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BUILDING A BETTER BOUNTY: LITIGATION-STAGE REWARDS FOR DEFEATING PATENTS

By Joseph Scott Miller[†]

ABSTRACT

A patent challenger who defeats a patent wins a prize that it must share with the whole world, including all its competitors. This forced sharing undermines an alleged infringer's reason for fighting the patent case to the finish—especially if the patent owner offers an attractive settlement. Too many settlements, and too few definitive patent challenges, are the result. A litigation-stage bounty would correct this defect in patent litigation's basic framework, for it would provide cash prizes to successful patent challengers that they alone would enjoy. After briefly describing the free rider problem with inventions that patent law attempts to solve, this Article details how the Supreme Court's decision in *Blonder-Tongue* creates an equally troubling free rider problem in the context of patent validity challenges. It then critiques two recent proposals directed at solving the free rider problem that undercuts patent challenges: an examination-stage bounty proposed by Professor Thomas, and a one-way fee-shifting rule more recently proposed by Professor Kesan. The Article next proposes a new bounty, one that offers the benefits of the Thomas and Kesan proposals without their respective drawbacks. The proposed bounty would apply at the litigation stage, in an amount that varies as a function of the patentee's net profits from practicing the technology set forth in the asserted patent claims. Finally, the Article answers the most likely objections to a litigation-stage bounty.

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I. INTRODUCTION

Patent litigation's basic framework tilts decisively against a definitive court test of patent validity. A patent challenger who succeeds in defeating a patent wins spoils that it must share with the world, including all its competitors. This forced sharing undercuts an alleged infringer's incentive to stay in the fight to the finish—especially if the patent owner offers an attractive settlement. Too many settlements, and too few definitive patent challenges, are the result. A litigation-stage bounty would correct this tilt against patent challenges, for it would provide cash prizes to successful patent challengers that they alone would enjoy.

Consider, for example, Amazon's patent case against Barnesandnoble.com ("B&N"). The trial court preliminarily enjoined B&N from giving its repeat customers a one-click purchasing method during the height of the 1999 winter shopping season.¹ The case fast became a cause célèbre in

1. *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 73 F. Supp. 2d 1228, 1249 (W.D. Wash. 1999) (granting preliminary injunction in favor of Amazon.com, ordering Barnesandnoble.com to cease infringing U.S. Patent No. 5,960,411 (issued Sept. 28, 1999)), *rev'd*, 239 F.3d 1343 (Fed. Cir. 2001) (vacating preliminary injunction). For a concise summary of the trial and appellate court opinions, see Matthew G. Wells, Note, *Internet Business Method Patent Policy*, 87 VA. L. REV. 729, 753-59 (2001).

the e-commerce world.² The one-click patent symbolized a Patent Office³ that, oblivious to longstanding business practices, routinely and wrongly granted patents on computer-implemented inventions that seemed painfully obvious and unpatentable.⁴ If the trend continued, the press warned, only bad could come of it.⁵

2. See Margo A. Bagley, *Internet Business Model Patents: Obvious by Analogy*, 7 MICH. TELECOMM. & TECH. L. REV. 253, 254 (2001) (noting the “seemingly unprecedented public outcry over the granting of Internet business model patents,” including Amazon’s one-click patent); William C. Smith, *Patent This!*, A.B.A. J., Mar. 2001, at 48, 49 (“Amazon’s lawsuit sparked flaming e-mails, incendiary Web sites, and even a sputtering consumer boycott.”); Russell A. Korn, Comment, *Is Legislation the Answer? An Analysis of the Proposed Legislation for Business Method Patents*, 29 FLA. ST. U. L. REV. 1367, 1371 (2002) (calling the case “[o]ne of the most well-known, highly publicized business method patent disputes,” and noting that “[v]arying sectors of the public were outraged by the issuance of the ‘one-click’ patent”).

3. The agency is formally the “United States Patent and Trademark Office.” 35 U.S.C. § 1(a) (2000). This Article focuses on patent law questions and thus, as is common in the literature, refers to the agency simply as the “Patent Office.” See, e.g., Jay P. Kesan, *Carrots and Sticks to Create a Better Patent System*, 17 BERKELEY TECH. L.J. 763, 765 & n.1 (2002); Robert P. Merges, *One Hundred Years of Solicitude: Intellectual Property Law, 1900-2000*, 88 CALIF. L. REV. 2187, 2216-17 (2000) [hereinafter Merges, *One Hundred Years*]; John R. Thomas, *Collusion and Collective Action in the Patent System: A Proposal for Patent Bounties*, 2001 U. ILL. L. REV. 305, 306 & n.2 [hereinafter Thomas, *Proposal for Patent Bounties*].

4. See Bagley, *supra* note 2, at 254 (“[T]he oft-repeated theme has been that many Internet business method ‘inventions’ being patented are obvious”); Rochelle Cooper Dreyfuss, *Are Business Method Patents Bad for Business?*, 16 SANTA CLARA COMPUTER & HIGH TECH. L.J. 263, 268 (2000) (noting the “frequency with which the Patent Office issues patents on shockingly mundane business inventions”); Andy Johnson-Laird, *Looking Forward, Legislating Backward?*, 4 J. SMALL & EMERGING BUS. L. 95, 120 (2000) (reporting a similar perception in the computer science community); Arti Rai, *Addressing the Patent Gold Rush: The Role of Deference to PTO Patent Denials*, 2 WASH. U. J.L. & POL’Y 199, 212 (2000) (“Commentators have expressed concern that program patents, particularly business method patents, are being granted on inventions that are obvious.”); John R. Thomas, *Liberty and Property in the Patent Law*, 39 HOUS. L. REV. 569, 577 (2002) (“Many newly issued patents appear to appropriate familiar concepts that lie within the public domain.”); Korn, *supra* note 2, at 1371 (“They felt that the patenting of such obvious and nonnovel methods would stifle competition.”).

5. See, e.g., James Gleick, *Patently Absurd*, N.Y. TIMES MAG., Mar. 12, 2000, at 44, 44 (“When 21st century historians look back at the breakdown of the United States patent system, they will see a turning point in the case of Jeff Bezos and Amazon.com and their special invention: ‘The patented One Click® feature,’ Bezos calls it.”). Contemporary Patent Office absurdities have even made it onto pop culture’s radar: we learn, in the fifth installment of the *Harry Potter* series, that the Ministry of Magic, the pinnacle of anglophone wizarding officialdom, contains a “Ludicrous Patents Office.” J.K. ROWLING, *HARRY POTTER AND THE ORDER OF THE PHOENIX* 129 (2003). If anything is mass

Some commentators, struck by the Patent Office's fumbles with applications for patents on computer-implemented inventions, have proposed improving Patent Office procedures.⁶ Others take comfort (even if only a little) from the fact that the courts, guarding against Patent Office errors, have the power to strike down invalid patents during litigation.⁷ Turning further toward the courts, Professor Lemley urges that, "[b]ecause so few patents are ever asserted against a competitor, it is much cheaper for society to make detailed validity determinations in those few cases" where a patent is litigated or licensed than it is to greatly increase the accuracy of all Patent Office patentability determinations.⁸ It is thus common ground, across a range of views about the urgency of Patent Office reform, that the

culture, Harry Potter is. *See Harry Potter and the Merchandising Gold*, *ECONOMIST*, June 21, 2003, at 64 ("Globally, the first four Harry Potter books have sold some 200M copies in 55 languages; the two movies have grossed over \$1.8 billion at the box office.").

6. *See, e.g.*, Robert P. Merges, *As Many as Six Impossible Patents Before Breakfast: Property Rights for Business Concepts and Patent System Reform*, 14 *BERKELEY TECH. L.J.* 577, 600-15 (1999) [hereinafter Merges, *Six Impossible Patents*]; Rai, *supra* note 4, at 218-20; John R. Thomas, *The Responsibility of the Rulemaker: Comparative Approaches to Patent Administration Reform*, 17 *BERKELEY TECH. L.J.* 727, 756-60 (2002) [hereinafter Thomas, *Patent Administration Reform*].

7. *See* Bagley, *supra* note 2, at 265-77 (demonstrating that courts, applying the full range of prior art sources that are relevant to the computer-implemented methods on which patents are sought, can readily identify invalid patents); Dreyfuss, *supra* note 4, at 270 (observing that invalid patents on "really important" business methods can be invalidated through litigation, and cautioning that such patents can inflict harm in the interim). The federal courts give plenary review to all patent validity questions during patent infringement litigation. 35 U.S.C. § 282, ¶ 2 (2000); JANICE M. MUELLER, *AN INTRODUCTION TO PATENT LAW* 269-70, 295-96 (2003).

8. Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 *NW. U. L. REV.* 1495, 1497, 1508-11 (2001) [hereinafter Lemley, *Rational Ignorance*]. In other words, "society ought to resign itself to the fact that bad patents will issue, and attempt to deal with the problem *ex post*, if the patent is asserted in litigation." *Id.* at 1510. As Professor Lemley recognizes, some Patent Office reforms are worth pursuing. *Id.* at 1523-25. He contends, however, that the primary reform goal should be "to strengthen the validity inquiry made by the trial courts." *Id.* at 1532.

Professor Lemley's essay has provoked a lively debate in the literature. *See* Shubha Ghosh & Jay Kesan, *What Do Patents Purchase? In Search of Optimal Ignorance in the Patent Office*, 40 *HOUS. L. REV.* 1219 (2004) (presenting an alternative "optimal ignorance" approach to determining Patent Office policy); Arti K. Rai, *Engaging Facts and Policy: A Multi-Institutional Approach to Patent System Reform*, 103 *COLUM. L. REV.* 1035, 1080-85 (2003) (discussing *Rational Ignorance*); Thomas, *Patent Administration Reform*, *supra* note 6, at 731-40 (offering a spirited critique of *Rational Ignorance*).

U.S. patent system's health depends on the ready availability of robust court review of patent validity.⁹

However, what if the courts are routinely blocked from fixing the Patent Office's mistakes? What if patent litigation's current procedural framework strongly disfavors exhaustive review of the validity of asserted patent claims,¹⁰ even where commercially important technology is at stake? The outcome of the Amazon case points to such a tilt against definitive resolution of patent validity challenges, and for reasons that apply well beyond the Internet patent context.

In December 1999, the trial court granted Amazon a preliminary injunction against B&N.¹¹ Just over a year later, in February 2001, the U.S. Court of Appeals for the Federal Circuit vacated the preliminary injunction, concluding that B&N had "mounted a substantial challenge to the validity of the patent in suit."¹² Showing its grave doubts about the one-click patent's validity, the Federal Circuit discussed in detail five different computer-implemented techniques that predated the Amazon one-click system and appeared to render it obvious.¹³ The Federal Circuit formally reserved the question whether the one-click patent is invalid for obviousness, stating that it was "a matter for resolution at trial."¹⁴ At the same time, its exhaustive seven-page review of the prior art provided a step-by-

9. The point is not new. As a commentator stated over sixty years ago, "[t]he judicial determination of the validity of patents is not a mere 'check' or 'brake' on the accuracy or good judgment of an administrative tribunal, but is itself a fundamental part of the machinery of the patent system." William R. Woodward, *A Reconsideration of the Patent System as a Problem of Administrative Law*, 55 HARV. L. REV. 950, 959 (1942).

10. I use the word "claim" here in its patent law sense, rather than as a synonym for "cause of action." A claim in a patent is one of the numbered paragraphs that appear at the end of the patent document. The one-click patent, for example, has twenty-six separately numbered claims. U.S. Patent No. 5,960,411 (issued Sept. 28, 1999). The Patent Act requires the patentee to provide these numbered claim paragraphs, the function of which is to "particularly point[] out and distinctly claim[] the subject matter which the applicant regards as his invention." 35 U.S.C. § 112, ¶ 2 (2000). Each claim in an issued patent is presumed to be valid, "independent[] of the validity of other claims." 35 U.S.C. § 282, ¶ 1 (2000). And each claim provides the patentee with a separate right to exclude others. See *Leeds & Catlin Co. v. Victor Talking Mach. Co.*, 213 U.S. 301, 319 (1909) (discussing legal separateness and viability of individual patent claims); MUELLER, *supra* note 7, at 37-39.

11. *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 73 F. Supp. 2d 1228, 1249 (W.D. Wash. 1999).

12. *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1347, 1358 (Fed. Cir. 2001).

13. *Id.* at 1360-66.

14. *Id.* at 1360.

step guide for the trial court to strike down Amazon's patent on remand—its analysis so damning that some have stated that the Federal Circuit invalidated the claims.¹⁵

It may surprise one, then, that the parties settled the case in March 2002, a year after B&N's victory on appeal.¹⁶ Even with the Federal Circuit's powerful endorsement of its invalidity case in hand, B&N preferred settlement to a definitive determination that Amazon's one-click patent is invalid. Although the parties kept the terms of their settlement secret,¹⁷ one thing is plain: every claim of the one-click patent is as valid today as it was when the Patent Office granted it. Amazon can license the patent to others for a royalty or refuse to do so, and it can continue to sue, and to settle with, those who appear to have infringed the patent.

Why did B&N give up the fight when the appeals court had drawn the trial court a map to near-certain victory? One suspects that B&N's decision turned, at least in part, on a basic procedural feature common to all patent litigation—namely, that an invalidity judgment in favor of one accused infringer helps all accused infringers.¹⁸

Consider the alternatives that this procedural rule creates. If B&N had successfully invalidated Amazon's patent claims, Amazon would have been unable to assert those claims against any firm, including B&N's other competitors (such as Alibris.com or Powells.com). A settlement, by contrast, gives B&N peace and leaves Amazon's patent intact as a barrier against one-click offerings from other e-tailers. So long as acceptable settlement terms could be found—a condition made more likely by the ease with which B&N had designed around Amazon's patent¹⁹—it made little sense for B&N alone to continue to pay attorney fees to confer a benefit freely on others. These once embattled booksellers have thus aligned their interests behind the patent's continued presence in the marketplace, not-

15. See Dan L. Burk & Mark A. Lemley, *Is Patent Law Technology-Specific?*, 17 BERKELEY TECH. L.J. 1155, 1167 (2002) ("The Federal Circuit has found software patents invalid for obviousness in two recent cases, *Lockwood v. American Airlines* and *Amazon.com v. Barnes & Noble*." (footnotes omitted)).

16. *Amazon Settles Suit Against Online Rival Over Buying Shortcut*, WALL ST. J., Mar. 8, 2002, at B5, available at 2002 WL-WSJ 3388159.

17. *Id.*

18. See MUELLER, *supra* note 7, at 297 ("[O]nce a U.S. patent has been declared invalid, it is dead and cannot be resuscitated.").

19. See *Additional Developments*, 16 BERKELEY TECH. L.J. 487, 492 (2001) ("[T]he company has modified its Express Lane feature by adding a 'confirmation' step in which the user is asked to click a second time to verify address and billing information.").

withstanding the patent's likely invalidity.²⁰ The crux of such reasoning, which applies in some measure to every patent case, is the now-routine approach to collateral estoppel, or issue-preclusion, that the Supreme Court ushered into federal law in *Blonder-Tongue Laboratories, Inc. v. University of Illinois Foundation*.²¹

In *Blonder-Tongue*, the Court held that an alleged patent infringer can use issue-preclusion to foreclose an infringement suit where the patent claim in question had already been declared invalid in an earlier suit. So long as "a patentee has had a full and fair chance to litigate the validity of his patent in an earlier case," the Court held, even an accused infringer who is a stranger to that earlier case can raise "a plea of estoppel" to defend "a charge of infringement of a patent that has once been declared invalid."²² With this rule in place, an alleged infringer who wins a patent invalidity judgment earns a benefit not only for itself but for everyone, including those of this winner's competitors who were either practicing the patented technology already or might wish to adopt it in the future.

Defensive nonmutual issue-preclusion admittedly has a superficial appeal, effectively eliminating any repeat costs of defending an infringement allegation based on a patent claim that has already been invalidated in a

20. See Joseph Scott Miller, *This Bitter Has Some Sweet: Potential Antitrust Enforcement Benefits from Patent Law's Procedural Rules*, 70 ANTITRUST L.J. 875, 890-91 & n.44 (2003) (discussing way in which interests of settling patentee and accused infringer become aligned against other competitors); Thomas, *Proposal for Patent Bounties*, *supra* note 3, at 335-37 (same).

21. 402 U.S. 313 (1971). Federal civil procedure treatises acknowledge that *Blonder-Tongue*, although a patent infringement case, more generally ushered nonmutual defensive issue-preclusion into the federal courts. See ROBERT C. CASAD & KEVIN M. CLERMONT, RES JUDICATA 175 (2001) ("Such 'defensive use' [of issue-preclusion] by a stranger was authorized as part of the federal common law of res judicata by *Blonder-Tongue*. . ."); FLEMING JAMES, JR. & GEOFFREY C. HAZARD, JR., CIVIL PROCEDURE § 11.24, at 634 (3d ed. 1985) (explaining that *Blonder-Tongue* "rejected the 'mutuality' rule" for federal courts); 18 JAMES W. MOORE ET AL., MOORE'S FEDERAL PRACTICE § 132.01[2], at 132-11 & n.6 (3d ed. 2003) (citing *Blonder-Tongue* for proposition that issue-preclusion "often protects a defendant from the burden of litigating an issue that has been fully and fairly tried in a prior action and decided against the same plaintiff"); *id.* § 132.04[2], at 132-156.1 to 132-158 (recounting history of mutuality's demise, citing *Blonder-Tongue* throughout); 18A CHARLES ALAN WRIGHT ET AL., FEDERAL PRACTICE & PROCEDURE § 4464, at 696 (2d ed. 2002) ("The first major retreat from mutuality by the Supreme Court came in *Blonder-Tongue* . . . [and] the opinion paved the way for the wholesale rejection [of mutuality] that quickly followed, first in lower courts and then in the Supreme Court itself.").

22. *Blonder-Tongue*, 402 U.S. at 333, 350.

prior court case.²³ But *Blonder-Tongue* also imposes social costs, and nearly everyone has ignored them. In particular, it sharply reduces the incentive an alleged infringer has to fight a patent case to the finish, even where the alleged infringer has (as B&N did) strong proof of the patent's invalidity. Invalid patents thus continue to cast shadows on the market, and firms waste resources avoiding these shadows or paying needless royalties as insurance for safe passage through them.

Professor Thomas recently called much-needed attention to this defect in patent litigation's basic structure.²⁴ Recognizing that, under *Blonder-*

23. The issue-preclusion rule cannot entirely eliminate defense costs for a subsequent alleged infringer, but it has come close. A patentee can sue on an invalidated patent claim, urging that the prior suit did not provide the patentee a full and fair opportunity to litigate the claim's validity; the alleged infringer then faces the cost of litigating the issue-preclusion question. Indeed, just after *Blonder-Tongue* was decided, one commentator expressed concern that the Court's apparent interest in a highly context-sensitive "justice and equity" approach to issue-preclusion, *id.* at 334, could lead to lengthy and expensive issue-preclusion proceedings. See Frederick J. Rerko, Note, *Blonder-Tongue: Abrogation of Mutuality Requirement for Defensive Use of Collateral Estoppel in Patent Infringement Suits*, 33 U. PITT. L. REV. 287, 293 (1971) ("[C]loser inspection of the Court's decision reveals that the vague guidelines set forth for determination of a [prior] full and fair opportunity may very well defeat the objectives sought in overruling [the mutuality requirement from] *Triplett*."). Subsequent cases, however, have proved otherwise: "Lower court decisions after *Blonder-Tongue* generally rebuff efforts by patent owners to establish absence of full and fair opportunity to litigate." 6 DONALD S. CHISUM, CHISUM ON PATENTS § 19.02[2][b], at 19.54 (2003) [hereinafter CHISUM]. The defense costs for a subsequent alleged infringer are thus, in practice, zero.

24. See Thomas, *Proposal for Patent Bounties*, *supra* note 3, at 333-34. Among the more than twenty-five law review commentaries on the *Blonder-Tongue* case that appeared from about 1970 to 1975, only one—John A. Kidwell's *Comity, Patent Validity, and the Search for Symmetry: Son of Blonder-Tongue*, 57 J. PAT. OFF. SOC'Y 473 (1975)—recognizes that defensive nonmutual issue-preclusion discourages patent validity challenges:

[T]he alleged infringer's incentives to litigate the validity of the patent were materially reduced [by *Blonder-Tongue*] since his investment in a successful attack on the patent has become a public good. Any competitors have the benefit of the finding of invalidity without paying the costs of litigation. . . . All this seems to suggest that the existence of this community of interest [between the patentee and the alleged infringer] will affect the issues raised by parties to the first suit, and will affect the litigation in a manner which will reduce the extent to which patent-validity determinations are made at all—hardly the effect contemplated by the Court in *Blonder-Tongue*!

Id. at 488-89. Unlike Professor Thomas, however, Professor Kidwell does not suggest any changes to the patent laws to counteract the issue-preclusion rule's challenge-suppressing effect.

