust and more likely to reduce transaction costs and welfare losses.[77] Contract law offers a number of benefits relative to antitrust law. Perhaps the most important is that contract law contains doctrines designed to reliably distinguish between ex post opportunism, such as patent holdup, and legitimate attempts to modify existing agreements as market conditions change.[78] Indeed, contract law's superiority in this regard is not surprising given that one of its primary functions is to deter ex post opportunism.[79] It is important to recognize that, intuitively, some ex post attempts to alter contractual obligations are welfare enhancing and thus might be over-deterred as a result of antitrust liability.

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[72] Herbert J. Hovenkamp, *Patents, Property, and Competition Policy*, 34 J. CORP. L. 1243, 1253–54 (2009).

[73] Cary et al., *supra* note 1, at 934.

[74] 382 U.S. 172 (1965).

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

[76] Kobayashi & Wright, *supra* note 2, at 513.

[77] *Id.* at 507 n.123.

[78] *See, e.g.*, Charles J. Goetz & Robert E. Scott, *Principles of Relational Contracts*, 67 VA. L. REV. 1089 (1981); Timothy J. Muris, *Opportunistic Behavior and the Law of Contracts*, 65 MINN. L. REV. 521 (1981); Benjamin Klein, *Why Hold-Ups Occur: The Self-Enforcing Range of Contractual Relationships*, 34 ECON. INQUIRY 444 (1996). For a discussion of the application of contract law in the SSO context, see Mark A. Lemley, *Intellectual Property Rights and Standard Setting Organizations*, 90 CALIF. L. REV. 1889 (2002).

[79] *See generally* Goetz & Scott, *supra* note 78; Muris, *supra* note 78.

Patent holdup cases, and the FTC's patent holdup agenda in particular, would condemn all deviations from ex ante commitments made in the SSO context.[80] Such a mandatory, inflexible rule that renders all such modifications illegal is likely to both capture welfare-enhancing modifications and deter patent holders from participating in the SSO process in the first place.

Cary et al. assume away this cost of antitrust enforcement relative to contract law by asserting that it is simply not possible that the antitrust laws reach socially desirable conduct like the modification of contractual arrangements with SSOs in light of market changes or the exercise of property rights granted by patent law. But this view is untenable in light of *Rambus*,[81] *N-Data*,[82] and *Broadcom*,[83] the last of which lies between the other two cases by way of converting an allegation of ex post breach of a FRAND obligation (like *N-Data*) into a case involving alleged fraud and deception (like *Rambus*) by including an allegation that the delayed breach was intentional and the commitment to abide by the FRAND commitments were false when made. While the plaintiff must have some basis upon which to make an allegation of the type proffered in *Broadcom*, it will be relatively easy to do so at the pleading stage. Once one recognizes that ex post modification of relational contracts made in the SSO setting, like all other relational contracts, benefit from pricing flexibility, it becomes clear that contract law offers a more flexible and appropriate regulatory instrument without sacrificing optimal deterrence.

For example, consider that both the Uniform Commercial Code (UCC) and the Restatement (Second) of Contracts require that any modification be made in "good faith" by the transacting parties; this analysis includes factors such as losses suffered by the parties under current terms and market changes since formation of the original contract.[84] These doctrines can, in principle, be applied to minimize holdup behavior by identifying attempts to holdup a transacting party and preventing parties from using the court to facilitate holdup. UCC 2-209, in particular, is important here because it eliminates the requirement of consideration in favor of enforcing all modifications that satisfy the

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[80] While noting that the sufficiency of the doctrine of equitable estoppel is surely "open to debate," Professor Cotter recognizes that "Kobayashi and Wright may be correct that, in a case like *N-Data*, contract law offers a more solid, familiar, doctrinal framework for evaluating the legality of ex post efforts to renegotiate incomplete contracts." Cotter, *supra* note 3, at 1198.

[81] Rambus Inc. v. FTC, 522 F.3d 456 (D.C. Cir. 2008).

[82] FTC v. N-Data, File No. 051-0094 (Jan. 23, 2008).

[83] Broadcom Corp. v. Qualcomm Inc., 501 F.3d 297 (3d Cir. 2007).