Tongue, “patent challenges will be subject to collective action problems . . . [that] result in fewer patent challenges than are socially optimal,” he observes that “industry actors have not been sufficiently animated into challenging patents that should be brought down.”²⁵ He both critiques the way in which a variety of popular reform proposals fail to grapple with the perverse incentives created by *Blonder-Tongue*²⁶ and offers a fresh alternative that tackles the incentive problem head on: pay a cash bounty to any informant who provides the Patent Office with new information that helps defeat a patent application.²⁷ The Thomas bounty thus operates at the patent examination stage, before a wrongly granted patent has a chance to distort other firms’ behavior.

Though it is laudable to prevent unpatentable applications from issuing as patents in the first place, the examination-stage bounty’s timing is its great weakness. This weakness flows from the fact that, at the time a patent issues, it is hard to tell whether the technology it purports to control—and thus the patent itself—has any commercial significance. Indeed, judging from what we know about patent litigation and licensing rates, the safest prediction for the typical patent is that it will generate little or no economic benefit for its owner.²⁸ This is so because, as Professor Scherer’s

25. Thomas, *Proposal for Patent Bounties*, *supra* note 3, at 334.

26. *Id.* at 334-40.

27. *Id.* at 307, 341-42.

28. See Lemley, *Rational Ignorance*, *supra* note 8, at 1501-08 (showing that “the overwhelming majority of patents are neither litigated nor licensed”); F.M. Scherer, *The Innovation Lottery*, in *EXPANDING THE BOUNDARIES OF INTELLECTUAL PROPERTY: INNOVATION POLICY FOR THE KNOWLEDGE SOCIETY* 3, 8-9 (Rochelle Cooper Dreyfuss et al. eds., 2001) (reporting results of a “survey of the license royalties obtained by six research-oriented US universities on their patent portfolios during four years of the early 1990s,” wherein “a single bundle [of three patents] yielded 24 to 33 percent of the total royalties obtained from 350 to 486 individual bundles of licensed technology” and “one to two percent of the sample members . . . generated from 66 to 76 percent of total sample patent royalties”).

Empirical research may enhance our ability to predict which patents will be litigated and which will not. In a pathbreaking study, Professor Allison et al. demonstrate that some basic patent characteristics are statistically reliable predictors of which patents are likely to be litigated. See John R. Allison et al., *Valuable Patents*, GEO. L.J. (forthcoming 2004) (manuscript on file with author). And many of these predictors can be assessed at or about the time the Patent Office issues the patent. For example, they show that litigated patents tend to have more claims than issued patents generally, *id.* (manuscript at § II.A.1.a, on file with author); litigated patents cite more prior art “U.S. patents, total patents (including foreign patents), non-patent references, and total prior art references than non-litigated patents,” *id.* (manuscript at § II.A.1.b, on file with author); “[l]itigated patents cite more prior art owned by the same assignee than non-litigated patents,” *id.*;

empirical work demonstrates, “[a] minority of ‘spectacular winners’” in the patenting game “appropriate the lion’s share of total rewards.”²⁹ A bounty that operates before the market sifts the spectacular winners from the patents without commercial value thus seems bound to divert resources away from more productive uses and toward eliminating many patent applications that, if issued as patents, will have no effect on the market. Such applications, which are not worth the cost it takes to prosecute them to completion, are surely not worth the cost it would take to weed them out with an examination-stage bounty.³⁰

Instead, the bounty mechanism should target those patents that cover commercially significant inventions, the better to ensure that challengers receive bounties only in cases where the social gain from invalidating the patent warrants the bounty’s cost. Perhaps the most reliable signal that a patent covers a commercially significant technology is the patentee’s willingness to litigate the patent against an alleged infringer.³¹ This Article thus constructs a litigation-stage bounty mechanism that rewards definitive patent challenges.³²

litigated patents result from more complex and lengthier prosecution histories than issued patents generally, *id.* (manuscript at §§ II.A.2.a, b, on file with author); and “[p]atents originally issued to individuals and small businesses [are] far more likely to be litigated than patents originally issued to large corporations,” *id.* (manuscript at § III.A, on file with author). At the same time, the low litigation base rate for all patents is clear: “Ninety-nine percent of patent owners never even bother to file suit to enforce their rights.” *Id.* (manuscript at 1, on file with author).

29. Scherer, *supra* note 28, at 11.

30. Professor Lemley has criticized the Thomas bounty proposal on just this ground. See Lemley, *Rational Ignorance*, *supra* note 8, at 1525 & n.112.

31. “A rational patent owner won’t file suit unless his expected return is at least a few million dollars.” Allison et al., *supra* note 28 (manuscript at 8, on file with author). A patentee shows its willingness to litigate the patent either by filing an infringement complaint against an alleged infringer, or by making a threat of infringement litigation that is pointed enough to give the threatened party an objectively reasonable apprehension of suit. Such a pointed litigation threat helps trigger jurisdiction over a declaratory judgment action brought by the alleged infringer. See *infra* Part V.B.1.

Asserting a patent in court or licensing it for royalties are not, of course, the only indicia of the patent’s value; patents serve valuable functions other than excluding, or extracting a royalty from, a competitor. See *infra* Part V.A.1. Litigation and royalty licensing are, however, the best indications that a specific patent, if it is invalid, imposes social costs high enough to warrant encouraging parties to expose the patent’s invalidity by offering them a bounty for doing so.

32. This Article expands greatly on a proposal I first made in testimony before the May 14, 2002, session of the Joint Hearings on Competition and Intellectual Property Law and Policy in the Knowledge-Based Economy, conducted by the Federal Trade

Part I first briefly describes the free rider problem with inventions that patent law attempts to solve, then details how the Supreme Court's decision in *Blonder-Tongue* creates an equally troubling free rider problem in the context of patent validity challenges. Part II critiques two recent proposals directed at solving the free rider problem that undercuts patent challenges: the examination-stage bounty proposed by Professor Thomas, and a one-way fee-shifting rule more recently proposed by Professor Kesan.³³ Part III proposes a new bounty, one that offers the benefits of the Thomas and Kesan proposals without their respective drawbacks. This bounty would apply at the litigation stage, in an amount that varies as a function of the patentee's net profits from practicing the technology set forth in the asserted patent claims. Finally, Part IV provides answers to the most likely objections to a litigation-stage bounty.

II. BLONDER-TONGUE CHANGED PATENT INVALIDITY JUDGMENTS FROM PRIVATE TO PUBLIC GOODS

Before the Supreme Court's 1971 decision in *Blonder-Tongue*, an alleged infringer who successfully challenged the validity of a patent claim had the benefit of that court judgment to itself. In the 1936 case of *Triplett v. Lowell*, for example, the Supreme Court had roundly rejected the contention that a patentee could be estopped from suing on its patent by an earlier invalidity judgment.³⁴ The Court noted in *Triplett* that it "ha[d]

Commission and the Antitrust Division of the U.S. Department of Justice. See Miller, *supra* note 20, at 891-95 (noting hearings, and sketching litigation-stage bounty mechanism). A transcript of the session is available at <http://www.ftc.gov/opp/intellect/020514trans.pdf>. Commenting on the bounty proposal I made at the hearings, Professors O'Rourke and Brodley observe that "[s]uch an idea, while theoretically sound, faces a host of practical questions." Maureen A. O'Rourke & Joseph F. Brodley, *An Incentives Approach to Patent Settlements: A Commentary on Hovenkamp, Janis & Lemley*, 87 MINN. L. REV. 1767, 1779 (2003). This Article answers the practical questions by fully exploring the theoretical justifications for a litigation-stage bounty.

33. See Kesan, *supra* note 3, at 787-97 (proposing a one-way fee-shifting rule in favor of winning accused infringer).

34. See 297 U.S. 638, 642 (1936). The Court stated:

Neither reason nor authority supports the contention that an adjudication adverse to any or all the claims of a patent precludes another suit upon the same claims against a different defendant. While the earlier decision may by comity be given great weight in a later litigation and thus persuade the court to render a like decree, it is not *res adjudicata* and may not be pleaded as a defense.

Id. The first *Restatement of Judgments* was to the same effect, stating that, as a general rule, "a person who is not a party or privy to a party to an action in which a valid judg-

several times held valid the claims of a patent which had been held invalid by a circuit court of appeals in an earlier suit brought by the same plaintiff against another defendant.”³⁵ *Blonder-Tongue* thus turned *Triplett* on its head, giving the whole world the benefit of a patent invalidity judgment in favor of one alleged infringer.

More than thirty years later, defensive nonmutual issue-preclusion has become routine in patent litigation and in federal litigation more generally.³⁶ Long familiarity with the current rule may obscure the social costs it imposes as applied to patent litigation. A moment’s reflection on the rule’s effects in varied settings brings these social costs back into view.

When a court permits defensive nonmutual issue-preclusion in a case that affects only a small number of readily identifiable people—such as a contract case concerning a handful of parties, or a tort case involving a few crashed cars, each with a few passengers—the rule eliminates wasteful duplication of litigation effort with only a modest downside risk of distorting litigation incentives.³⁷ Perhaps this is why the California Supreme Court case that touched off a rush toward nonmutual issue-preclusion, *Bernhard v. Bank of America National Trust & Savings Ass’n*,³⁸ took no account of the possibility that rejecting the traditional mutuality require-

ment other than a judgment in rem is rendered . . . is not bound by or entitled to claim the benefits of an adjudication upon any matter decided in the action.” RESTATEMENT OF JUDGMENTS § 93(b) (1942). The *Restatement* also provided an illustration:

A brings an action against B for infringement of a patent. B defends on the ground that the alleged patent was void and obtains judgment. A brings an action for infringement of the same patent against C who seeks to interpose the judgment in favor of B as res judicata, but setting up no relation with B. On demurrer, judgment should be for A.

Id., cmt. d, illus. 10. Both *Triplett* and the *Restatement* simply followed settled practice in this respect. See 2 HENRY C. BLACK, A TREATISE ON THE LAW OF JUDGMENTS § 534, at 808 (2d ed. 1902) (stating mutuality requirement); Francis P. Devine, Comment, *Blonder-Tongue Bites Back: Collateral Estoppel in Patent Litigation – A New Look*, 18 VILL. L. REV. 207, 214 (1972).

35. 297 U.S. at 643 (listing cases).

36. See *supra* note 21.

37. The duplication is wasteful if, as is usually the case, each court that adjudicates the case is equally likely to reach the correct result. See CASAD & CLERMONT, *supra* note 21, at 29; RICHARD A. POSNER, ECONOMIC ANALYSIS OF LAW § 21.11, at 635 (5th ed. 1998); see also Bruce L. Hay, *Some Settlement Effects of Preclusion*, 1993 U. ILL. L. REV. 21, 41-51 (analyzing nonmutuality rule’s effects on parties’ incentives to settle the first of a series of similar suits).

38. 122 P.2d 892 (Cal. 1942); see *Blonder-Tongue*, 402 U.S. at 323-26 (discussing *Bernhard* and its “significant impact” on adoption of nonmutual preclusion rules in state and federal courts).

ment could diminish each party's incentive to litigate a case in the first place (rather than hanging back until another shoulders that burden).

Bernhard involved a dispute among a bank, a deceased woman's caretaker, and the four beneficiaries of her estate; at issue was the bank's authority to pay money out of the deceased woman's account to her caretaker.³⁹ In this relatively simple case, involving at most six parties, the California Supreme Court focused on avoiding the waste of duplicative litigation: "it would be unjust to permit one who has had his day in court to reopen identical issues merely by switching adversaries."⁴⁰ It is hardly surprising that the four beneficiaries of the estate, so few in number, were able to coordinate their attempts to recapture the payout the caretaker had received.⁴¹ Limiting them to one such attempt would not undermine their coordination.

A patent, unlike the typical contract or tort, affects the rights and obligations of everyone in the United States who would practice the technology claimed in it.⁴² Patents are, in this sense, nationwide regulations.⁴³ And patent litigation, to the extent it tests the very validity of a given patent grant, affects not only the alleged infringer before the court, but also every other party who is, or may wish to begin, practicing the patented technology. The public importance of validity determinations explains, for example, the statutory mandate that a patent infringement arbitral award is not enforceable between the parties until a detailed notice of the arbitration proceeding, including a copy of the award, is filed with the Patent Office.⁴⁴ With the rights of so many other independent parties at stake, a nonmutual issue-preclusion rule raises serious questions about who appropriates the bulk of the return on an alleged infringer's investment in a definitive ruling on patent validity. These serious questions, in turn, make each party less likely to make the investment in the first place. Moreover,

39. 122 P.2d at 893.

40. *Id.* at 895.

41. *Id.* at 893, 895.

42. *See Mikohn Gaming Corp. v. Acres Gaming, Inc.*, 165 F.3d 891, 896 (Fed. Cir. 1998) (noting "the national scope of the patent grant").

43. *See Thomas, Patent Administration Reform, supra* note 6, at 741. Thomas states: There can be no question that Congress has conferred substantial rule-making power [on patentees] through the patent system. Each issued patent instills in all of us the duty to avoid practicing the patented invention without the permission of the patentee. Patent instruments yield causes of action in tort that applicants write for themselves.

Id. (footnote omitted).

44. 35 U.S.C. § 294(e) (2000).

if every alleged infringer pays a royalty to the patentee in the hope that another might take the far more costly step of challenging the patent, the social cost of a wrongly granted patent can far exceed the social cost of an unenforced contract or overlooked tort case.

It is ironic that *Blonder-Tongue*, a patent infringement case, has generated an incentive problem of the very sort that patent law itself is adapted to solve. Before turning to the Court's reasoning in *Blonder-Tongue*, it is helpful to review the standard account of patent protection's role in solving a free rider problem that can dampen the incentive to invest in costly inventions.

A. Patent Law Solves a Free Rider Problem

A U.S. utility patent⁴⁵ confers on its owner the right to exclude others from making, using, selling, offering for sale, or importing into the United States an embodiment of the invention claimed in the patent.⁴⁶ This right to exclude generally lasts from the patent's issue date until twenty years from the date the patent application was first filed.⁴⁷ The patent system, by

45. This Article focuses on utility patents, by far the most important type. U.S. law provides for three separate types of patents: utility patents, design patents, and plant patents. See 1 CHISUM, *supra* note 23, § 1.04 at 1-296 (comparing utility and design patents), § 1.05 at 1-505 (describing plant patents); MUELLER, *supra* note 7, at 169 & n.1, 194-96. Utility patents cover useful, new, and nonobvious products and processes. 35 U.S.C. §§ 101-103. This is the sort of patent most people think of as, simply, a patent. Design patents cover new, original, and ornamental designs for "article[s] of manufacture." 35 U.S.C. §§ 171-173. Plant patents cover distinct and new varieties of plants that are asexually reproduced. 35 U.S.C. §§ 161-164. The Patent Office grants many more utility patents than design or plant patents. For example, during the eight years from 1994 to 2001 inclusive, the Patent Office granted 1,049,263 utility patents (or about 131,158 per year); 109,415 design patents (or about 13,677 per year); and 3,756 plant patents (or about 470 per year). See U.S. PATENT AND TRADEMARK OFFICE, U.S. PATENT STATISTICS, CALENDAR YEARS 1963-2001 (reporting annual grant totals), at http://www.uspto.gov/web/offices/ac/ido/oeip/taf/us_stat.pdf (Mar. 2002).

46. 35 U.S.C. §§ 154(a)(1), 271(a). As explained above, *supra* note 7, an alleged infringer has the right to demonstrate that the patent is not valid. It is thus, in a sense, more accurate to say that a patent confers a right to sue, rather than a right to exclude. See Herbert Hovenkamp et al., *Anticompetitive Settlement of Intellectual Property Disputes*, 87 MINN. L. REV. 1719, 1761 (2003) ("[A] patent is not a right to exclude, but rather a right to try to exclude."); Miller, *supra* note 20, at 881-82.

47. 35 U.S.C. § 154(a)(2). The twenty-year term is subject to a variety of upward adjustments, available in such events as long delays at the Patent Office, 35 U.S.C. § 154(b), and FDA drug approval processes, 35 U.S.C. §§ 155-156. See generally 5 CHISUM, *supra* note 23, § 16.04[1], [5], [6]. The basic point, however, is that patents are granted for a limited term, and that term usually expires twenty years from the first filing date. See MUELLER, *supra* note 7, at 16-17.

providing an inventor with this right to exclude others, helps to solve a free rider problem that would otherwise undercut an inventor's incentive to risk inventing in the first place.⁴⁸

The free rider problem that would undercut the incentive to invent in a world without patent protection or a cash prize equivalent⁴⁹ arises from two facts: (1) an invention, separate from the things that embody it, is

48. What follows in this section summarizes the standard account of patent protection's role in solving the invention/free rider problem. This standard account is common across both the economics and legal literatures. For examples from the economics literature, see SUBCOMM. ON PATENTS, TRADEMARKS, & COPYRIGHTS, SENATE COMM. ON THE JUDICIARY, 85TH CONG., AN ECONOMIC REVIEW OF THE PATENT SYSTEM 58-60 (Comm. Print 1958); ROBERT S. PINDYCK & DANIEL L. RUBINFELD, MICROECONOMICS 605, 661-65 (2d ed. 1992); F.M. SCHERER & DAVID ROSS, INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE 622-30 (3d ed. 1990); and CARL SHAPIRO & HAL R. VARIAN, INFORMATION RULES 8-17, 19-23 (1999). For examples from the legal literature, see ROBERT COOTER & THOMAS ULEN, LAW AND ECONOMICS 42-43, 106-09, 126-29 (3d ed. 2000); POSNER, *supra* note 37, at 43-45; STEVEN SHAVELL, FOUNDATIONS OF ECONOMIC ANALYSIS OF LAW 138-44 (2004); Ann Bartow, *Separating Marketing Innovation from Actual Invention: A Proposal for a New, Improved, Lighter, and Better-Tasting Form of Patent Protection*, 4 J. SMALL & EMERGING BUS. L. 1, 2 (2000); Kenneth W. Dam, *The Economic Underpinnings of Patent Law*, 23 J. LEGAL STUD. 247, 247-48 (1994); Rebecca S. Eisenberg, *Patents and the Progress of Science: Exclusive Rights and Experimental Use*, 56 U. CHI. L. REV. 1017, 1024-26 & n.31 (1989); and Mark A. Lemley, *The Economics of Improvement in Intellectual Property Law*, 75 TEX. L. REV. 989, 994-97 (1997) [hereinafter Lemley, *Economics of Improvement*].

49. For recent discussions of the cash prize approach to solving the invention/free rider problem, see Michael Abramowicz, *Perfecting Patent Prizes*, 56 VAND. L. REV. 115 (2003); Steven Shavell & Tanguy Van Ypersele, *Rewards Versus Intellectual Property Rights*, 44 J.L. & ECON. 525 (2001).

The challenge in designing any prize system is matching the size of the award to the social value of the invention, as experts on the subject recognize. Abramowicz, *supra*, at 121 ("Prize system advocates recognize that the devil is in the details and that the devil for a prize system is the government's ability to dispense rewards accurately."); Shavell & Van Ypersele, *supra*, at 526 ("A principal difficulty with reward systems, however, concerns the government's need for information to calculate rewards (although the government might be able to base rewards on sales and other ex post data)."). The patent system, as Adam Smith noted long ago, harnesses the market to value the invention:

For if the legislature should appoint pecuniary rewards for the inventors of new machines, etc., they would hardly ever be so precisely proportioned to the merit of the invention as [the exclusive privilege of making and vending that invention for the space of fourteen years] is. For here, if the invention be good and such as is profitable to mankind, he will probably make a fortune by it; but if it be of no value he also will reap no benefit.

ADAM SMITH, LECTURES ON JURISPRUDENCE 83 (R.L. Meek et al. eds., 1978) (editorial notations omitted).

simply information; and (2) information is a “public good,” i.e., it is non-rivalrous (one person’s use of it does not leave any less for another to use) and nonexcludable (it is difficult to restrict its use to those who have paid for access). The public good characteristics of information make it more difficult to earn a good return on an investment in producing new information, as a brief thought experiment amply demonstrates.

Imagine a case where inventing a new solution to a particular problem requires a relatively large capital investment up front.⁵⁰ Success, however likely, is not certain. Should the inventor try?

The typical inventor is unlikely to invest the capital needed to make the invention unless she predicts a good return from doing so. She earns her return, if at all, by selling a good or service that embodies or relies on the invention at a price that exceeds the cost of generating the invention. And this is where information’s public good characteristics can take a bite. If the invention is apparent from the inventor’s eventual offering in the market, other firms, noting consumer demand, will determine the invention from the inventor’s offering and use the invention to provide a substitute good or service.⁵¹ Moreover, absent a legal rule that prevents it, these competitors will offer the good or service at a lower price than the inventor because they need not take account of the cost of generating the invention. The inventor already will have paid those invention costs, and the competitors will take a free ride. The inventor, to stay in the game, will cut her price below that of the free riders, who will quickly cut their price in turn. Soon, all who remain in the market will be selling at the competitive price dictated by the cost structure that the free riders face, which ignores the costs of inventing. The inventor, concluding that it will not recover its invention costs, abandons the invention effort before it begins.

The key insight here is that, if an inventor who is motivated by profit concludes that free riders will compete away her chance to cover her invention costs, the inventor will refuse to incur those costs at the outset. As a result, if we want the benefits offered by capital-intensive inventions and easily copied inventions, we must provide a fix that banishes the free riders.

50. The would-be inventor’s problem could be medical, and finding a new drug or other therapy could cost millions of dollars over a number of years; or the problem could be electromechanical, and building and testing a new device or process could cost thousands of dollars over a few months; and so on.

51. The inventor’s use of the information, far from exhausting it, leaves as much information for competing firms to use. And the inventor cannot, without more, readily exclude competitors from using the information.

There is little one can do to make information rivalrous. The exclusivity dimension, however, offers hope because free riders cannot compete away the inventor's chance at a return without using the information to offer a substitute good or service. We can thus target the free riders' use with a right to exclude, providing the inventor with a time-limited right to exclude others from using the invention, i.e., a patent. The patent insulates the inventor from price competition and thus provides the inventor a chance to recoup her investment. Of course, consumers pay higher prices for the goods or services that embody or rely on the invention, but this is the short-term cost of obtaining the long-term benefit of inventions that would not otherwise have been made.⁵²

The free rider theory underlying this utilitarian account of patent protection has been a driving force in U.S. intellectual property law since the founding era.⁵³ Indeed, this folk theory has been at the root of patent law since 1474, when the Republic of Venice—in what is the first recognizably modern patent statute—acted to protect the inventions made by its “men of great genius.”⁵⁴ The Republic provided inventors with exclusive rights to their inventions “so that others who may see them could not build them and take the inventor's honor away,” in the hope that “more men would then apply their genius, would discover, and would build devices of

52. See SCHERER & ROSS, *supra* note 48, at 624; Frank H. Easterbrook, *The Court and the Economic System*, 98 HARV. L. REV. 4, 21-22 (1984); Lemley, *Rational Ignorance*, *supra* note 8, at 1515 & n.75.

53. Citations for this point are legion. For examples from the literature—one a bit older than the rest—see SUBCOMM. ON PATENTS, TRADEMARKS, & COPYRIGHTS, SENATE COMM. ON THE JUDICIARY, 86TH CONG., *THE PATENT SYSTEM: ITS ECONOMIC & SOCIAL BASIS* 3-6 (Comm. Print 1960); ROBERT P. MERGES ET AL., *INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE* 10-16 (3d ed. 2003); ROGER E. SCHECHTER & JOHN R. THOMAS, *INTELLECTUAL PROPERTY: THE LAW OF COPYRIGHTS, PATENTS AND TRADEMARKS* § 1.3.1 (2003); Daniel J. Gifford, *Antitrust's Troubled Relations with Intellectual Property*, 87 MINN. L. REV. 1695, 1697 (2003); Lemley, *Economics of Improvement*, *supra* note 48, at 993-94; Mark A. Lemley, *Reconceiving Patents in the Age of Venture Capital*, 4 J. SMALL & EMERGING BUS. L. 137, 139 (2000) [hereinafter Lemley, *Reconceiving Patents*]; and Maureen A. O'Rourke, *Toward a Doctrine of Fair Use in Patent Law*, 100 COLUM. L. REV. 1177, 1181-83 (2000). The Supreme Court has long recognized this utilitarian basis for patent and copyright law. See, e.g., *Graham v. John Deere Co.*, 383 U.S. 1, 9 (1966) (patent case); *Twentieth Century Music Corp. v. Aiken*, 422 U.S. 151, 156 (1975) (copyright case).

54. MUELLER, *supra* note 7, at 7 & n.22 (describing Venetian patent law as the “first known general patent law”); Giulio Mandich, *Venetian Patents (1450-1550)*, 30 J. PAT. OFF. SOC'Y 166, 176 (1948).

great utility and benefit to [the] commonwealth.”⁵⁵ Replace “honor” with “money,” and you have the modern justification for patents.

Patent protection is only one solution to the foregoing free rider problem. Another, already mentioned, is a cash prize for an invention. Depending on the nature of the invention, still other solutions may apply. If the inventor’s market offering does *not* reveal the invention, as can be the case with many cost-saving process inventions, trade secret protection may be an adequate inducement to invent. With almost every invention, the inventor will also likely enjoy some lead time in the market while competitors learn about the invention and adapt their businesses to take advantage of it. This lead time, during which the inventor is the only provider who benefits from the invention, varies from case to case; it may be long enough for the inventor to recoup her invention costs. Even if the inventor’s lead time is not long enough, by itself, to permit recovery of invention costs, it may be long enough for the inventor to gain an additional buffer against price competition. Consumer loyalty to a brand, for example, may become strong enough for the inventor to maintain a price premium even after competitors enter the market.⁵⁶ Or the inventor’s offering may benefit from some network effect that continues to drive sales despite the presence of lower-priced competitors.⁵⁷ Finally, quite apart from such things as trade secrecy and advantages rooted in lead time, the inventor may be able to bundle the invention-dependent offering with a related offering that cross-subsidizes the first and that others cannot duplicate, such as a service contract or a companion good that is protected in some way (trade secrecy, brand loyalty, etc.).

These additional solutions to the free rider problem that threatens information generation have long been a supplement to—or, in the case of

55. Mandich, *supra* note 54, at 176.

56. Listerine® antiseptic mouthwash, the formula for which generic competitors have known for decades, is one example. *See* Warner-Lambert Pharm. Co. v. John J. Reynolds, Inc., 178 F. Supp. 655, 659 (S.D.N.Y. 1959), *aff’d*, 280 F.2d 197 (2d Cir. 1960).

57. The auction site eBay.com is an obvious example. Even if a new entrant in the online auction business were to charge sellers a listing fee far below eBay’s, most sellers would not use the new service, for the simple reason that the new auction site would not expose the seller to very many buyers (resulting in a lower final bid price). *See generally* Robert B. Ahdieh, *Making Markets: Network Effects and the Role of Law in the Creation of Strong Securities Markets*, 76 S. CAL. L. REV. 277, 288 & n.39 (2003); *Queen of the Online Flea Market*, *ECONOMIST*, Jan. 3, 2004, at 48 (“The biggest advantage of eBay is its size and the networking effect which that creates. If you are a seller, it is the place with the most buyers; if you are a buyer, it is the place with the most price information.”).

trade secrecy, an alternative to⁵⁸—patent protection. Interestingly, none of these additional solutions has called into serious doubt, much less displaced, the patent system, which has been part of U.S. national law since 1790.⁵⁹ Nonmutual issue-preclusion, on the other hand, has actually *created* its own troubling free rider problem, where the information to be generated is proof of the invalidity of a patent, rather than a new invention.

B. Blonder-Tongue Creates a Free Rider Problem

By the time the Supreme Court heard *Blonder-Tongue* in 1971, the range of post-*Bernhard* state and federal cases embracing nonmutual issue-preclusion had grown substantially.⁶⁰ Indeed, Professor Vestal, a leading authority on preclusion at that time, contrasted *Triplett's* mutuality rule for patent cases with the nonmutuality rule already common in other areas—what he termed “the *normal* rules of res judicata/preclusion.”⁶¹ And, just a few years before, a presidential commission had urged that “[a] final federal judicial determination declaring a patent claim invalid [should] be *in rem*.”⁶² The commission’s intent was to “preclude a subsequent suit on a patent claim previously held invalid by a federal court.”⁶³ Perhaps it is less surprising, against this backdrop, that the Court requested

58. See Thomas, *Proposal for Patent Bounties*, *supra* note 3, at 338 (“[A]n inventor who makes a secret, commercial use of an invention for more than one year prior to filing a patent application at the PTO forfeits his own right to a patent.”).

59. MUELLER, *supra* note 7, at 28-29 (briefly reviewing history of primary U.S. patent statutes). According to Professor Janis, “[i]n the United States, no substantial patent abolitionist movement has ever emerged.” Mark D. Janis, *Patent Abolitionism*, 17 BERKELEY TECH. L.J. 899, 901 (2002). England, by contrast, experienced a patent abolition movement from the early 1850s to the middle 1870s. *Id.* at 922-24.

60. See *Blonder-Tongue Labs., Inc. v. Univ. of Ill. Found.*, 402 U.S. 313, 324-27 (1971) (collecting and discussing cases and commentaries).

61. ALLAN D. VESTAL, RES JUDICATA / PRECLUSION V-410 (1969) (emphasis added); see also *id.* at V-300 to V-303 (discussing abandonment of mutuality rule); A.H. Evans & W.R. Robins, *The Demise of Mutuality in Collateral Estoppel (The Second Round Patent Suit—The Not-So-Instant Replay)*, 24 OKLA. L. REV. 179, 180 (1971) (noting, just prior to the *Blonder-Tongue* decision, that “mutuality is essentially dead in all areas of the federal law except patent law”).

62. PRESIDENT’S COMM’N ON THE PATENT SYS., “TO PROMOTE THE PROGRESS OF . . . USEFUL ARTS” IN AN AGE OF EXPLODING TECHNOLOGY 38 (1966) (recommendation no. 23).

63. *Id.* at 39. By the time of its *Blonder-Tongue* decision, the Court was well aware of the commission’s proposal, quoting it and discussing at length the legislative proposals it provoked. See 402 U.S. at 339-42.

on its own initiative that the parties in *Blonder-Tongue* brief the question whether *Triplett* should be overruled.⁶⁴

And overrule *Triplett* it did. The Court made quick work of the patentee's contention that it should not be estopped by an earlier invalidity judgment because "patent litigation [is] so technical and difficult as to present unusual potential for unsound adjudications."⁶⁵ The Court quite correctly focused not on the accuracy of any single patent validity judgment, but on the uniformity of the accuracy level across all patent validity judgments, quipping that "one might ask what reason there is to expect that a second district judge or court of appeals would be able to decide the issue more accurately" than the first.⁶⁶ Moreover, given that the patentee has the flexibility to choose whom, when, and where to sue, "there is no reason to suppose that plaintiff patentees would face either surprise or unusual difficulties in getting all relevant and probative evidence before the court in the first litigation."⁶⁷ Neither accuracy nor fairness justified keeping *Triplett*.

The *Blonder-Tongue* Court was far more interested in "the acknowledged fact that patent litigation is a very costly process,"⁶⁸ for both the patentee and the alleged infringer.⁶⁹ It focused on what it viewed as the two chief consequences of patent litigation's high cost. First, successive litigation wasted both parties' money and time, so long as the earlier invalidity judgment was sound.⁷⁰ Second, and "far more significant" to the Court, even an invalid patent continued to have an *in terrorem* effect against other potential defendants: faced with the choice, "prospective defendants will often decide that paying royalties under a license or other settlement is preferable to the costly burden of challenging the patent," notwithstanding the other alleged infringer's success at invalidating the patent.⁷¹

The Court recoiled at the prospect of firms making royalty payments in tribute to a demonstrably invalid patent. Such payments were "an unjust

64. *Blonder-Tongue*, 402 U.S. at 313.

65. *Id.* at 330. This was, at the time, a leading argument in favor of preserving *Triplett*. See Max L. Lieberman & George R. Nelson, In rem *Validity—A Two-Sided Coin*, 53 J. PAT. OFF. SOC'Y 9, 24 (1971); Neil T. Neumark, Comment, *Blonder-Tongue Laboratories, Inc. v. University of Illinois Foundation: Mutuality of Estoppel—A Final Eulogy*, 5 IND. L.F. 208, 213 (1971).

66. *Blonder-Tongue*, 402 U.S. at 331-32; see *supra* note 37.

67. *Blonder-Tongue*, 402 U.S. at 332.

68. *Id.* at 334.

69. *Id.* at 335-36.

70. *Id.* at 338.

71. *Id.*

increment to the alleged infringer's costs" and caused higher consumer prices.⁷² At the same time, the alleged infringer who enjoyed a patent invalidity judgment in its favor could exploit the royalty payments that its weaker rivals were still forced to pay: "Because he is free of royalty payments, the manufacturer with a judgment against the patent may price his products higher than competitive levels absent the invalid patent, yet just below the levels set by those manufacturers who must pay royalties."⁷³ The Court thus concluded that, in the competition that followed an alleged infringer's successful attack on a patent's validity, another alleged infringer's continuing royalty "payments put him at a competitive disadvantage."⁷⁴ This observation is accurate as far as it goes, but the Court's analysis is nonetheless incomplete.

It is true that, under *Triplett*, an infringer who succeeds in invalidating a patent may be able to price its patent-dependent good just below the price charged by royalty-paying producers. It is equally true, however, that the patent attacker confronts a fixed cost of bringing the patent-dependent good to market that its competitors, who have licensed the patent, do not—namely, the cost of its successful attack on the patent. The premium the patent attacker earns by selling its good at a price just below the price charged by licensees, rather than at marginal variable unit cost, is the patent attacker's way to recoup that successful attack cost. Indeed, if the patent attacker had no way to charge this premium (e.g., if it shared the patent invalidity judgment with other producers, who thus confronted no royalty cost), one might fairly wonder why the patent attacker would mount the attack in the first place.⁷⁵ If it succeeded, its competitors would be free to enter the market and compete away its ability to recoup the litigation costs. The Court describes the patent attacker's pricing advantage, and yet fails to see it for what it is: a vital incentive that encourages a patent attacker to defend against an infringement charge.

The Court viewed *Blonder-Tongue* as another step in the line of cases designed to "encourage authoritative testing of patent validity."⁷⁶ It was mistaken. *Blonder-Tongue*, considered alone, eliminates a patent attacker's ability to exclude others from appropriating the benefit of its successful patent attack. It thus turns patent invalidity judgments into public goods. And the resulting free rider problem, which discourages patent

72. *Id.* at 346.

73. *Id.*

74. *Id.*

75. See Kidwell, *supra* note 24, at 487-89.

76. *Blonder-Tongue*, 402 U.S. at 344.

challenges, is at least as stark as the one that justifies providing a patent system in the first place.

The Court was surely right to find it repugnant for firms to pay royalties under demonstrably invalid patents. At the very least, such a practice conflicts with the traditional rule favoring unfettered use of information as to which there is no controlling intellectual property right.⁷⁷ We thus should not solve the free rider problem that *Blonder-Tongue* creates simply by reinstating *Triplett*. A replacement for the patent attacker's pricing advantage under *Triplett* must be sought elsewhere.

C. The Undersupply of Patent Validity Challenges Merits Correction

A court judgment that a patent claim is invalid is a public good. And obtaining such a judgment requires the expensive, up-front cost of patent litigation.⁷⁸ These facts suggest that profit-maximizing firms will supply definitive patent challenges at a less-than-optimal rate.⁷⁹

77. See *Dastar Corp. v. Twentieth Century Fox Film Corp.*, 123 S. Ct. 2041, 2048 (2003) ("The rights of a patentee or copyright holder are part of a 'carefully crafted bargain,' under which, once the patent or copyright monopoly has expired, the public may use the invention or work at will and without attribution.") (quoting *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 150-51 (1989)); *TraFFix Devices, Inc. v. Mktg. Displays, Inc.*, 532 U.S. 23, 29 (2001) ("In general, unless an intellectual property right such as a patent or copyright protects an item, it will be subject to copying."). As Professor Mueller puts it, "[i]n free market economies such as that of the United States, the general rule is that competition through imitation of a competitor's product or service is permitted, so long as that competition is not deemed legally 'unfair.'" MUELLER, *supra* note 7, at 7-8; see also Pamela Samuelson & Suzanne Scotchmer, *The Law and Economics of Reverse Engineering*, 111 YALE L.J. 1575, 1582-85 (2002) (discussing longstanding legal approval of reverse engineering as a method for discovering and using another's trade secret). Of course, the objection that a legal doctrine conflicts with our traditions of free use of public domain materials carries less force than it once did, given this tradition's steady erosion over the past several years. See James Boyle, *The Second Enclosure Movement and the Construction of the Public Domain*, 66 LAW & CONTEMP. PROBS. 33, 39 (2003) ("That baseline—intellectual property rights are the exception rather than the norm; ideas and facts must always remain in the public domain—is still supposed to be our starting point. It is, however, under attack. Both overtly and covertly, the commons of facts and ideas is being enclosed."). All the same, we should hesitate to solve a free rider problem that undercuts patent challenges by condoning royalties for patents that should never have been issued in the first place.

78. The American Intellectual Property Law Association conducts a comprehensive biennial survey of, among other things, typical patent litigation costs. The most recently published survey, released in 2003, provides data about respondents' median estimates of

How serious is this problem? Assuming, for example, the Patent Office did not grant very many invalid patents, one might be unconcerned about an undersupply of definitive patent challenges. The Patent Office, however, appears to grant many patents that, when carefully scrutinized, fail to meet basic patentability standards.⁸⁰ To be sure, only about 2% of U.S. patents are ever litigated at all.⁸¹ If, however, the proportion of wrongly granted patents among all the patents issued is similar to the invalidation rates we see in court cases,⁸² then a litigation framework that discourages patent challenges is cause for concern.

patent litigation costs by stage of proceedings (through discovery; and from the start of the case through any appeal) and by the amount of the alleged infringer's exposure (less than \$1 million at risk; \$1-\$25 million at risk; and more than \$25 million at risk). AM. INTELLECTUAL PROP. LAW ASSOC., REPORT OF THE ECONOMIC SURVEY 2003, at 21, 93-94 tbl.22 (2003) [hereinafter ECONOMIC SURVEY]. Using the data from the survey report, one can summarize the median cost estimates as follows:

	Cost through Discovery	Cost through any Appeal
Less than \$1 million at risk	\$290,000	\$500,000
\$1-\$25 million at risk	\$1,001,000	\$2,000,000
More than \$25 million at risk	\$2,500,000	\$3,995,000

See *id.* at 93-94 tbl.22.

79. See generally COOTER & ULEN, *supra* note 48, at 43, 109, 126 (discussing market's tendency to undersupply public goods); PINDYCK & RUBINFELD, *supra* note 48, at 605, 664-65 (same); SHAVELL, *supra* note 48, at 140 (same); Thomas, *Proposal for Patent Bounties*, *supra* note 3, at 334 (discussing undersupply problem in context of definitive patent validity judgments).

80. For example, recent studies show that the courts strike down asserted patent claims from 33% to 46% of the time. John R. Allison & Mark Lemley, *Empirical Evidence on the Validity of Litigated Patents*, 26 AIPLA Q.J. 179, 194, 205 (1998) (reporting patents held invalid in 46% of 300 final, written determinations by U.S. trial and appeals courts from early 1989 through 1996); Kimberly A. Moore, *Judges, Juries, and Patent Cases: An Empirical Peek Inside the Black Box*, 99 MICH. L. REV. 365, 380, 390 tbl.4 (2000) (reporting patents held invalid in 33% of 1151 validity determinations in U.S. patent trials from 1983 to 1999).

81. Lemley, *Rational Ignorance*, *supra* note 8, at 1501.

82. The invalidity rate among all issued patents is, if anything, likely to be higher than the invalidity rate among litigated patents. This is so because the patents that owners are willing to assert in litigation, and thus expose to a validity challenge, are likely to be among the stronger patents.

Invalid patents are costly, which exacerbates the undersupply problem. Commentators largely agree on the social costs that improvidently granted patents generally inflict:⁸³

- Costs of obtaining invalid patents
- Costs of negotiating licenses of invalid patents
- Royalties paid to owners of invalid patents and unrealized gains from inventions that licensees fail to make because they lack that royalty money
- Dead weight loss from supracompetitive pricing of offerings covered by invalid patents
- Costs third parties incur to use noninfringing alternative technologies
- Unrealized gains from beneficial activities that third parties avoid for fear of infringement liability, including activities that would have led to other inventions
- Unrealized gains from beneficial activities that patentees would have undertaken were it not for their rent-seeking efforts to obtain dubious patents and enforce those patents against others.

There are no reliable quantitative estimates of these costs. All the same, given the high rate at which the courts strike down patents, these costs appear to be substantial.⁸⁴ The costs imposed in the form of inventions that do not occur (which otherwise would have, but for improvidently granted patents that deter third parties) are especially serious, given that the very purpose of the patent system is to augment inventive activity.

Both the rate at which the Patent Office grants invalid patents and the social costs such patents impose counsel in favor of a patent litigation framework that encourages, rather than discourages, definitive court tests

83. This list is adapted from Kesan, *supra* note 3, at 767-68; Lemley, *Rational Ignorance*, *supra* note 8, at 1515-17; Merges, *Six Impossible Patents*, *supra* note 6, at 592-93; and Thomas, *Proposal for Patent Bounties*, *supra* note 3, at 319-20.

84. As Professor Merges notes, “[t]he fundamental assumption behind public expenditures on a patent office in the first place is that, as a society, we do not want to bear the costs of a significant number of invalid patents.” Merges, *Six Impossible Patents*, *supra* note 6, at 593.

of patent validity. Nonmutual issue-preclusion, at least as applied to patent validity judgments, is at odds with this counsel.