[84] RESTATEMENT (FIRST) OF CONTRACTS § 89 (2011); RESTATEMENT (SECOND) OF CONTRACTS §§ 175, 176 (2011); U.C.C. § 2-209 cmt. 2 (2003). Contract law also includes a covenant of good faith, implied in all contracts, which prevents one party from taking actions that deprive the other party of its legitimate expectations under the agreement. RESTATEMENT (SECOND) OF CONTRACTS § 205 (2011); U.C.C. § 1-203, 2-103(1)(b). *See* Photovest Corp. v. Fotomat Corp., 606 F.2d 704, 725–27 (7th Cir. 1979).

duty of good faith imposed by the code. This good faith standard allows contract law, in principle, to distinguish between mutually beneficial modifications and holdup in the form of post-contractual holdup. Additionally, the comments to UCC 2-209 further explain what conduct and occurrences satisfy its standard, mentioning specifically "a market shift which makes performance come to involve a loss."[85] These substantive benefits can reduce error costs without sacrificing optimal deterrence, since multiple damages are already likely to generate over-deterrence.[86]

Cary et al. generally demur on the substantive superiority of contract law in favor of focusing on which parties would have standing to bring a breach of contract claim against a patent holder that holds up an SSO and its members.[87] We anticipate this objection.[88] For example, Cary et al. repeatedly assert that not only contract, but also patent and tort law, are all insufficient because neither the government nor private consumers can use these institutions to bring enforcement actions against the patent holder.[89] The key question is "insufficient compared to what?" Our answer to this question is the well-established principle of optimal deterrence. Cary et al., on the other hand, never answer the fundamental question, and we are left guessing as to their view of *how much* damages are optimal from a social welfare perspective.[90] However, one can logically derive from their view of the appropriate role of antitrust

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[85] Kobayashi & Wright, *supra* note 2, at 508 n.127.

[86] *See supra* Part I.A.

[87] Cary et al. mischaracterize our argument about contract law, stating that our "claim is that, because the promise to disclose relevant patents and the promise to license on FRAND terms are, at core, promises, and because antitrust cases sometimes result in false positives, it is safer to stick with contract law to the exclusion of antitrust." Cary et al., *supra* note 1, at 941–42. This mischaracterization stems from the same failure to give sufficient weight to the interaction between optimal deterrence and optimal antitrust rules, as well as the substantive superiority of contract law at distinguishing anticompetitive patent holdup from welfare-neutral or welfare-increasing conduct. Both errors follow from Cary et al.'s mistaken assumption that all patent holdup must be anticompetitive, and its corollary that there is therefore no need for a body of law that reliably filters desirable from undesirable conduct.

[88] *See* Kobayashi & Wright, *supra* note 2, at 510–11.

[89] Cary et al., *supra* note 1, at 913, 921, 931, 941, 944–45. Cary et al. recognize that they "are sure [that] plaintiffs with standing to enforce the contract may" choose to do just that, but they never make the analytical link between the magnitude of the remedy for socially undesirable behavior and optimal deterrence. *Id.* at 942. Indeed, within the Cary et al. framework, the remedy is an afterthought. For them, the critical point is that conduct is either labeled as an "antitrust" wrong or it is not, regardless of whether damages are single, treble, or any other multiplier.

[90] For example, in their argument as to why tort law is insufficient to deter patent holdup, Cary et al. again fail to ask this comparative question. *Id.* at 944. They distract their argument by focusing on whether courts and plaintiffs become "carried away" in antitrust suits more often than they do in fraud claims. *Id.* However, Cary et al. never address the fundamental question of whether tort or antitrust damages are best suited from an optimal deterrence standpoint, and thus do little to actually critique our argument. For a comprehensive discussion of our argument in support of tort law as a remedy, see Kobayashi & Wright, *supra* note 2, at 513–16.

rules, and repeated assertion that false positives are impossible in the patent holdup setting, that even *infinite* damages would not generate over-deterrence.

III. CONCLUSION

It is difficult to escape the conclusion that Cary et al. have misunderstood and, as a result, mischaracterized, our analysis. Accordingly, they never grapple in a meaningful way with our claim that a marginal analysis of the costs and benefits of antitrust in the patent holdup context suggests that antitrust offers little from an optimal deterrence perspective other than the potential for over-deterrence. To the extent that they do offer any substantive critique of our marginal analysis, its usefulness is limited by their assumptions that antitrust enforcement is costless and that patent holdup enforcement never deters socially desirable conduct, thus leading to the predictable conclusion that the benefits of antitrust always outweigh its costs.

We believe that a marginal analysis of the value of antitrust in the patent holdup context demonstrates that: (1) the costs of false positives are high because it is difficult to reliably identify anticompetitive conduct, (2) the benefits are small because competent alternative regulatory regimes exist in contract and patent law, and (3) shedding antitrust liability in favor of these alternative structures would move legal penalties for patent holdup closer to the de-trebled magnitude that optimal deterrence theory recommends. Further, our marginal analysis is entirely consistent with the Supreme Court's antitrust jurisprudence and supports serious consideration by courts and policymakers of limiting the application of federal antitrust laws to police patent holdup.