In fairness to the *Blonder-Tongue* rule, one might observe that there *are* ways to exclude others from the benefits of a successful attack on a patent's validity, even in a nonmutual issue-preclusion regime.⁸⁵ Some of these techniques parallel the techniques an inventor might use in lieu of, or in addition to, patent protection. For example, lead time advantages might help a patent challenger recoup the cost of defeating a patent during the period when its competitors have not yet adapted to the availability of the technology. After all, the litigation was likely prompted by the patent challenger's practicing of the technology.⁸⁶ Bundling a protected good or service with the patent-dependent offering might also help a successful patent challenger maintain a competitive edge long enough to recoup its investment in defeating the patent.

Trade secret protection, by contrast, likely offers far less aid to a patent challenger than to an inventor. An invalidity judgment is a public, judicial act that everyone—including the patent challenger's actual or potential competitors—can learn about if they care to. These competing firms know that, once an invalidity judgment is final and unappealable, they can practice the technology claimed in the invalidated patent without fear of infringing it. They thus enjoy equal access to the basic fact of the patent's invalidity. To be sure, trade secret know-how might enhance one's ability to practice the technology claimed in the invalidated patent, and a given patent challenger might have more such know-how than some of its competitors. If it has more secret know-how (perhaps from having practiced the technology during litigation), the patent challenger may be better situated to exploit the invalidity judgment than its competitors. One should keep in mind, however, that the Patent Act expressly requires a patentee to spell out, in the patent itself, both (1) enough information about "the man-

85. Professor Thomas does not present any analysis along these lines. He simply asserts that a successful patent attacker "cannot prevent others from practicing the invention claimed in the invalidated patent," or, put another way, "cannot appropriate the benefits of a successful charge of patent invalidity to itself." Thomas, *Proposal for Patent Bounties*, *supra* note 3, at 333-34. His observation is generally accurate, and the qualifications on it that I introduce here are also important.

86. This is likely the case, rather than certainly the case, because infringement litigation can begin before the alleged infringer enters the market with an infringing product or service. For example, litigation may result from a declaratory judgment complaint filed against the patentee by an alleged infringer; so long as the alleged infringer has taken concrete steps toward conduct that would infringe if it were to commence, the courts may hear the case. *See infra* Part V.B.1.

ner and process of making and using” the invention “to enable any person skilled in the art to which [the invention] pertains . . . to make and use” the invention, and (2) “the best mode contemplated by the inventor,” if any, “of carrying out his invention.”⁸⁷ These substantive disclosures, which are available to everyone, make it less likely that trade secret know-how will give any one firm—even the successful patent challenger—a decisive edge over its rivals in exploiting a new invalidity judgment.⁸⁸

In addition to the foregoing techniques for excluding competitors, a patent challenger has an option that the inventor in our earlier thought experiment (in a world without patents) lacked. Specifically, the patent challenger can use patents of his own to exclude others from the benefit of an invalidity judgment. This option exists because patents can be granted on quite closely related inventions.

Imagine, for example, that Firm A owns a patent covering a knife (a handle attached to a blade), and that Firm B owns a patent covering a switchblade (a handle movably attached to a blade). A appears to have the right to exclude B from making any kind of knife, including a switchblade.⁸⁹ B appears to have the right to exclude A from making a switchblade. These patents are known as “blocking patents,” because each one blocks the power to fully exploit the technology in the other.⁹⁰ If B were to invalidate A’s knife patent in court, other competitors could make knives, but B, and B alone, would still have the right to exclude others

87. 35 U.S.C. § 112, ¶ 1 (2000). These disclosures are the inventor’s side of the basic trade that supports every patent: a government-backed right to exclude others, in exchange for full disclosure of the invention. *See* MUELLER, *supra* note 7, at 66-67.

88. A patent challenger is unlikely to gain access to a patentee’s trade secrets during a patent case, for the simple reason that courts routinely approve protective orders that screen a competitor’s employees from seeing sensitive trade secret information. *See, e.g.,* Volvo Penta of the Americas, Inc. v. Brunswick Corp., 187 F.R.D. 240, 240 (E.D. Va. 1999) (approving protective order in litigation between competitors); William Lynch Schaller, *Protecting Trade Secrets During Litigation: Policies and Procedures*, 88 ILL. B.J. 260, 264 (2000) (discussing this use of protective orders).

89. This is so because “a handle movably attached to a blade” is simply one kind of a “handle attached to a blade.”

90. *See* MUELLER, *supra* note 7, at 15-16 (discussing blocking relationship between patents on an invention and on an improvement thereof); Lemley, *Economics of Improvement*, *supra* note 48, at 1009-10 (same); Robert Merges, *Intellectual Property Rights and Bargaining Breakdown: The Case of Blocking Patents*, 62 TENN. L. REV. 75, 79-80 (1994) (same) [hereinafter Merges, *Blocking Patents*]; Gilbert Goller, *Competing, Complementary and Blocking Patents: Their Role in Determining Antitrust Violations in the Areas of Cross-Licensing, Patent Pooling and Package Licensing*, 50 J. PAT. OFF. SOC’Y 723, 723-27 (1968) (discussing knife-and-switchblade and other examples).

from making switchblades. Similarly, if A were to invalidate B's switchblade patent, A would still have the right to exclude others from making any knives, including switchblades; indeed, assuming there were no other relevant patents, A would take the switchblade market. Firms A and B, reflecting on these various scenarios, might each decide to seek multiple patents on various aspects of knife technology in the hope of being the last firm standing when any validity challenges shake out.

This stylized example, while simple, demonstrates that a patent challenger who owns a blocking patent may be able to exclude competitors from an important market segment, and thus recoup his litigation costs, even after invalidating a related patent. Importantly, the patent challenger's own patent need not be strictly blocking to provide this benefit. A patent on a strong complement to the once-patented good, such as an input required to use it (film for a camera, ink cartridge for a printer, etc.) or to make it (catalyst for a process, part for a machine, operating system for a computer, etc.), is also a blocking patent in the sense that is relevant here.⁹¹ All such blocking patents can help a successful patent challenger exclude rivals from making use of the technology in a newly invalidated patent. Indeed, this potential use of blocking patents may help explain why, in the last few years, generic drug makers have begun to obtain patents on methods of making or using drugs that are already controlled by more basic patents owned by name-brand drug makers.⁹²

91. See Lemley, *Economics of Improvement*, *supra* note 48, at 1010 n.87.

92. Consider, for example, Teva Pharmaceutical Industries Ltd., "the largest generic drug company in the world." See TEVA PHARM. INDUS. LTD., A LEGACY OF LEADERSHIP, at <http://www.tevapharm.com> (last visited July 26, 2003). In an interview published in April 2003, Teva's patent director Yehudah Livneh—when asked, "What kinds of patents does a generic-drug manufacturer hold?"—indicated that, "[o]n the generic side, [Teva] ha[s] patents protecting processes for making active pharmaceutical ingredients . . . [and] for new formulations." Steven Anderson, *Litigation is the Business Model for Generic Drug Maker*, CORP. LEGAL TIMES, Apr. 2003, at 24. A July 28, 2003 search of the Patent Office's online database of issued patents, available at <http://patft.uspto.gov/netahtml/search-adv.htm>, indicates that Teva is the assignee named on the face of ninety-two patents. Sixty-nine of them (75%) issued in January 1996 or later, and thirty-four of them (37%) issued in April 2001 or later. Several of these patents claim methods for preparing drug compounds that are already controlled by one of the name-brand drug makers. For example, Teva's U.S. Patent No. 6,586,576 (issued July 1, 2003) claims a method for making hydrates of azithromycin, the active ingredient in Pfizer's name-brand drug Zithromax. Teva's U.S. Patent No. 6,255,526 (issued July 3, 2001) claims a method for making gabapentin, the active ingredient in Warner-Lambert's name-brand drug Neurontin. See *Warner-Lambert Co. v. Apotex Corp.*, 316 F.3d 1348, 1351-52 (Fed. Cir. 2003) (describing Neurontin). And Teva's U.S. Patent No. 6,248,888 (issued June 19,

The perverse result of using blocking patents to protect one's investment in eliminating invalid patents owned by others is the proliferation of patents on both incremental improvements to another's unpatentable technology and on strong complements to that technology (not to mention patents on incremental improvements to the strong complements). Many of the patents in this quickly growing mass will no doubt be invalid, just as is true of patents generally. And each one of these patents will cost money to prosecute. If the basic goal of helping firms appropriate the benefits of successful patent challenges is to reduce the social costs imposed by invalid patents, this "secure blocking patents of your own" cure is a good bit worse than the disease.⁹³

2001) claims a method for making terazosin hydrochloride dihydrate, the active ingredient in Abbott Labs' name-brand drug Hytrin. *See* Abbott Labs. v. Geneva Pharms., 182 F.3d 1315, 1316-17 (Fed. Cir. 1999) (describing Hytrin).

Or consider generic drug maker Ranbaxy Laboratories. A July 28, 2003 search of the Patent Office's online database of issued patents indicates that Ranbaxy is the assignee named on the face of forty-five patents. Twenty-five of them (56%) issued in May 2000 or later. And six of the forty-five patents (13%) relate to methods for making or using the antibiotic cefuroxime axetil, the active ingredient in GlaxoSmithKline's name-brand drug Ceftin. *See* GlaxoGroup Ltd. v. Ranbaxy Pharms., 262 F.3d 1333, 1334-35 (Fed. Cir. 2001) (describing Ceftin). Ranbaxy, which has won FDA approval to sell a generic version of Ceftin, has also been defending against patent infringement allegations by another generic drug maker—Apotex, Inc.—that owns a patent purporting to cover a process for making cefuroxime axetil. *See* Ranbaxy Pharms., Inc. v. Apotex, Inc., 350 F.3d 1235, 1237 (Fed. Cir. 2003).

By obtaining such patents, generic drug makers enhance their ability to fence competing firms out of the market when a name-brand drug comes off patent. Although I have not conducted a comprehensive study of this phenomenon, I doubt that Teva and Ranbaxy are alone among generic drug makers in using this strategy.

93. In addition to increasing the number of invalid patents, with all their attendant social costs, the proliferation of closely related patents causes a host of other problems that are well recognized in the literature. Professor Merges, for example, has discussed both the hold-up problems that blocking patents can cause in negotiations between pioneering and improving firms, *see* Merges, *Blocking Patents*, *supra* note 90, at 84-91 (discussing historical examples), and the rights clearing organizations that have emerged to resolve such holdup problems, *see* Robert P. Merges, *Contracting Into Liability Rules: Intellectual Property Rights and Collective Rights Organizations*, 84 CALIF. L. REV. 1293, 1340-58 (1996). *See also* Robert P. Merges, *Intellectual Property Rights and the New Institutional Economics*, 53 VAND. L. REV. 1857 (2000) (discussing ways that firms clear blocking patent problems to enable market entry); Carl Shapiro, *Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard Setting*, in 1 INNOVATION POLICY AND THE ECONOMY 119 (Adam B. Jaffe et al. eds., 2000) (same). Professors Eisenberg, Heller, and Rai have expanded the discussion of holdup problems to focus on concerns that the cycle of cumulative innovation in the biological sciences might grind to a halt under the weight of myriad patents covering minute biotechnological discoveries.

The foregoing techniques can provide a patent challenger with some protection against those who would free ride on his investment in securing a patent invalidity judgment. The protection these techniques afford, however, seems either weak (in the case of lead time, bundling, or trade secrecy) or downright perverse (in the case of blocking patents). The free rider problem that undercuts definitive patent challenges is grave enough to warrant a better solution.

Reinstating the *Triplett* rule, perhaps the simplest solution, would fix this free rider problem, but in a way that does little to reduce the social costs of wrongly issued patents. By contrast, a bounty for the successful attacker would encourage patent validity challenges without leaving other firms in thrall to a demonstrably invalid patent. Such a bounty can be implemented at any one of a number of stages in the patent life cycle, and can entail a payment measured by any one of a number of variables. It is useful, in determining the best stage and metric for such a bounty, to review two recent proposals aimed at increasing the reward for invalidating a patent.

III. EXISTING BOUNTY PROPOSALS FALL SHORT OF THE MARK

Any bounty mechanism—in the patent context or elsewhere—depends for its success upon when the bounty is awarded (or, put another way, what one must do to earn it), and of what the bounty consists (e.g., cash

See generally Rebecca S. Eisenberg, *Bargaining Over the Transfer of Proprietary Research Tools: Is This Market Failing or Emerging?*, in EXPANDING THE BOUNDARIES OF INTELLECTUAL PROPERTY: INNOVATION POLICY FOR THE KNOWLEDGE SOCIETY 223 (Rochelle Cooper Dreyfuss et al. eds., 2001); Michael A. Heller, *Three Faces of Private Property*, 79 OR. L. REV. 417 (2000); Michael A. Heller & Rebecca S. Eisenberg, *Can Patents Deter Innovation? The Anticommons in Biomedical Research*, 280 SCIENCE 698 (1998); Arti K. Rai, *Fostering Cumulative Innovation in the Biopharmaceutical Industry: The Role of Patents and Antitrust*, 16 BERKELEY TECH. L.J. 813 (2001); Arti K. Rai & Rebecca S. Eisenberg, *Bayh-Dole Reform and the Progress of Biomedicine*, 66 LAW & CONTEMP. PROBS. 289 (2003). Finally, Professor Lemley has noted that patent portfolio swapping among established firms in a market can pose a significant barrier to entry for new firms in that market who have no patents to trade. *See* Lemley, *Reconceiving Patents*, *supra* note 53, at 142-43, 147-48. The uses and effects of such patent portfolio swapping have been especially well documented in the U.S. semiconductor industry. *See generally* Peter C. Grindley & David J. Teece, *Managing Intellectual Capital: Licensing and Cross-Licensing in Semiconductors and Electronics*, CAL. MGMT. REV., Winter 1997, at 8; Bronwyn H. Hall & Rosemarie Ham Ziedonis, *The Patent Paradox Revisited: An Empirical Study of Patenting in the U.S. Semiconductor Industry, 1979-1995*, 32 RAND J. ECON. 101 (2001).

payment of \$X, or enough money to cover expense Y).⁹⁴ A poor choice as to either feature reduces a bounty's effectiveness at encouraging the desired result, making these features the best focus in assessing whether a proposed bounty is likely to succeed.

Two recent patent reform proposals suggest a payment to one who shows that an invention is not patentable. This payment is not shared with others who may benefit from the elimination of the invalid patent and thus counteracts directly the free rider problem that *Blonder-Tongue* creates. Professor Thomas proposes a bounty implemented at the patent examination stage, before a patent has been granted.⁹⁵ The Thomas bounty elegantly solves some problems, but it runs aground because of its timing choice. This timing problem, in turn, creates substantial difficulties for determining the proper amount of the award. Professor Kesan proposes a one-way fee-shifting rule in favor of a successful patent challenger; although not a bounty in name, this fee-shifting rule is a bounty in fact.⁹⁶ The Kesan rule, although it improves on the Thomas bounty by shifting to the patent litigation stage, falters in its choice of the amount of the award. I discuss each proposal in turn.

A. The Thomas Examination-Stage Bounty

The core of the Thomas proposal is a cash reward, taxed against the patent applicant, for one who provides the Patent Office with information not already identified by the Office that demonstrates that it should not grant a patent.⁹⁷ Specifically, after creating its own list of relevant prior art references, but before examining⁹⁸ the patent application's compliance with all the patentability criteria, the Patent Office would publish the application along with a list of the prior art it had identified.⁹⁹ Potential "informants" would then have an opportunity to alert the Patent Office to the

94. *Black's*, for example, defines "bounty" as "[a] premium or benefit offered or given, esp. by a government, to induce someone to take action or perform a service." BLACK'S LAW DICTIONARY 180 (7th ed. 1999).

95. See Thomas, *Proposal for Patent Bounties*, *supra* note 3, at 340-52.

96. See Kesan, *supra* note 3, at 787-97.

97. See Thomas, *Proposal for Patent Bounties*, *supra* note 3, at 342.

98. "Examination" is the patent law term for the Patent Office's determination whether an application claims a patentable invention. See 35 U.S.C. § 131 (2000) (directing that "an examination . . . be made of the application and the alleged new invention"). Viewed from the applicant's perspective, the process is known as "prosecution." See MUELLER, *supra* note 7, at 377 (defining "prosecution" as "[t]he process of obtaining a patent, which involves filing a patent application in the USPTO and responding to any rejections or objections made by the agency").

99. Thomas, *Proposal for Patent Bounties*, *supra* note 3, at 342.

existence of additional prior art information: “Informants would be required to provide a copy of [the newly] disclosed references, a short explanation of their relevance, and a fee.”¹⁰⁰ The fee imposed on informants would help both to pay for the administration of the program and to prevent “reference flooding.”¹⁰¹ Once examination began, if the Patent Office rejected “any claim in the application over noncumulative prior art submitted by an informant, then the applicant would be fined and the informant paid.”¹⁰² Multiple informants who supply helpful prior art would split the bounty.¹⁰³ Professor Thomas limits his proposal “to software and business method applications,” and at the same time observes that “[n]othing prevents the expansion of this proposal to other sorts of inventions.”¹⁰⁴

The Thomas examination-stage bounty has several virtues. Chief among them is that it would reward information submissions by the very people who are more likely than Patent Office examiners to recognize whether the applicant’s claimed invention actually amounts to an advance over the state of the art—namely, the applicant’s competitors.¹⁰⁵ The applicant’s competitors also have far more incentive than any patent examiner to see that an invalid patent does not issue, for the simple reason that otherwise it would wrongly constrain their options for competing against the patent recipient down the road. Another of the proposal’s virtues is that, by taxing the bounty against the applicant, this new mechanism would encourage applicants to invest more in ensuring the patentability of the applications they file.¹⁰⁶ The proposal also describes both a number of problems in administrative design—such as the need to prevent collusive, bounty-defeating side deals between applicants and potential informants; the need to protect employee informants against employer retaliation; and the need to head off satellite litigation over bounty-related decisions—and some practical solutions for these problems.¹⁰⁷

100. *Id.*

101. *Id.* at 344.

102. *Id.* at 342.

103. *Id.* at 342 n.285.

104. *Id.* at 344.

105. *Id.* This information advantage that competitors enjoy over patent examiners is simply a by-product of the competitors’ intimate familiarity with the technology to which the patent application pertains. Professor Kesan discusses this information advantage, and the reasons it probably cannot be eliminated by spending more on traditional patent examination inputs, as the basis for his own reform proposals. *See Kesan, supra* note 3, at 765-67, 776-77.

106. Thomas, *Proposal for Patent Bounties, supra* note 3, at 343.

107. *Id.* at 343, 349-52.

Notwithstanding these virtues, the proposed examination-stage bounty is flawed as to the basic question of timing. Specifically, the patent examination stage is too early a time to award a bounty. This is so because third parties rarely know at the examination stage whether the technology that a patent application describes—and that a resulting patent would help to control—is commercially significant.¹⁰⁸ Under the Thomas approach, patent applications would attract bounty hunters according to the ease of turning up additional prior art references rather than by the commercial importance of the invention.¹⁰⁹ But it is the commercially significant inventions that genuinely threaten large yet avoidable social costs if controlled by wrongly granted patents,¹¹⁰ and thus it is the patents on those inventions that are worth the trouble to scrutinize.¹¹¹ As a result, the Thomas bounty seems to divert resources away from more productive uses toward increasing the scrutiny applied to applications that history will often show to have been worthless. Professor Thomas acknowledges the difficulty of ascertaining an invention's commercial significance this early in its life,¹¹² which is when patenting occurs,¹¹³ but he does not pursue the implications of this fact for any bounty system that is implemented at the patent examination stage.

108. See *supra* notes 28-31 and accompanying text.

109. See Lemley, *Rational Ignorance*, *supra* note 8, at 1525 n.112 (“[I]f the [Thomas] bounties encourage prior art submitters to pick ‘low-hanging fruit’ by submitting art to invalidate obviously worthless patents, they may increase the cost of the system with little corresponding benefit.”).

110. See *supra* notes 83-84 and accompanying text.

111. As Professor Merges notes, in an ideal world “patent applications should be subject to differing levels of scrutiny depending on how much social cost they entail. Applications for patents that would be very costly to society . . . ought to be examined more closely than those for minor improvements, gadgets, or novelties.” Merges, *Six Impossible Patents*, *supra* note 6, at 596-97. Both our inability to foretell the future and the longstanding Patent Office custom of subjecting all patent applications to roughly the same level of scrutiny prevent us from implementing this ideal. *Id.* at 597-98.

112. Thomas, *Proposal for Patent Bounties*, *supra* note 3, at 325. Thomas states:

The task of identifying the marketplace worth of innovations appears quite difficult to achieve in practice. The invention that seems the most capable is not always the marketplace winner, and technological capabilities may change dramatically over the twenty-year patent term. The result is a longstanding Patent Office policy of conducting an equally comprehensive prior art search for each submitted application.

Id. (footnotes omitted).

113. “Patents are usually filed early in the development phase, and the inventor often has little idea whether or not the technology will ‘pan out.’” Merges, *Six Impossible Patents*, *supra* note 6, at 597.

One could, of course, modify the Thomas bounty mechanism to ameliorate this basic timing problem. For example, the Patent Office could (1) identify the characteristics that best predict whether a patent application covers a technology that will be commercially significant and (2) limit the bounty to applications having those characteristics. If, for instance, some firms have a substantially better track record than other firms at translating their patented inventions into commercial successes, applications assigned to those firms alone could be exposed to the bounty mechanism.¹¹⁴ Alternatively, if some aspects of the patent applications themselves predict more likely post-grant commercial significance,¹¹⁵ such as citation to a threshold number of prior art patents owned by a common assignee (which suggests a desirable improvement on a proven technology), those applications could be exposed to the bounty mechanism.¹¹⁶ Perhaps some hybrid

114. Implementing this particular approach would likely prove quite difficult. First, there are numerous line-drawing problems: What counts as sufficient commercial success to put a particular invention on the “has a better track record” side of the scale? What overall success rate is the baseline for comparison when assessing whose success rate is sufficiently better to warrant exposure to the bounty? How much better must that success rate be to warrant exposure to the bounty? How far back in time do we look? How soon after the prior patent was granted should the commercial success have occurred? Second, once the lines are drawn, there are measurement problems: How is commercial success on past inventions measured? Units sold? Dollars earned? Must the applicant in question have practiced the prior patent’s technology itself, or does licensing the prior patent to another also count? Third, because the foregoing analysis results in a penalty—exposure of one’s applications to the bounty mechanism—one must expect that firms will resist cooperating in any necessary fact-gathering process.

115. See Allison et al., *supra* note 28, (manuscript at § II.A.1.b, on file with author). The authors explain:

Self citations are citations made to other patents also owned by the same assignee during prosecution. Litigated patents cite more prior art owned by the same assignee than non-litigated patents. The empirical result supports our intuition—when patent owners acquire numerous patents on a given technology it suggests that the technology is more valuable to them.

Id.

116. To the extent the patent applicant could manipulate the triggering indicia in the application, this approach is also likely to engender resistance or evasion by patentee firms. Indeed, it is the likelihood of this sort of manipulation by skilled patent prosecutors that leads Professors Allison and Tiller to conclude, in their recent empirical study of business method patents, that altering patent prosecution rules for different technological domains is likely to do little more than drive up the cost of patent prosecution. See John R. Allison & Emerson H. Tiller, *The Business Method Patent Myth*, 18 BERKELEY TECH. L.J. 987, 1021 & n.108 (2003). Allison and Tiller state:

[T]reating different technologies differently places too great a premium on ex ante definitions, such that the definitional scheme will be at least

of these approaches would work better still. Even the best predictors, however, will tag false positives (i.e., applications that cover worthless technologies and that are exposed to bounty hunters) and false negatives (i.e., applications that cover commercially significant technologies but that are not exposed to bounty hunters). The complexity of the limiting mechanisms also suggests that the Patent Office would have to spend a great deal to create and deploy them, thereby reducing the bounty program's net benefit. This timing-amelioration game may not be worth the candle.

The awkward choice to award a bounty at the examination stage disrupts, in turn, Professor Thomas' choice of a bounty metric. Although he "posits no definitive figure as to the optimal amount of the patent bounty,"¹¹⁷ he does express a decided preference "for setting the bounty to a sum certain."¹¹⁸ The lower bound he suggests for this sum certain is the "prevailing market rate[] for a prior art search," enhanced to build in a hedge against the bounty hunter's risk of failure.¹¹⁹ He also describes a number of possible guideposts by which to measure the bounty. One is the average cost of getting a patent, including both attorney fees and Patent Office fees.¹²⁰ Another is "the average amount spent [by the Patent Office] on prior art gathering and review costs for each patent application."¹²¹ A third guidepost is the range of fixed-sum awards that federal agencies make under a number of bounty programs.¹²²

partially defeated because of the significant transaction costs associated with attorney efforts to opt into or out of a definition by carefully tailoring invention descriptions and patent claims. [Note 108] Although this will not always be successful, it can be done, and undoubtedly will be done if a significant premium is placed on whether an invention is defined as a business method.

Id.

117. Thomas, *Proposal for Patent Bounties*, *supra* note 3, at 345.

118. *Id.* at 346. He also suggests that, in the interest of prompting "applicants to perform thorough prior art searches," the fixed-sum bounty could be enhanced "by a fixed amount" in the instance where an informant submits invalidating prior art from "a discrete number of publicly available databases, journals, and other common information sources" defined in advance by the Patent Office. *Id.* at 347.

119. *Id.* at 345-46.

120. *Id.* at 345. For a sense of the requisite Patent Office fees, see 35 U.S.C. § 41(a) (2000) (prescribing fees). For estimates of average patent prosecution costs, see ECONOMIC SURVEY, *supra* note 78, at 78-79 tbl.17d, 81 tbl.18b, 86-92 tbl.21 (entries on patent prosecution attorney fees).

121. Thomas, *Proposal for Patent Bounties*, *supra* note 3, at 346.

122. *Id.*

What all the guideposts that Professor Thomas proposes have in common—indeed, what any bounty set at a sum certain reflects—is a break from the touchstone that the bounty should vary directly with the commercial significance of the invention claimed in the patent.¹²³ Thomas thus concludes, quite correctly, that the “many bounty systems [that] base the amount of the award upon the payoff to the government,”¹²⁴ such as False Claims Act payouts and SEC and IRS bounties,¹²⁵ use “an award structure of little use to the Patent Office.”¹²⁶ If, however, one begins from the premise that the underlying invention’s commercial significance is what drives the relative benefit of eliminating a wrongly granted patent on that invention, then disconnecting the bounty’s size from the invention’s commercial value condemns the bounty to a fate worse than that of a broken watch, which is, at least, right twice a day. A sum certain bounty approximates the commercial value of the invention in question, if ever, only by accident.

The market significance of the underlying invention should play a major role in determining which patents generate bounties for the firms that invalidate them. If the invention is commercially valuable, an invalid patent on it imposes high social costs. If the invention is commercially insignificant, an invalid patent on it imposes trivial social costs. Eliminating the invalid patents with high social costs is worth the effort, whereas eliminating the invalid patents with trivial social costs is not. The Thomas bounty, because it takes no account of the underlying invention’s market significance, would produce less social benefit than a more focused bounty regime.

B. The Kesan Fee-Shifting Rule

The core of the Kesan proposal is a one-way fee-shifting rule in favor of an interested party who shows that an invention is not patentable, either in a pre-grant opposition proceeding in the Patent Office or in a post-grant court case.¹²⁷ Specifically, Professor Kesan proposes that “if a patent were to be entirely or partially invalidated or revoked in a litigation or opposition proceeding, the plaintiff or patentee would have to pay all or a part of

123. See *supra* note 112.

124. Thomas, *Proposal for Patent Bounties*, *supra* note 3, at 346.

125. *Id.* at 341-42, 346 & n.300.

126. *Id.* at 346.

127. Kesan, *supra* note 3, at 787, 795-97. Professor Lemley has also suggested, without detailed discussion, that a one-way fee-shifting rule in favor of alleged infringers would help reduce the social costs of wrongly granted patents. See Lemley, *Rational Ignorance*, *supra* note 8, at 1530; Lemley, *Reconceiving Patents*, *supra* note 53, at 146.

the defendant's fees or the third party opponent's fees."¹²⁸ And, according to Kesan, the grounds for the challenger's victory should make a difference. On the one hand, the challenger's fees would be taxed against the patentee "when a patent is revoked or invalidated based on certain categories of prior art that are reasonably discoverable by a patentee's diligent prior art search."¹²⁹ On the other hand, the challenger's fees would not be taxed against the patentee "where a patent is invalidated based on the sales or other acts of third parties that may not be discoverable when conducting a prior art search."¹³⁰ Professor Kesan does not call his fee-shifting rule a "bounty," nor does he frame it as a solution to the incentive problem facing patent challengers after *Blonder-Tongue*. He does, however, tip his hat to the Thomas bounty proposal,¹³¹ and furthermore supports his fee-shifting proposal by observing that it "creates incentives [for alleged infringers] not to settle prematurely if they believe their invalidation case is strong, because their litigation costs may be borne by the patentee."¹³²

The Kesan fee-shifting rule for successful patent challengers, like Professor Thomas's proposed bounty for helpful informants, would encourage patent applicants to invest more in ensuring the patentability of the applications they file. Indeed, the proposed fee-shifting rule is limited to cases where invalidity is "based on prior art that should have been discovered by [the patentees] through a reasonable prior art search" precisely to encourage "patentees to conduct a thorough prior art search before enforcing their patent in court, and at the outset when filing for [a] patent."¹³³ And, like the Thomas bounty, the Kesan rule spurs the patentee's competitors, who are more likely than the Patent Office to have the best information

128. Kesan, *supra* note 3, at 787. Professor Kesan also mentions in passing that, "if the plaintiff obtained any monopoly profits based on a patent that was subsequently invalidated in litigation, those profits could be disgorged based on an unjust enrichment theory." *Id.* He does not, however, pursue the matter further. The mechanism I propose, by contrast, actually uses the patentee's past profits to determine the amount of the bounty. *See infra* Part III.

129. Kesan, *supra* note 3, at 787.

130. *Id.* at 787-88. For concise discussions of the Patent Act's leading categories of prior art publications, sales, and other invalidating activities, see MUELLER, *supra* note 7, at 94-112; and Margo A. Bagley, *Patently Unconstitutional: The Geographical Limitation on Prior Art in a Small World*, 87 MINN. L. REV. 679, 692-704 (2003).

131. Kesan, *supra* note 3, at 793 n.133.

132. *Id.* at 795.

133. *Id.*; *see also id.* at 796 ("Fee-shifting in these circumstances creates an incentive for the patentee to conduct a diligent prior art search prior to enforcing her patent rights.").

about the state of the relevant prior art, to act on information that invalidates the patent.

This fee-shifting proposal also improves on the Thomas bounty by transferring the award from the patent examination stage to the patent litigation stage.¹³⁴ The fact that the patentee has sued the alleged infringer is a strong indication that the patent covers a commercially significant technology.¹³⁵ Patent litigation is, after all, quite expensive.¹³⁶ The patentee's willingness to endure it, even if only for a time, suggests that the technology plays some genuine role in the market. By linking the opportunity to earn a bounty directly to the existence of litigation, Professor Kesan focuses the reward for invalidating wrongly granted patents on the subset of patents that threaten high enough social costs to be worth the added scrutiny. The timing is right.

This bounty's attorney fees metric, however, does not take full advantage of the benefit provided by the shift from examination to litigation. This is so because an alleged infringer's attorney fees, although they vary as a function of the amount at stake in a case, vary in a much narrower range than does the amount at stake. For example, the estimated patent litigation cost data from the American Intellectual Property Law Association's most recent biennial survey show that when the amounts at risk in litigation increased from "less than \$1 million at risk" to "more than \$25 million at risk" (i.e., a more than twenty-five-fold increase), the median estimated litigation cost through discovery increased from \$290,000 to \$2,500,000 (i.e., less than a ten-fold increase).¹³⁷ Similarly, for the more than twenty-five-fold increase in the amount at risk, the median estimated litigation cost from the start of the case through any appeal increased from \$500,000 to \$3,995,000 (i.e., only an eight-fold increase).¹³⁸ The cost estimates reported in this survey include all costs, not merely attorney fees.¹³⁹ Using these total cost estimates as a guide to likely attorney fee

134. At least, it shifts the bounty in part. As applied to a new pre-grant opposition proceeding, which does not exist under current law, the Kesan proposal would involve patent examination.

135. See *supra* notes 28-31 and accompanying text. A litigation threat sufficiently pointed to ground an alleged infringer's declaratory judgment action against the patentee is just as strong an indication that the patent covers a commercially important technology, assuming the patentee acted on competent legal advice about the case law governing declaratory judgment jurisdiction. See *infra* Part V.B.1.

136. See *supra* note 78.

137. ECONOMIC SURVEY, *supra* note 78, at 93-94 tbl.22.

138. *Id.*

139. *Id.* app., pt. IV.

awards, it appears that the amount of the alleged infringer's attorney fees in the case, when compared to the amount at risk in the case, is a rather crude measure of the commercial significance of the underlying technology.

Setting the bounty at the alleged infringer's attorney fees is problematic for another reason. An award of attorney fees systematically undercompensates the alleged infringer by failing even to attempt to cover the indirect costs of defending the infringement suit. These indirect costs, though perhaps harder to quantify, are nonetheless substantial. They include such things as the cost of employee time diverted from forward-looking, productive activities (e.g., designing or marketing a new product or process) toward backward-looking, costly activities (e.g., helping lawyers understand the technology, gathering documents for discovery, preparing to be and being deposed, testifying at trial).¹⁴⁰ The failure to compensate for lost employee research and development time is especially troubling, given that the goal of the patent system is to promote innovation.

Professor Kesan's pro-challenger fee-shifting rule improves on the Thomas bounty proposal by shifting the time the bounty is awarded to the litigation stage. However, by always setting the bounty equal to attorney fees, rather than a more direct measure of the underlying technology's commercial significance, it still falls short. A better bounty remains to be constructed.

IV. A LITIGATION-STAGE BOUNTY ADEQUATELY REWARDS THE DEFEAT OF COMMERCIALY SIGNIFICANT PATENTS

Paying a successful patent challenger a cash bounty that need not be shared with others who benefit from the patent's invalidation directly counteracts the free rider problem that the nonmutual issue-preclusion rule creates. Designing such a bounty presents two challenges. The first is to pick the best time to award it, and the second is to pick the proper amount to award.

140. See Jerry R. Selinger, *Prelitigation Considerations and Strategies*, in *PATENT LITIGATION STRATEGIES HANDBOOK* 3, 10 (Barry L. Grossman & Gary M. Hoffman eds., 2000) [hereinafter *PATENT LITIGATION*] (discussing indirect patent litigation costs); see also COOTER & ULEN, *supra* note 48, at 376 (discussing "costs to everyone involved in passing through the stages of a legal dispute").

The “best” timing and the “proper amount” turn on the basic behavior one wants to encourage by providing a bounty—in this instance, challenges to the validity of patents on commercially significant technologies, which challenges are fought to the finish. The foregoing analysis of the Thomas and Kesan proposals suggests that litigation is the best time in the patent life cycle to offer a bounty to successful challengers.¹⁴¹ The analysis also suggests that the award should be determined by a close proxy for the commercial significance of the technology that the patent purports to control.¹⁴² I propose a litigation-stage bounty in an amount equal to the net profits the patentee has earned up to the date of judgment by practicing the technology that the patent purports to cover. This proposal draws support from a patent litigation bounty program with which we already have nearly twenty years’ experience—namely, the 180-day semi-exclusivity period provided to the first generic drug maker who invalidates a drug patent.¹⁴³

A. Reward the One Who Defeats a Patent in Litigation

The bounty regime proposed here would apply in patent litigation only.¹⁴⁴ A patent challenger who obtains a judgment that voids a patent claim on specified grounds, whether in a patent infringement suit against the patent challenger or a declaratory judgment action against the patentee, would receive a cash bounty for doing so, paid by the patentee. The trial court would determine the amount of the bounty, according to the rule described in the next section, as part of the post-verdict proceedings that are common to patent litigation.¹⁴⁵ If multiple patent challengers were to join together in the same suit to defeat the patent, the bounty would be theirs to

141. See *supra* notes 108-126 and accompanying text.

142. See *supra* notes 137-140 and accompanying text.

143. See *infra* Part III.C.

144. My focus here is on patent litigation in the federal courts. The same bounty would apply, with minor modifications necessary to track the fora’s respective procedural rules, in U.S. International Trade Commission litigation to bar importation of infringing materials, see 19 U.S.C. § 1337(a)(1)(B) (2000), and U.S. Court of Federal Claims litigation to adjudicate infringement claims brought against the United States, see 28 U.S.C. § 1498(a) (2000).

145. See Donald R. Dunner, *Appeals to the Federal Circuit*, in PATENT LITIGATION, *supra* note 140, at 547, 568 (discussing motion practice under Federal Rule of Civil Procedure 50). About two-thirds of patent cases are tried to juries. See Moore, *supra* note 80, at 366-67, 384. If the alleged infringer voids the patent claims on summary judgment or after a bench trial, the trial court will have the opportunity to consider the bounty question before entering a formal judgment in the case. See FED. R. CIV. P. 52 (bench trial), 56 (summary judgment), 58 (entry of judgment).

divide as they please.¹⁴⁶ Finally, in the event the patentee were to appeal from the judgment, the bounty could be secured by a supersedeas bond,¹⁴⁷ much as an infringement damages award is secured when an alleged infringer appeals from an adverse judgment.¹⁴⁸

The courts can void a patent claim on a number of grounds. Some patent-defeating grounds relate to the adequacy of the written disclosure that the patent provides,¹⁴⁹ while others relate to whether the invention is a sufficient advance over the prior art.¹⁵⁰ These grounds, and still others besides, are generally referred to as "validity" theories.¹⁵¹ In addition to these validity theories, the courts can declare that an entire patent (and not merely one or more of its separately numbered claims) is unenforceable due to the patentee's deceptive conduct in prosecuting the application before the Patent Office.¹⁵² Thus a natural question would be, for a bounty that operates at the litigation stage, which of these grounds for voiding a patent should entitle the attacker to a reward?

A wrongly granted patent imposes at least some undesirable social costs no matter what caused it to issue in error, and whether or not the patentee could have avoided prompting an erroneous grant in a given case. One might thus argue that a patentee should be liable to pay a bounty to a successful patent challenger when a patent claim is voided on *any* ground, including one that the patentee could not have prevented even with extraordinary care. This "strict liability" approach, however, would sacrifice too much of the benefit derived from the public disclosure of inventions¹⁵³ for the sake of eliminating all wrongly granted patents, which is ultimately an unattainable goal.¹⁵⁴ We should instead choose the bounty-triggering

146. One supposes the challengers would divide the bounty according to the same method by which they shared the cost of litigation, most likely their respective liability exposures in the case. Their decision on this point, however, should not affect the way the bounty operates.

147. See FED. R. CIV. P. 62(d); FED. R. APP. P. 8(a).

148. See Dunner, *supra* note 145, at 566.

149. These disclosure requirements are set forth in 35 U.S.C. § 112, ¶ 1 (2000).

150. This consideration embraces questions of both novelty, 35 U.S.C. § 102, and obviousness, 35 U.S.C. § 103.

151. See MUELLER, *supra* note 7, at 269-70, 295-96.

152. *Id.* at 282-84 (discussing unenforceability under the "inequitable conduct" doctrine).

153. See *supra* note 87 and accompanying text.

154. Cf. Merges, *Six Impossible Patents*, *supra* note 6, at 599 ("[E]ven though a good deal of the prior art that can invalidate a patent is publicly available, much is not. . . . If no amount of pre-filing search could have turned up this evidence, it is harsh and inefficient to punish a patent applicant when it comes to light.").

grounds for voiding a patent in a way that both rewards definitive patent challenges and encourages patent applicants to take more care in their dealings with the Patent Office, rather than driving them from the patent system altogether.

The guiding principle for this proposal is that a patentee should be liable to pay the bounty where the court voids a patent claim on a ground that the patentee could have prevented by diligently and candidly researching, drafting, and prosecuting its patent application.¹⁵⁵ The patent applicant, no less so than other market participants, should avoid injuring others (in this instance, by prompting the grant of an invalid patent), or face liability. The precise contours of the diligence required should be defined by enumerating, in the implementing statute, the grounds for voiding a patent that trigger payment of the bounty. This enumeration would enhance predictability and thus foster better planning than leaving the courts to develop a “reasonable care” standard case by case.

Both Professors Thomas and Kesan focus their proposals on rewarding people who bring forward invalidating prior art that the patentee could have identified through a reasonably diligent search.¹⁵⁶ To be sure, structuring the bounty this way would encourage patent applicants to take more care in searching the prior art. Professor Kesan emphasizes this link between a bounty and the patentee’s diligence, stating that a reward for a

155. For purposes of this proposal, diligent prosecution requires that an applicant do more than dump a bale of prior art references on the Patent Office. An applicant should not benefit from having cited a prior art reference to the patent examiner unless the applicant explains in detail, in writing, how the reference relates to the claimed invention and why it is not invalidating.

156. See Thomas, *Proposal for Patent Bounties*, *supra* note 3, at 347; Kesan, *supra* note 3, at 787-88, 795. It is interesting to note, in this connection, that a patent applicant, although required to disclose to the Patent Office the prior art of which she is aware, is under no obligation to perform a prior art search of her own. See *Am. Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1362 (Fed. Cir. 1984) (noting that “an applicant for patent . . . has no duty to conduct a prior art search”); Thomas, *Proposal for Patent Bounties*, *supra* note 3, at 314; R. Polk Wagner, *Reconsidering Estoppel: Patent Administration and the Failure of Festo*, 151 U. PA. L. REV. 159, 214 n.189 (2002).

As a practical matter, the available empirical evidence indicates that successful patent invalidity theories usually rely on prior art references that the Patent Office did not have before it when considering the invention’s patentability. See Allison & Lemley, *supra* note 80, at 208 tbl.1 (indicating that of 138 successful validity challenges studied, 26.8% were based on § 102 prior art and 42.0% were based on obviousness); *id.* at 233 (reporting that, “[i]n the cases where patents were actually held invalid, defendants disproportionately relied upon uncited prior art (1.9 uncited references on average, compared with 0.9 cited references)”).

successful patent challenger should be “restrict[ed] . . . to those cases where there is clear fault, i.e., the plaintiff is attempting to enforce a patent that he would have realized is invalid had he conducted a diligent prior art search.”¹⁵⁷ Their approach is thus consistent with my own.

Neither of their proposals, however, applies the underlying logic of encouraging patent applicants to take adequate care in applying for a patent to the other grounds for voiding a patent claim (or an entire patent) that involve matters within the patentee’s control in the exercise of reasonable care. Experience indicates that patent challengers routinely defeat patent claims with theories that are not based on prior art. A number of these non-prior art theories involve matters as to which, with due diligence, a party can avoid inviting improvident grants from the Patent Office.

In one of the few recent empirical studies to offer detailed data on this point, the authors found that

[t]he five most popular grounds of invalidity that defendants asserted, as measured by those issues actually decided by the courts, are obviousness (asserted in 160 out of 300 cases), section 102 prior art (asserted in 91 out of 300 cases), section 102 non-prior art (71 out of 300 cases), best mode (45 out of 300 cases), and enablement/written description (36 out of 300 cases).¹⁵⁸

In other words, three of the five most popular invalidity grounds that alleged infringers asserted did not rely on prior art, and combined (152 out of 300 cases), these other grounds rival the frequency of the most popular one (obviousness, which is based on prior art). And although this particular study did not include data about the frequency with which alleged infringers urge unenforceability due to inequitable conduct before the Patent Office,¹⁵⁹ another recent study indicates that patent challengers raise an unenforceability defense in an appreciable percentage of cases.¹⁶⁰ In short,

157. Kesan, *supra* note 3, at 796.

158. Allison & Lemley, *supra* note 80, at 210.

159. *Id.* at 195.

160. See Moore, *supra* note 80, at 380, 389-90 & tbl.4 (reporting that 1209 patent cases were decided by the factfinder between 1983 and 1999, and that in these cases, the issue of enforceability was addressed for 530 (32%) of the 1676 disputed claims). Professor Moore does not expressly distinguish between the two different enforceability theories: inequitable conduct before the Patent Office and patent misuse. Patent misuse, in contrast to inequitable conduct, “focuses on the manner in which the patentee has exploited her issued patent.” MUELLER, *supra* note 7, at 288. And, unlike inequitable conduct, misuse can be purged and the patent in question restored to enforceability. *Id.* at 290

accused infringers routinely rely on theories beyond those based on prior art to void the patent in whole or in part.

The patentee's ability to have avoided prompting the grant of an invalid or unenforceable patent should be the key determinant in picking bounty-eligible grounds for voiding a patent. Unenforceability due to inequitable conduct before the Patent Office is, according to this criterion, the strongest ground for awarding a bounty. Intentionally deceptive conduct—the *sine qua non* of inequitable conduct¹⁶¹—is completely avoidable. Demonstrated inequitable conduct surely merits a bounty.¹⁶²

A patentee can also readily avoid invalidity based on the rules governing the adequacy of the patent's written disclosure. These rules require, in brief, that the patent (1) actually describe the invention set forth in a given patent claim, (2) enable persons of ordinary skill in the art to make and use the claimed invention, and (3) state the mode of carrying out the invention, if any, that the patentee regards as the best.¹⁶³ The courts have applied these written disclosure rules with great sensitivity to the particular technology at issue in a given case, resulting in a body of law that pragmatically tracks the needs of people working in different technological domains.¹⁶⁴ Compliance with these requirements, especially the "best mode" requirement, is squarely within the patent applicant's control.

A patentee can also readily avoid invalidity based on the so-called "loss of right" aspects of the novelty requirement. These "loss of right" rules bar a patent on an invention that the applicant (1) sold, used in public, or described in a printed publication more than one year before filing

& n.83. Because a misuse judgment does not eliminate a patent from the market, it is not as fitting a basis for awarding the bounty proposed here as is an inequitable conduct judgment.

161. See MUELLER, *supra* note 7, at 286-87 (discussing "intent to deceive" element of inequitable conduct).

162. Providing a bounty to one who shows a patent to be unenforceable due to inequitable conduct before the Patent Office may require some adjustment to existing attorney fee-shifting rules, inasmuch as such a result is one of the few things that justifies a fee award in favor of a prevailing alleged infringer. See *Cambridge Prods. Ltd. v. Penn Nutrients, Inc.*, 962 F.2d 1048, 1050-51 (Fed. Cir. 1992) ("In the case of awards to prevailing accused infringers . . . 'exceptional cases' are normally those of bad faith litigation or those involving fraud or inequitable conduct by the patentee in procuring the patent."); Lemley, *Rational Ignorance*, *supra* note 8, at 1530 & n.135.

163. See 35 U.S.C. § 112, ¶ 1 (2000); MUELLER, *supra* note 7, at 65-90.

164. See generally Burk & Lemley, *supra* note 15 (discussing technology-sensitive application of written disclosure doctrines in such fields as computer software and biotechnology).

the application,¹⁶⁵ (2) abandoned,¹⁶⁶ or (3) patented in a foreign country outside a one-year grace period.¹⁶⁷ The case law implementing the “loss of right” rules is admittedly complex, but no more so than the case law governing the determination that one is liable for infringing a patent.

A patent applicant can, with a diligent prior art search, readily avoid invalidity based on most prior art-based aspects of the novelty requirement. Printed publications and patents together constitute an important category of prior art.¹⁶⁸ Periodical literature has long been indexed by subject matter in widely available reference works that provide paper titles and abstracts.¹⁶⁹ And text-based computer search technology makes it easier than ever for a patentee to find pertinent prior art publications and patents.¹⁷⁰

The ease of searching published indices and electronic databases, and the resulting fairness of a bounty when a patentee has failed to uncover such readily findable references, also highlights the unfairness of a bounty in other contexts. The Patent Act has long made foreign patents and publications just as potent as U.S. patents and publications at defeating patentability.¹⁷¹ In the context of the proposed bounty, it may be appropriate to limit bounty-triggering invalidity theories to those based on patents and publications written in English (the language of the U.S. patent system) and the primary language of the patent applicant (if other than English), on the ground that it is unreasonable to demand that a patent applicant spend

165. 35 U.S.C. § 102(b).

166. 35 U.S.C. § 102(c).

167. 35 U.S.C. § 102(d); *see also* MUELLER, *supra* note 7, at 103-15 (discussing “loss of right” provisions).

168. MUELLER, *supra* note 7, at 96-97.

169. *See generally* H. ROBERT MALINOWSKY, REFERENCE SOURCES IN SCIENCE, ENGINEERING, MEDICINE, AND AGRICULTURE (1994) (listing indices). For example, the index known as *Engineering Index Monthly* began publishing in 1906, *id.* at 119, *Chemical Abstracts* began in 1907, *id.* at 67, *Applied Science & Technology Index* began in 1958, *id.* at 27, *Biological Abstracts* began in 1927, *id.* at 52, and *Index Medicus* began in 1960, *id.* at 189.

170. For example, the computer database known as *Biosis* has replaced *Biological Abstracts*, and the *Medline* database has replaced *Index Medicus*. On these databases, which contain article titles and abstracts, one can perform both keyword searches and topical searches. All U.S. utility patents issued in 1976 or thereafter are fully text-searchable at the Patent Office’s website. They can also be retrieved using the Patent Office classification codes.

171. *See* 35 U.S.C. § 102(a), (b) (defining novelty-defeating prior art to include subject matter “patented or described in a printed publication in this *or a foreign country*” at the relevant time, albeit with different triggering dates) (emphasis added).

large sums of money translating arguably relevant prior art references from one or more foreign languages.

The Patent Act also defines as prior art any subject matter that was known or used by third parties in the United States as of certain dates, without regard to whether the subject matter was reduced to a written form suitable for indexing or text-based searching.¹⁷² Again, it may be sound, as a way to define the diligence we think it is reasonable to expect of patent applicants, to rule out a bounty for an invalidity theory based on third-party public knowledge or use of the invention. Still other types of information and activities are defined as prior art even though the patent applicant almost certainly would *not* have known about them prior to filing its own application.¹⁷³ A successful invalidity theory based on this type of prior art should not trigger a bounty because a reasonably diligent search would not likely bring it to light. Finally, any obviousness theory¹⁷⁴ that is based on a piece of prior art from a category of art that is beyond the scope of what patent applicants would find using reasonable diligence (e.g., publications not in English or the applicant's primary language) should not trigger a bounty in favor of a successful challenger. Thus, for example, a successful obviousness attack that is built on a reference in a foreign language unknown to the patent applicant would not trigger the bounty, any more than would a successful novelty attack built on that obscure foreign language reference.

The foregoing assessment of which invalidity theories merit a bounty for the patent challenger, and which do not, is meant to be illustrative, not exhaustive. Like the proposals made by Professors Thomas and Kesan, this proposal roots the merit of a bounty directly in the ease with which a patentee can, in the exercise of reasonable care, avoid inviting the Patent Office wrongly to grant a patent. Unlike the Thomas and Kesan proposals, however, this bounty mechanism is triggered by invalidity theories well beyond those based on prior art alone.

B. Set the Reward by the Patentee's Past Profits

The purpose of moving the bounty from the patent examination stage to the litigation stage is to maximize the net benefit of the bounty regime by forging a direct connection between the commercial significance of a technology and the size of the bounty one earns for invalidating a patent

172. See 35 U.S.C. § 102(a), (b).

173. See 35 U.S.C. § 102(e), (g); MUELLER, *supra* note 7, at 116-19, 122-29.

174. The nonobviousness requirement is set forth in 35 U.S.C. § 103. For a concise summary of this requirement, see MUELLER, *supra* note 7, at 131-37.

that purports to cover it. Indeed, in the context of this proposal, the one bounty metric that we can rule out from the start is a sum certain, which would almost always be either too low or too high.¹⁷⁵ Ruling out this one metric, however, still leaves a number of others from which to choose.

The bounty's size should vary directly with the commercial significance of the technology that the patentee contends is covered by the asserted patent claim. As noted above, in analyzing Professor Kesan's fee-shifting proposal, the cost of defending a patent infringement allegation is positively correlated with one's liability exposure.¹⁷⁶ Setting the bounty at the alleged infringer's attorney fees in all cases, however, is quite a rough cut, given the far smaller range within which fees vary relative to variation in liability exposure. Two more finely tuned proxies appear promising. The bounty could be set at the damages amount that the patentee demands. Alternatively, the bounty could be set at the patentee's profit from practicing the technology set forth in the asserted patent claim. Both approaches have pros and cons. On balance, however, the patentee's past profit is less open to strategic manipulation and is thus the preferred metric.

1. *The Patentee's Damages Demand Is Too Easily Manipulated*

The standard measures for compensatory damages in a patent case are clearly linked to the commercial significance of the underlying technology. The Patent Act entitles a prevailing patentee to an award of "damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer."¹⁷⁷ The standard methods for determining the patentee's compensatory damages are a lost profits analysis and a reasonable royalty analysis.¹⁷⁸ Both turn, in part, on the market value of the technology.

175. See *supra* notes 117-126 and accompanying text.

176. See *supra* notes 137-139 and accompanying text.

177. 35 U.S.C. § 284. Depending upon the circumstances, a prevailing patentee may also be entitled to additional awards, see MUELLER, *supra* note 7, at 329-32, but those damages enhancements are not material to the analysis here.

178. MUELLER, *supra* note 7, at 317. According to the Court of Appeals for the Federal Circuit:

There are two methods by which damages may be calculated under [35 U.S.C. § 284]. If the record permits the determination of actual damages, namely, the profits the patentee lost from the infringement, that determination accurately measures the patentee's loss. If actual damages cannot be ascertained, then a reasonable royalty must be determined.

Hanson v. Alpine Valley Ski Area, Inc., 718 F.2d 1075, 1078 (Fed. Cir. 1983). There is no need here for a comprehensive discussion of these damages determination methods.

In carrying out a lost profits analysis, one determines the patentee's lost revenue by multiplying the number of sales the patentee lost to the alleged infringer by the patentee's historical, pre-infringement price.¹⁷⁹ These sales and pricing data link the result directly to the market value of the technology at issue. In carrying out a reasonable royalty analysis, the courts use a more open-textured "hypothetical negotiation" approach.¹⁸⁰ The most common framework for organizing this hypothetical negotiation is the *Georgia-Pacific* fifteen-factor analysis,¹⁸¹ named for the case that first employed it.¹⁸² Of the fifteen factors included in this analysis, four take stock of the technology's commercial significance from different perspectives: "[t]he royalties," if any, "received by the patentee for the licensing of the patent in suit"; "th[e] existing value of the invention to the [patentee] as a generator of sales of his non-patented items"; "[t]he established profitability of the product made under the patent[,] its commercial success[,] and its current popularity"; and "[t]he utility and advantages of the patent property over the old modes or devices, if any, that had been used for working out similar results."¹⁸³ Thus, like the lost profits analysis, the conventional reasonable royalty analysis links the resulting damages directly to the market value of the technology at issue.

The patentee's damages demand thus appears on the surface to be a good metric for the size of the litigation-stage bounty proposed here. Moreover, using this damages demand as the bounty metric avoids inject-

What follows is thus a simplified discussion of these methods that highlights the way they appear to be good proxies for the commercial significance of the technology the patent purports to cover.

179. MUELLER, *supra* note 7, at 322; Barry L. Grossman et al., *Patent Infringement Damages*, in PATENT LITIGATION, *supra* note 140, at 527, 530.

180. See MUELLER, *supra* note 7, at 326-29; Grossman et al., *supra* note 179, at 534-35.

181. See MUELLER, *supra* note 7, at 327-29; Grossman et al., *supra* note 179, at 536-37. The U.S. Court of Appeals for the Federal Circuit, which hears all appeals in cases arising under the patent laws, see 28 U.S.C. § 1295 (2000), continues to endorse reliance on the *Georgia-Pacific* factors in determining a reasonable patent royalty. See, e.g., *Micro Chem., Inc. v. Lextron, Inc.*, 317 F.3d 1387, 1393 (Fed. Cir. 2003) ("Factors relevant in a reasonable royalty determination using this [hypothetical negotiation] method include those set out in *Georgia-Pacific*."); *Unisplay, S.A. v. Am. Elec. Sign Co.*, 69 F.3d 512, 517 n.7 (Fed. Cir. 1995) ("A comprehensive list of relevant factors in determining a reasonable royalty is set out in *Georgia-Pacific*.").

182. *Georgia-Pacific Corp. v. United States Plywood Corp.*, 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970) (listing fifteen factors relevant to patent royalty negotiation), *modified and aff'd*, 446 F.2d 295 (2d Cir. 1971).

183. *Id.* (factors 1, 6, 8, and 9).

ing a wholly new issue into the litigation, which is already quite complex. Even in cases where the court has bifurcated the liability and damages phases of the trial, as it is empowered to do under Federal Rule of Civil Procedure 42(b),¹⁸⁴ the parties likely have engaged in thorough pretrial discovery on the damages issues—including the patentee's bottom-line damages demand and the methodology and evidence used to support it.¹⁸⁵ As a result, if the alleged infringer were to succeed in voiding the patent in the liability trial, the court would still have the information it required to determine the actual amount of the bounty due from the patentee.

But the patentee's damages demand, despite the foregoing points in its favor, does not pass final muster as a metric for a litigation-stage bounty. The disqualifying fact is the ease with which a patentee could manipulate his damages demand to avoid paying a bounty at all. Suppose the potential bounty has been set equal to the patentee's damages demand. A patentee who wished to sue on its patent without risking a bounty payment to the alleged infringer could simply forego making any damages demand at all, asking instead for injunctive relief alone.¹⁸⁶ It is well settled that a permanent injunction "is a standard part of the final judgment in a patent case."¹⁸⁷ And a patentee with an injunction in hand can, as a general mat-

184. See 8 JAMES W. MOORE ET AL., MOORE'S FEDERAL PRACTICE § 42.20[4][a] (3d ed. 2003) (listing factors courts consider in deciding whether to bifurcate issues for separate trial). Although courts continue to observe the general principle that bifurcation "is the exception, not the rule," *Real v. Bunn-O-Matic Corp.*, 195 F.R.D. 618, 620 (N.D. Ill. 2000), it is equally true that "bifurcation of complex patent trials has become common," *Ciena Corp. v. Corvis Corp.*, 210 F.R.D. 519, 521 (D. Del. 2002). See also MANUAL FOR COMPLEX LITIGATION (THIRD) § 33.62 (1995) (suggesting bifurcation of liability and damages in patent cases); Steven S. Gensler, *Bifurcation Unbound*, 75 WASH. L. REV. 705, 725 (2000) (observing that "[b]ifurcation is also common in," among other things, "patent litigation").

185. "Despite the possibility of bifurcated discovery . . . most courts favor comprehensive discovery on all issues, even when the trial is divided. [Bifurcated discovery] frequently lead[s] to increased motion practice regarding what should be produced during each wave of discovery." John E. Kidd et al., *Pretrial Motion Practice*, in PATENT LITIGATION, *supra* note 140, at 333, 367. See generally *F & G Scrolling Mouse, L.L.C. v. IBM Corp.*, 190 F.R.D. 385, 390-93 (M.D.N.C. 1999) (discussing factors to weigh in deciding whether to bifurcate discovery).

186. The Patent Act broadly empowers the courts to provide injunctive relief. See 35 U.S.C. § 283 (2000). The choice whether to seek damages for past infringement, an injunction against future infringement, or both, is the patentee's alone. See *Tegal Corp. v. Tokyo Electron Am., Inc.*, 257 F.3d 1331, 1340-41 (Fed. Cir. 2001) (discussing patentee's freedom to elect its remedy).

187. MUELLER, *supra* note 7, at 309; see also *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1247 (Fed. Cir. 1989). For a discussion of the few cases denying a permanent

ter, set the licensing price at whatever level he chooses.¹⁸⁸ Bargaining in the shadow of this eventuality, a patentee could use this threat of possible future exclusion from the market to extract a settlement from the alleged infringer that provides relief comparable to a damages award covering past infringement.¹⁸⁹ The alleged infringer, for his part, would not be motivated to resist the patentee by a bounty because the absence of a damages demand takes the bounty off the table.

Even if a patentee were to reject this “injunction only” tactic for avoiding the bounty, other tactics would be nearly as effective. The patentee could, for example, pick as his first defendant an alleged infringer with relatively lower liability exposure. The alleged infringer’s lower exposure would result in a correspondingly lower damages demand from the patentee, thereby reducing the size of the bounty that the patentee put at risk by bringing suit. The alleged infringer’s reduced exposure, combined with the smaller (i.e., less attractive) bounty, would make it more likely, all other things being equal, that the parties would settle the case rather than fight it to the finish. The patentee, repeating the process to garner a number of licensees, would then be in a stronger bargaining position when approaching a new group of potential licensees with higher liability exposure.¹⁹⁰ This “thin the herd” tactic, like the “injunction only” tactic, can frustrate a bounty based on the patentee’s damages demand.

By foregoing a formal damages demand altogether, or by choosing alleged infringers strategically, a patentee can readily evade a bounty that is measured by his damages demand. A better metric would not turn on ei-

injunction after a finding of patent infringement, see ROBERT P. MERGES & JOHN F. DUFFY, *PATENT LAW AND POLICY: CASES AND MATERIALS* 1062-64 (3d ed. 2002).

188. See *Brulotte v. Thys Co.*, 379 U.S. 29, 33 (1964) (“A patent empowers the owner to exact royalties as high as he can negotiate with the leverage of that monopoly.”); *Carter-Wallace, Inc. v. United States*, 449 F.2d 1374, 1383 (Ct. Cl. 1971) (“[A]s a general rule and absent any overriding unlawful conduct, patentees can charge for their patented products and licenses whatever the market will bear.”).

189. A patentee could not use this tactic if his patent has expired (or is close to expiring) and thus only past damages are at stake. Similarly, a patentee could not use this tactic if an alleged infringer has no interest in continuing to use the technology that the patent purports to cover.

190. The patentee’s bargaining position would be improved for both formal and practical reasons. As a formal matter, the existence of licensees under a patent is evidence (however meager) that the claimed invention is not invalid for obviousness. See MUELLER, *supra* note 7, at 148. As a practical matter, the Nth potential licensee has less reason to object to a royalty when it knows that (N-1) of its competitors are already paying the royalty; the royalty becomes, in effect, a common cost of doing business, rather than a unique competitive disadvantage.

ther the type of relief that a patentee requests or an alleged infringer's liability exposure. The patentee's past profit from practicing the patented technology is such a metric.

2. *The Patentee's Past Profit Resists Manipulation*

The profit that a patentee earned by practicing the technology claimed in the patent, through the date of judgment, is the superior metric for a litigation-stage bounty. The patentee's past profit from practicing the technology varies directly with the technology's market significance. Unlike a damages demand, past profit does not turn on the relief a patentee requests or on the liability exposure of any particular alleged infringer; it thus resists the manipulations discussed above. And, though it appears on the surface to inject a new issue into already-complex litigation, the past profit metric would use much of the same data that supports a lost profits analysis of the patentee's actual damages—namely, the patentee's (a) historical price for the item in question, (b) costs in producing the item, and (c) unit sales of the item.¹⁹¹ Similarly, in cases where the patentee seeks a reasonable royalty rather than lost profits, the parties will have exchanged dis-

191. See *id.* at 322. A past profits inquiry doubtless would require some additional data compared to a lost profits inquiry. For example, one would need to (a) know the patentee's total past sales, rather than simply sales from the period of alleged infringement; (b) know any net benefit the patentee received from earlier successful litigation on the patent (including the value of any injunction it obtained); (c) subtract from the patentee's past revenues not only the incremental costs associated with a given level of production, but also the fixed costs of being in production at all (including the costs of obtaining the patent under attack); and (d) adjust the decrement from past revenues to provide for a modest profit, which the patentee would likely have earned even without the shadow of a patent hanging over the market. Such data and adjustments, however, represent minor variations on the lost profits theme.

The objective of the past profits inquiry is, of course, to arrive at a genuine profits estimate, not to play an accounting game of the sort that the recording industry has long inflicted on artists in their royalty contracts. See generally Corrina Cree Clover, Note, *Accounting Accountability: Should Record Labels Have a Fiduciary Duty to Report Accurate Royalties to Recording Artists?*, 23 LOY. L.A. ENT. L. REV. 395 (2003) (discussing recent royalty recovery cases artists have brought against recording companies, and the arcana of standard recording contract royalty terms). Given how common profits-based damages measures are across all domains of intellectual property, both lawyers and judges are well-equipped to discern the substantive issues involved in calculating a patentee's past profits. See SCHECHTER & THOMAS, *supra* note 53, § 9.6.2.2 (profits measures for copyright damages); *id.* § 22.2.2 (profits measures for patent damages); *id.* § 24.4 (profits measures for trade secret damages); *id.* § 31.5.2 (profits measures for trademark damages).

covery about any gains the patentee has realized from the disputed technology.¹⁹²

The past profits inquiry would, to be sure, require an apportionment analysis where the patented technology at issue is but a small part of the profit-generating item, e.g., the proverbial patented wiper blade on a luxury sedan. Infringement remedies case law provides a long-established “entire market value rule” for use in determining whether a patentee is entitled to recover lost profits based on the sale of a combination of patented and unpatented parts: a patentee cannot recover lost profits based on the sale of an item combining patented and unpatented features unless “the patent-related feature is the ‘basis for customer demand.’”¹⁹³ Put another way, to justify including unpatented features in the basis for determining the patentee’s recovery, “the unpatented components must function together with the patented component in some manner so as to produce a desired end product or result.”¹⁹⁴ One could apply an inverse rule in the context of the proposed bounty, casting on the patentee the burden of demonstrating that the profits that appear to be attributable to its use of the patented technology have some other cause. If the patentee failed to prove that the unpatented components do not function together with the patented component in any manner to produce a desired end product or result, the bounty would be calculated using the entire market value of the patent-dependent product.

The past profit metric, in addition to tracking the commercial significance of the technology the patent purports to cover, roots the bounty in the common-sense norm that one who disregards applicable standards of conduct to secure an undeserved advantage should disgorge any resulting profit.¹⁹⁵ In the patent context, we want to encourage patent applicants to take reasonable care to avoid prompting the grant of an invalid patent.¹⁹⁶ An applicant who flouts this standard and obtains an improvident patent

192. See *supra* note 183 and accompanying text.

193. *Rite-Hite Corp. v. Kelley Co.*, 56 F.3d 1538, 1549 (Fed. Cir. 1995) (en banc) (quoting *State Indus. v. Mor-Flo Indus.*, 883 F.2d 1573, 1580 (Fed. Cir. 1989)); see also 7 CHISUM, *supra* note 23, § 20.03[1][c][iii], at 20-143 to 20-148 (discussing Federal Circuit’s “entire market value rule” jurisprudence); Eric E. Bensen, *Understanding the Federal Circuit on Patent Damages for Unpatented Spare Parts*, 12 FED. CIR. B.J. 57, 65-71 (2002) (detailing history of “entire market value rule,” including its roots in apportionment case law applying predecessor patent damages statute).

194. *Rite-Hite*, 56 F.3d at 1550.

195. See generally COOTER & ULEN, *supra* note 48, at 233-34 (discussing disgorgement).

196. See *supra* notes 153-174 and accompanying text.

casts about itself a mantle of protection from competition that it should not have, thereby inflating any profit it earns from practicing the invention. Would-be competitors are deterred from adopting what turns out, upon adequate scrutiny, to be an unpatentable invention. A bounty set at the patentee's profit discourages applicants from prompting the grant of an invalid patent by making it worthless for them to do so.¹⁹⁷

Finally, a past profits bounty would serve as a bulwark against anti-competitive collusion between a patentee and an alleged infringer. As Professor Thomas and others have observed, there is substantial cause for concern at the prospect of collusive agreements that preserve an invalid patent by suppressing information that could void the patent.¹⁹⁸ For example, a firm with potentially invalidating prior art may be able to strike a self-protective deal with the patentee:

Upon encountering an infringement charge, the competitor can privately disclose the prior art reference to the patentee. So long as sufficient supracompetitive profits exist to go around, the patentee ordinarily possesses incentives to suppress the prior art by means of a favorable license.¹⁹⁹

A past profits bounty, although it would do nothing to diminish a patentee's desire to strike this collusive bargain, would sharply reduce the patentee's means for doing so. If the bounty were in place, the patentee

197. Cf. POSNER, *supra* note 37, at 130-31 (discussing role of restitution damages in deterring opportunistic breach of contract).

198. See Thomas, *Proposal for Patent Bounties*, *supra* note 3, at 335-37; Hovenkamp et al., *supra* note 46, at 1722. Hovenkamp states:

[T]he uncertain scope and validity of IP rights may encourage a collusive settlement, serving both to remove the uncertainty and to permit the two firms to share monopoly profits. For example, the owner of a market-dominating patent in infringement litigation will continue to earn monopoly profits if it prevails but be no more than one of many competitors if it loses. In such a case, a settlement agreement that forms a cartel with the infringement defendant may be the optimal choice for the parties. It will not necessarily be optimal for society, however: Such collusion is inefficient if there is any significant chance that the patentee would have lost the suit.

Id. (footnote omitted); see also Miller, *supra* note 20, at 890-91. The risk of collusion prompts Professor Thomas to stress the need for applicant and informant anonymity in the examination-stage bounty he proposes. See Thomas, *Proposal for Patent Bounties*, *supra* note 3, at 343, 349-50.

199. Thomas, *Proposal for Patent Bounties*, *supra* note 3, at 335. Professors Ghosh and Kesan have offered an illuminating formal model of the bargaining space for an agreement of this type. See Ghosh & Kesan, *supra* note 8, at 1229-35.

would need to offer the alleged infringer at least as much to stay quiet as the alleged infringer stood to gain by voiding the patent in court—namely, the size of the bounty, discounted by the alleged infringer's likelihood of success. The patentee's past profit from practicing the underlying technology would thus anchor the negotiations in any attempted collusive deal.

A past profits bounty cannot, of course, make collusion unprofitable in all cases. Specifically, there may be cases where the patentee's estimated future profits under the patent are large enough (and certain enough) to allow for a cut to a would-be challenger that is more attractive than a bounty equal to past profits. As a theoretical matter, the only sure way to prevent patent-preserving collusion between the patentee and alleged infringer would be to offer successful patent challengers a bounty equal to the greater of (a) the patentee's past profits or (b) the estimated future profit that the patentee would earn for the remainder of the patent's life if the patent were not voided.²⁰⁰ If the bounty were structured in this way, an alleged infringer, rather than cutting a deal with the patentee for part of a sufficiently large estimated future profit, would try to capture the whole of that estimated profit in court.

Such a forward-looking bounty metric, however, is an ideal that cannot be implemented due to the uncertainties involved in estimating the future profits figure. An established technology's prospects for continued long-term commercial success are only slightly less difficult to predict than an entirely new technology's prospects for any success. For example, the technology set forth in a newly voided patent claim could be replaced the following month or year by an unforeseen, completely displacing technology.²⁰¹ Or some newly discovered negative health effect of the technology in question could stop the market in its tracks.²⁰² The court charged with determining a bounty measured by estimated future profits could not simply ignore these possibilities, especially where the remaining term of the patent (had it survived) was considerable. On the other hand, trying to take these vagaries into account would surely make the inquiry too highly speculative.²⁰³ The past profits bounty, although it would not prevent col-

200. Cf. Thomas, *Proposal for Patent Bounties*, *supra* note 3, at 335 (collusion depends on there being enough "supracompetitive profits . . . to go around").

201. For example, the transistor's displacement of the thermionic valve (also known as the vacuum tube). See WEBSTER'S NEW WORLD DICTIONARY OF SCIENCE 656 (David Lindley & T. Harvey Moore eds., 1998) (entry for "transistor").

202. For example, the sedative thalidomide's demise upon being linked to birth defects. See *id.* at 644 (entry for "thalidomide").

203. Cf. *Brooktree Corp. v. Advanced Micro Devices, Inc.*, 977 F.2d 1555, 1581

lusion aimed at preserving a sufficiently large and certain future profit, would prevent collusion in many cases, and without involving the courts in undue speculation.

The past profit metric, of the three candidate metrics that vary directly with the market significance of the technology that the asserted patent purports to cover, is the one best suited to secure the desired results.

3. *A Past Profits Bounty Requires a Statutory Minimum Bounty Amount*

The past profit metric, which measures the bounty by the profit that a patentee earned from practicing the technology claimed in the patent, is well suited to a litigation-stage bounty. This metric, however, will not catch all cases in which the underlying technology is commercially significant. A statutory minimum bounty would ameliorate this problem.

A patentee may, for example, assert a patent that it has profited from not by practicing the technology claimed therein, but by licensing the technology to others. Such royalty revenue could, of course, be defined as part of the past profit metric without doing much violence to the notion of 'practicing the technology' as that phrase is meant here. Alternatively, a patentee may promptly recognize the market value of the technology in its patent and sue on the patent soon after it issues, before having profited very much from practicing the technology claimed in the patent.²⁰⁴ In the extreme case, a patentee may sue an alleged infringer on the very day the patent issues.²⁰⁵ In such cases, a bounty set at the patentee's past profit would be small or nonexistent. Again, one could attempt to stretch the notion of past profit to embrace profits earned from practicing a technology that was *or later became* covered by the patent in question. This may be a

(Fed. Cir. 1992) (affirming district court's rejection of patentee's claim for future lost profits in case involving semiconductor chips for color video displays, noting "the uncertainties of future pricing, future competition, and future markets, in this fast-moving field"). As noted above, ongoing empirical research may enhance our ability to predict which patents are likely to yield high future profits and which are not. *See supra* note 28. Despite this enhanced predictability of patent value, however, I think that an estimate of future supracompetitive profits is too speculative a metric for the bounty I propose.

204. Amazon's case against B&N was just such a case. Amazon sued B&N just 23 days after the one-click patent was formally issued by the Patent Office. *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 73 F. Supp. 2d 1228, 1231 (W.D. Wash. 1999).

205. *See* John R. Thomas, *On Preparatory Texts and Proprietary Technologies: The Place of Prosecution Histories in Patent Claim Interpretation*, 47 UCLA L. REV. 183, 201 & n.103 (1999) (listing recent patent infringement cases brought on the day the patent in suit issued).

stretch too far, however, in the sense that the bounty would extend to profits that the patentee made at a time when the patent did not yet exist and thus could not have been casting a harmful shadow on the market.

Finally, a patentee might sue on a patent that he neither licenses nor practices, simply to stop another firm from using the technology.²⁰⁶ Perhaps, for example, the new technology renders the patentee's existing product or service obsolete, and the patentee wants to run out the value of his existing production facility without any competition from the new technology.²⁰⁷ Whatever the reason for the suit, a patent that has never been practiced or licensed simply deprives a past profit metric of any traction.

The foregoing scenarios, none of which is far fetched, suggest the need for a minimum bounty measure, a floor below which the successful patent attacker's bounty would not fall. Using as a model the patent damages statute—which sets the floor for patent damages at “a reasonable royalty for the use made of the invention by the infringer”²⁰⁸—a statutory minimum bounty could be set at an alleged infringer's reasonable attorney fees. In effect, the bounty metric that Professor Kesan proposes to use in all cases²⁰⁹ would instead be the statutory floor. This minimum bounty would, in situations where a past profits bounty is too small to encourage patent challenges, help ameliorate the free rider problem that undercuts an alleged infringer's incentive to obtain a definitive ruling on the validity issue.²¹⁰

206. For a discussion of a number of cases where patents were apparently used to suppress a new technology, see Kurt M. Saunders, *Patent Nonuse and the Role of Public Interest as a Deterrent to Technology Suppression*, 15 HARV. J.L. & TECH. 389, 392-96 (2002).

207. A patentee can enforce his patent against another even though he does not practice the claimed technology himself. As the Federal Circuit has explained, A patent is granted in exchange for a patentee's disclosure of an invention, not for the patentee's use of the invention. There is no requirement in this country that a patentee make, use, or sell its patented invention. See *Cont'l Paper Bag Co. v. E. Paper Bag Co.*, 210 U.S. 405, 424-30 (1908) (irrespective of a patentee's own use of his patented invention, he may enforce his rights under the patent).

Rite-Hite Corp. v. Kelley Co., 56 F.3d 1538, 1547 (Fed. Cir. 1995) (en banc).

208. 35 U.S.C. § 284 (2000).

209. See Kesan, *supra* note 3, at 787-88.

210. One could also attempt to ameliorate the free rider problem with an approach quite separate from any bounty mechanism. Specifically, beginning from the premise that parties who share a mutual interest in seeing a questionable patent invalidated may have trouble making binding commitments to one another to fund a definitive patent challenge,

C. Existing Reward Systems Suggest Success for this Bounty

Federal law already provides numerous examples of bounty programs that offer rewards to those who expose misconduct that harms the public, including a number with rewards that grow as the size of the public harm exposed grows. Professor Thomas, in the context of his bounty proposal, helpfully discusses these statutes in some detail.²¹¹ It is sufficient here simply to note that the success of these programs shows the basic merit of harnessing private interest by offering carefully drawn cash rewards to those who expose public harms.

The litigation-stage, past profits bounty I propose draws support not only from reward programs outside the patent field, but also from an important prototype bounty for patent challengers that was first enacted in 1984. This bounty program, which applies only in the context of pharmaceutical patents, shows both the promise and the perils in trying to counteract the free rider problem that undercuts patent challenges with a bounty for successful patent challengers.

Today, almost half of drug prescriptions are filled with generic rather than name-brand products.²¹² The consumer cost savings are dramatic: “[d]uring 2001, brand-name pharmaceuticals sold for an average of \$72 per prescription, compared with \$17 for their generic equivalent,”²¹³ i.e., a 76% average savings. It was not always so. Before the enactment of the Drug Price Competition and Patent Term Restoration Act of 1984,²¹⁴ also known as the Hatch-Waxman Amendments, a firm that wanted approval to sell a generic version of a name-brand drug had to submit its own set of

one could, for antitrust purposes, treat a joint defense agreement among a group of patent challengers as akin to a joint research and development agreement. Such a joint research agreement could receive more lenient antitrust treatment. See Gene M. Grossman & Carl Shapiro, *Research Joint Ventures: An Antitrust Analysis*, 2 J.L. ECON. & ORG. 315, 316, 321 (1986). Full development of this alternative is, however, beyond the scope of this paper.

211. Thomas, *Proposal for Patent Bounties*, *supra* note 3, at 341-42, 346. For a comprehensive, critical review of the more important of these federal bounty programs, such as the False Claims Act and RICO, see Pamela H. Bucy, *Private Justice*, 76 S. CAL. L. REV. 1 (2002).

212. FEDERAL TRADE COMMISSION, *GENERIC DRUG ENTRY PRIOR TO PATENT EXPIRATION: AN FTC STUDY*, at i (2002) [hereinafter *GENERIC DRUG STUDY*].

213. Brian Urevig, Note, *Hatch-Waxman—Thoughtful Planning or Just Piling On: A Consideration of the Federal Trade Commission’s Proposed Changes*, 4 MINN. INTEL. PROP. REV. 367, 369-70 (2003).

214. Pub. L. No. 98-417, 98 Stat. 1585 (codified as amended in various sections of 15, 21, 28, and 35 U.S.C.).

the exhaustive safety and efficacy data already provided by the name-brand firm who pioneered the drug.²¹⁵ By 1984, as a result, “the FDA estimated that there were approximately 150 brand-name drugs whose patents had expired for which there was no generic equivalent.”²¹⁶ Generic drugs accounted for less than one fifth of prescription drug volume at that time.²¹⁷

Congress enacted the Hatch-Waxman Amendments to make the regulatory landscape more amenable to new entry by generic drug makers, while providing name-brand drug makers with some relief for patent life effectively lost in lengthy FDA safety-and-effectiveness review.²¹⁸ On the generic entry side of the ledger, Hatch-Waxman’s key innovation was the Abbreviated New Drug Application (“ANDA”), which has allowed generic drug makers to seek FDA approval for bioequivalent drugs without the need to duplicate the research that provided the name-brand company’s exhaustive safety and efficacy data.²¹⁹

The ANDA process, as well as its interaction with any patent protection the name-brand drug maker enjoys on the product for which generic approval is sought, is quite complex.²²⁰ We need only focus, however, on

215. See *GENERIC DRUG STUDY*, *supra* note 212, at 3-4.

216. *Id.* at 4. “Today, nearly 100% of the top-selling drugs with expired patents have generic versions available, versus only thirty-six percent in 1983.” David A. Balto, *Pharmaceutical Patent Settlements: The Antitrust Risks*, 55 *FOOD & DRUG L.J.* 321, 325 (2000).

217. *GENERIC DRUG STUDY*, *supra* note 212, at i.

218. *Id.* at 4-5.

219. *Id.* at 5. The primary ANDA provision has been 21 U.S.C. § 355(j) (2000). In December 2003, Congress amended the ANDA provision. See Medicare Prescription Drug, Improvement, and Modernization Act of 2003, Pub. L. No. 108-173, §§ 1101(a)(2), 1102(a)(1), 117 Stat. 2066, 2448-52, 2457-61 (amending 21 U.S.C. §§ 355(j)(2), (5), (8)). Congress did so to prevent further anticompetitive abuses of the sort described below. See *infra* notes 234-240 and accompanying text.

220. For impressively concise summaries of the ANDA process and its interaction with patent law, see any one of the decisions in *Andrx Pharms., Inc. v. Biovail Corp.*, 276 F.3d 1368, 1370-71 (Fed. Cir. 2002); *Mylan Pharms., Inc. v. Thompson*, 268 F.3d 1323, 1325-27 (Fed. Cir. 2001); or *Mova Pharm. Corp. v. Shalala*, 140 F.3d 1060, 1063-65 (D.C. Cir. 1998). For comprehensive descriptions, accompanied by helpful analyses of anticompetitive abuses of the generic drug approval process that occurred prior to the December 2003 amendments to the ANDA provision, see Balto, *supra* note 216; Alfred B. Engelberg, *Special Patent Provisions for Pharmaceuticals: Have They Outlived Their Usefulness?*, 39 *IDEA* 389 (1999); Hovenkamp et al., *supra* note 46, at 1749-63; Julia Rosenthal, *Hatch-Waxman Use or Abuse? Collusive Settlements Between Brand-Name and Generic Drug Manufacturers*, 17 *BERKELEY TECH. L.J.* 317 (2002); and Urevig, *supra* note 213.

one feature of this regime—namely, the reward that has been given to the first generic drug maker who establishes the salability of a product that the name-brand firm's patent does not control (because the patent is either void or too narrow).

From 1984 through 2003, a generic drug maker who filed an ANDA before the patent covering the drug in question expired was required to include a certification stating either “the date on which such patent will expire,”²²¹ or “that such patent is invalid or will not be infringed by the manufacture, use, or sale of the new drug for which the [ANDA] is submitted.”²²² If the ANDA filer merely certified the patent's expiration date, the FDA would delay the effective date of its approval until that expiration date.²²³ If, however, the ANDA filer certified that its proposed generic product would not result in patent infringement, or that the patent itself was invalid, the patentee (who is entitled to notice of the certification²²⁴) had forty-five days within which to bring suit against the generic drug maker to resolve their dispute about the scope or validity of the patent.²²⁵

Prior to the amendments to the ANDA provision enacted in December 2003,²²⁶ the first ANDA filer who included a patent-challenging certification also stood to receive an important reward—namely, a 180-day period during which the only two firms with authority to sell the drug would be the name-brand firm and the first ANDA filer.²²⁷ This 180-day period, which was not subject to any forfeiture mechanism within the ANDA provision itself, would begin to run in the first ANDA filer's favor upon the earlier of two events: the ANDA filer's “first commercial marketing of the drug,” or a court decision “holding the patent which is the subject of the [ANDA] certification to be invalid or not infringed.”²²⁸ During this “Edenic moment of freedom from the pressures of the marketplace,”²²⁹ a generic drug maker could sell its product at a price near that of the name-brand drug maker (and well above its marginal production cost), thus gain-

221. 21 U.S.C. § 355(j)(2)(A)(vii)(III).

222. 21 U.S.C. § 355(j)(2)(A)(vii)(IV).

223. 21 U.S.C. § 355(j)(5)(B)(ii).

224. 21 U.S.C. § 355(j)(2)(B), *amended by* § 1101(a)(1), 117 Stat. at 2448.

225. 21 U.S.C. § 355(j)(5)(B)(iii), *amended by* § 1101(a)(2), 117 Stat. at 2449-50. The Patent Act's definition of infringement was enlarged to include the filing of an ANDA with the requisite patent-challenging certification. *See* 35 U.S.C. § 271(e)(2) (2000).

226. § 1102, 117 Stat. at 2457-60 (modifying the 180-day bounty provision).

227. 21 U.S.C. § 355(j)(5)(B)(iv), *amended by* § 1102(a)(1), 117 Stat. at 2457-58.

228. *Id.*

229. *Mova Pharm. Corp. v. Shalala*, 140 F.3d 1060, 1064 (D.C. Cir. 1998).

ing market share among price-sensitive consumers and reaping a substantial return during a six-month duopoly.²³⁰ The 180-day duopoly period has been, in short, a litigation-stage bounty for an early ANDA filer who demonstrated that a patent was either void or too narrow and thus no barrier to an equally effective generic product.

Industry players who supported the Hatch-Waxman Amendments quite consciously framed this bounty provision to counteract the free rider problem that undercuts patent challenges. Alfred Engelberg, who was the Generic Pharmaceutical Industry Association's patent counsel during the formulation and passage of Hatch-Waxman,²³¹ reports that

[t]he entire purpose of the 180-day exclusivity provision, at the time it was drafted, was to insure that one generic competitor would not get a free ride on the litigation effort of another generic competitor until the party who had borne the cost and risk of litigation had a fair opportunity to recover its litigation costs.²³²

Semi-exclusivity is, in his words, a "'bounty' for challenging patent validity, infringement or enforceability."²³³ The Hatch-Waxman Amendments thus recognized and sought to remedy the free rider problem that undercuts definitive patent challenges.

How successful has this bounty provision been? The record from 1984 through 2003 is mixed. This is so because some name-brand and generic drug makers colluded, in unforeseen ways, to manipulate the bounty provision in a manner that prevented or delayed other generic drug companies from entering the market.²³⁴ The opportunity for competition-defeating

230. See Engelberg, *supra* note 220, at 416. Engelberg states:

The wholesale price of a generic drug which is available from a single source is likely to be seventy percent or more of the price of the branded product. In contrast, when a generic drug is available from many sources, the wholesale price is likely to be thirty percent or less of the name-brand price.

Id. The other generic drug makers are kept off the market because, as a baseline rule, one cannot enter the drug sales market without FDA permission. See 21 U.S.C. § 355(a) ("No person shall introduce or deliver for introduction into interstate commerce any new drug, unless an approval of an application filed pursuant to subsection (b) or (j) of this section is effective with respect to such drug.").

231. Engelberg, *supra* note 220, at 389 (author's biographical information).

232. *Id.* at 423.

233. *Id.* at 391.

234. See *Mova Pharm. Corp.*, 140 F.3d at 1067 (discussing possibility of collusive dealing designed to prevent entry by other generics); *GENERIC DRUG STUDY*, *supra* note

collusion arose from the fact that the first ANDA filer who received the 180-day period of semi-exclusivity could keep it from beginning to run without violating the letter of the ANDA statute—either by agreeing not to bring its generic product to market at all, or by settling its infringement suit with the name-brand drug maker before the patent was adjudged to be void or too narrow. Prior to the 2003 amendments to the 180-day semi-exclusivity provision, the longer it took for the first ANDA filer's semi-exclusivity period to begin to run, the longer all other ANDA filers would necessarily be denied FDA approval to enter the market.²³⁵

Public and private antitrust enforcement actions have targeted the anti-competitive agreements between name-brand and generic drug makers that blocked entry by other generics.²³⁶ A comprehensive Federal Trade Commission study²³⁷ and academic commentary²³⁸ have likewise targeted the harms to competition, and thus to consumers, from manipulation of the then-existing 180-day semi-exclusivity rule. The antitrust litigation and accompanying scrutiny appeared to chasten drug makers, who began to steer clear of agreements that used the semi-exclusivity period to block generic entry.²³⁹ At the same time, one should note, many generic drug

212, at 25-37 (discussing collusive settlement agreements that stalled entry by other generics); Balto, *supra* note 216, at 331-35 (discussing collusive agreements); Joseph F. Brodley & Maureen A. O'Rourke, *Patent Settlement Agreements*, ANTITRUST, Summer 2002, at 53, 54 (same); Engelberg, *supra* note 220, at 416-17 (same); Rosenthal, *supra* note 220, at 320-28 (same); Urevig, *supra* note 213, at 380-85 (same).

235. See GENERIC DRUG STUDY, *supra* note 212, at 57 (describing basic opportunities for collusion).

236. See *id.* at vii & n.11 (public enforcement actions). The Sixth Circuit recently held that it was a per se violation of the Sherman Act for a name-brand drug maker and a generic drug maker to enter an interim infringement litigation settlement agreement that obliged the name-brand drug maker to pay the generic drug maker \$10 million per quarter so long as the generic drug maker did not market its FDA-approved generic drug. *In re Cardizem CD Antitrust Litig.*, 332 F.3d 896, 906-09 (6th Cir. 2003). Other courts have rejected the per se approach in favor of a "rule of reason," or similarly nuanced, analysis. See *Valley Drug Co. v. Geneva Pharms., Inc.*, 344 F.3d 1294, 1304-06, 1311-12 (11th Cir. 2003); *In re Ciprofloxacin Hydrochloride Antitrust Litig.*, 261 F. Supp. 2d 188, 255-57 (E.D.N.Y. 2003).

237. See GENERIC DRUG STUDY, *supra* note 212, at 25-37 (discussing settlement agreements that "had the potential to delay the triggering of the first generic applicant's 180-day exclusivity for some period of time, and thus to delay FDA approval of any subsequent eligible applicants"); *id.* at 57-63 (discussing anticompetitive risks arising from structure of the 180-day semi-exclusivity provision).

238. See *supra* note 220 (citing academic commentaries).

239. See GENERIC DRUG STUDY, *supra* note 212, at 63 (reporting that, "[b]etween April 1999 (shortly after FTC investigations in this area became public) and the end of

companies that received 180-day semi-exclusivity periods timely entered the market without colluding with the patentee name-brand drug maker.²⁴⁰

Congress, recognizing that entry-blocking agreements kept some generic drug makers out of the market, has—as part of its addition of a prescription drug benefit to the Medicare program—put the 180-day semi-exclusivity portion of the ANDA statute on a “use it or lose it” footing, thus foreclosing anticompetitive agreements of the type already seen. Specifically, the 180-day bounty is made “subject to”²⁴¹ a new set of forfeiture rules. The central forfeiture rule provides that “[t]he 180-day exclusivity period [for the first ANDA applicant] shall be forfeited by a first applicant if a forfeiture event occurs with respect to that first applicant.”²⁴² The new rules also define six “forfeiture event[s],” each of which suggests that the first ANDA applicant is not genuinely interested in marketing a generic version of the drug in question.²⁴³ By terminating the first ANDA applicant’s 180-day duopoly period if the applicant betrays the provision’s underlying goal of inducing challenges to improvidently granted, or narrow, pharmaceutical patents, these new forfeiture rules should make the ANDA bounty provision more effective at facilitating the earliest practicable arrival of competition from generic drug makers.

The ANDA statute’s checkered history could lead one to conclude that a litigation-stage bounty is far too likely to result in anticompetitive manipulation to risk making such a bounty generally available. Indeed, Professor Thomas holds up the 180-day semi-exclusivity reward for drug patent challenges (as it existed from 1984 through 2003) as a cautionary tale,

the period covered by [its] study [i.e., January 2001], brand-name companies and first generic applicants have not entered agreements similar to the [collusive] interim agreements challenged by the FTC”).

240. *Id.* at viii, 60-62.

241. Medicare Prescription Drug, Improvement, and Modernization Act of 2003, Pub. L. No. 108-173, § 1102(a)(1), 117 Stat. 2066, 2457 (amending 21 U.S.C. § 355(j)(5)(B)(iv) (2000)).

242. § 1102(a)(2), 117 Stat. at 2458-60 (creating new 21 U.S.C. § 355(j)(5)(D)).

243. These scenarios are as follows: (1) the first applicant’s failure to market the generic drug promptly after receiving a favorable court ruling on the name-brand drug maker’s patent infringement claim, or after the patent owner ceases asserting that the patents cover the drug in question; (2) the first applicant’s withdrawal of its ANDA; (3) the first applicant’s withdrawal of its patent-challenging certification from the ANDA; (4) the first applicant’s failure to obtain tentative FDA approval for the ANDA within 30 months after filing; (5) the first applicant’s entering into an agreement with the name-brand drug maker (or the patent owner, or another generic drug maker) that violates the antitrust laws; and (6) the first applicant’s running out the clock until all the patents preventing generic marketing of the drug expire. *See id.*

concluding that it “tended to bar rather than promote the availability of generic drugs.”²⁴⁴ And Mr. Engelberg, one of Hatch-Waxman’s chief architects, has argued that the semi-exclusivity provision has done so much harm to drug competition that it should be repealed.²⁴⁵

I take a different view. The Federal Trade Commission’s exhaustive study “suggest[s] that, in and of itself, the 180-day exclusivity provision generally has not created a bottleneck to prevent FDA approval of subsequent eligible generic applicants.”²⁴⁶ And during the last few years, as courts and regulators have targeted anticompetitive abuses of the Hatch-Waxman Amendments, the proportion of patent-challenging ANDAs has increased from about 12% (during most of the 1990s) to about 20% (from 1998 to 2000).²⁴⁷ Shorn of its earlier flaws, as it now exists, the semi-exclusivity rule can continue to induce generic drug makers to identify and challenge improvidently granted patents that inflict high social costs by blocking competition. This pharmaceutical-specific bounty also indicates that a generally applicable litigation-stage bounty, if framed carefully to avoid creating any new opportunities for collusion between a patentee and a patent challenger, would increase the number of definitive challenges to patents on commercially significant technologies.

D. The Uneasy Case for Rewarding a Noninfringement Defense

The bounty created by the ANDA statute raises an interesting question about the reach of the litigation-stage bounty that I have proposed here. This general bounty would be available to any patent challenger who successfully demonstrates that a patent claim (or a whole patent) is void, and thus eliminates any effect that patent claim has on the market.²⁴⁸ The 180-day semi-exclusivity period, by contrast, is available not only to one who proves a patent’s invalidity, but also to one who establishes that the proposed generic product does not infringe the patent.²⁴⁹ One might wonder, then, whether the litigation-stage bounty proposed here should also be available to the first firm that demonstrates that a given product or process falls outside the scope of a given patent claim. The question is a close one.

244. Thomas, *Proposal for Patent Bounties*, *supra* note 3, at 337.

245. Engelberg, *supra* note 220, at 423-25.

246. GENERIC DRUG STUDY, *supra* note 212, at viii.

247. *Id.* at 10.

248. *See supra* Part IV.A.

249. *See* 21 U.S.C. § 355(j)(5)(B)(iv) (2000), *amended by* Medicare Prescription Drug, Improvement, and Modernization Act of 2003, Pub. L. No. 108-173, § 1102, 117 Stat. 2066, 2457-58.

On balance, I think the better view is to limit the bounty to demonstrations that a patent claim is void.

The basic justification for giving a bounty to one who voids a patent is that the issue-preclusion rules make it too hard for the challenger who undertakes this costly task to reap the benefits of its investment. Once the patent claim has been eliminated entirely from the market, other competitors are also free to enter without fear of infringing that claim, thus undercutting a challenger's ability to recoup its litigation costs. This substantial free rider problem calls for a substantial solution: to induce patent validity challenges, the bounty allows the attacker to appropriate an unshared benefit of a successful invalidity attack. Infringement challenges, by contrast, do not present as prominent a free rider problem.

An alleged infringer's successful noninfringement defense is generally given nonmutual issue-preclusive effect.²⁵⁰ The alleged infringer who

250. See *Pfaff v. Wells Elecs., Inc.*, 5 F.3d 514, 518 (Fed. Cir. 1993). The court stated:

Here, the district court and both parties agree that the claim interpretation of the [earlier] Indiana case . . . controls in this case. They are correct. The prior claim interpretation has issue-preclusive effect in the present case insofar as it was necessary to the judgment of noninfringement in the previous case.

Id.; see also *Molinario v. Fannon/Courier Corp.*, 745 F.2d 651, 655 (Fed. Cir. 1984) (affirming summary judgment of no infringement on the ground that "the [patent] claim asserted here is the same as that the scope of which was determined in earlier litigation where the receivers accused here were held not to infringe that claim"); *Hemphill v. Procter & Gamble Co.*, 258 F. Supp. 2d 410, 415-16 (D. Md. 2003) (according issue-preclusive effect to claim construction ruling from earlier case that resulted in summary judgment of no infringement); *Abbott Labs. v. Dey, L.P.*, 110 F. Supp. 2d 667, 669-71 (N.D. Ill. 2000) (according issue-preclusive effect to claim construction ruling from earlier case that resulted in post-verdict JMOL of no infringement), *rev'd on other grounds*, 287 F.3d 1097 (Fed. Cir. 2002).

The courts have been unsettled on whether an adverse ruling on the meaning of a patent claim term should be given issue-preclusive effect in a subsequent case if that ruling did *not* result in an adverse judgment from which the patentee could have appealed (either because the parties settled the case, or because the patentee won the case notwithstanding the adverse interpretation of its patent claim). An early Federal Circuit decision rejects issue-preclusion under these circumstances. See *Jackson Jordan, Inc. v. Plasser Am. Corp.*, 747 F.2d 1567, 1577 (Fed. Cir. 1984). More recent trial court decisions, however, split over the question in light of the Supreme Court's intervening decision in *Markman v. Westview Instruments*, 517 U.S. 370 (1996), according to which the interpretation of a patent claim term presents a question of law for the court. Compare *Kollmorgen Corp. v. Yaskawa Elec. Corp.*, 147 F. Supp. 2d 464 (W.D. Va. 2001) (denying issue-preclusive effect to claim construction ruling in previous case, which parties had settled), and *Graco Children's Prods., Inc. v. Regalo Int'l, L.L.C.*, 77 F. Supp. 2d 660

proves noninfringement, however, has a much easier time appropriating the benefit of this successful defense than one who successfully voids a patent.

First, a party who wants to rely on a noninfringement defense that was successfully urged by a different alleged infringer in a previous case must still demonstrate, as a factual matter, that its accused product or process does not infringe the asserted patent claim. Although it may be possible for this newer entrant to avoid liability on summary judgment,²⁵¹ the factual issues underlying this new infringement question may require a trial.²⁵² When such a trial occurs, the newer entrant is paying its own way, not taking a free ride. Second, the beneficiary of a successful noninfringement defense still remains somewhat secure from competition in that the asserted patent claim, even if a bit narrower than before, still casts a shadow in the marketplace.²⁵³ This continuing shadow, to the extent it deters others from entering the market, helps the successful noninfringement defendant appropriate a return on its litigation costs. In short, definitive determinations of a patent's scope, as distinct from its validity, do not pose as severe a free rider problem and thus do not demand a bounty solution.

(E.D. Pa. 1999) (same), *with* TM Patents, L.P. v. IBM Corp., 72 F. Supp. 2d 370 (S.D.N.Y. 1999) (according issue-preclusive effect to claim construction ruling in previous case, notwithstanding parties' settlement of the previous case). The Federal Circuit recently denied issue-preclusive effect to claim construction rulings from a prior case where the patentee had settled that prior case before final judgment was entered. *See* RF Del., Inc. v. Pac. Keystone Techs., 326 F.3d 1255, 1260-61 (Fed. Cir. 2003). In doing so, the Federal Circuit did not cite or discuss *Markman*, *Jackson Jordan*, or the split in the district courts. *See id.*

Recent commentaries lean heavily in favor of denying preclusive effect to a trial court's claim interpretation ruling unless it results in an extant judgment against the patentee. *See* James P. Bradley & Kelly J. Kubasta, *Issue-preclusion as Applied to Claim Interpretation*, 10 TEX. INTELL. PROP. L.J. 323 (2002); Rachel Marie Clark, Note, *Collateral Estoppel of Claim Interpretation After Markman*, 86 MINN. L. REV. 1581 (2002); Timothy Le Duc, Note, *The Application of Collateral Estoppel to Markman Rulings: The Search for Logical and Effective Preclusion of Patent Claim Constructions*, 3 MINN. INTELL. PROP. REV. 297 (2002).

251. *See, e.g., Hemphill*, 258 F. Supp. 2d at 416-18 (granting summary judgment of no infringement).

252. *See, e.g., Pfaff*, 5 F.3d at 518-20 (reversing summary judgment of no infringement due to genuine fact issues, notwithstanding preclusive effect of earlier claim construction ruling).

253. Put another way, a successful noninfringement defense brings about a smaller reduction in the social costs inflicted by a too-broadly asserted patent. This smaller reduction in costs merits a smaller reward.

V. THE LIKELY OBJECTIONS TO A LITIGATION-STAGE BOUNTY ARE UNPERSUASIVE

The bounty I propose is a straightforward solution to the free rider problem that undermines firms' incentives to invest in generating a particular type of information good—namely, a court ruling on whether an asserted patent claim is void. A proposal of this type, which calls for a fundamental change in the basic framework that structures patent litigation, is bound to prompt a variety of objections. In what follows, I respond to the objections that I conclude are the most likely to be made.

A. “This Bounty Is Too Anti-Patent”

One group of likely objections clusters around the notion that the litigation-stage bounty proposed here is “too anti-patent.” The short answer, of course, is that the proposal is not anti-patent, but anti-invalid-patent. If one scrutinizes the two likely variants of this notion a bit further, it is plain that they trade on mistakes about why firms obtain patents, how thoroughly the Patent Office examines applications, and how readily patent applicants can improve the quality of the applications they file and thus avoid carelessly imposing high social costs.

1. *“This bounty too strongly discourages people from obtaining patents.”*

One likely variant of the “too anti-patent” objection is that the proposed bounty will discourage too many people from obtaining patents at all. “Firms,” the objector opines, “will see patent protection as having been substantially weakened—or, even worse, as having been converted into a minefield that can result in the loss of one’s profits—and thus will abandon the patent system.” This criticism takes it as given that the only reason applicants obtain patents is to enforce them in court (or threaten to do so) to exclude competitors from using a technology. The available evidence suggests, however, that this is only one of myriad reasons that people obtain patents, and it may not be the most common or important one.²⁵⁴

254. The simple fact is that the vast majority of patents are neither litigated nor, it would appear, licensed. See Lemley, *Rational Ignorance*, *supra* note 8, at 1497, 1500-08. As Professor Lemley has observed, “the traditional incentive story,” according to which patentees “use [their] patents either to exclude competitors from the market or to obtain licensing revenue . . . is not only incomplete, but dramatically so.” *Id.* at 1500-01; see also Lemley, *Reconceiving Patents*, *supra* note 53, at 142-44 (describing uses for patents other than suing or licensing).

The scholarly literature increasingly reflects the many uses that patents have beyond simple litigation and licensing. Recent commentaries have noted that applicants may obtain patents to signal a start-up's quality to venture capital financiers, or serve as collateral for a loan that finances further research; to credibly publicize information about one's research and development activities to competitors, capital markets, or potential employees; to bolster one's image among consumers as an industry leader; to build a patent portfolio that deters infringement suits by others, or can be swapped with other industry players in royalty-free cross licenses; to reduce the number and complexity of contracts needed to transfer an invention between firms; and to track the productivity of employees engaged in research and development efforts.²⁵⁵ None of these reasons for obtaining patent protection depends for its success on the patentee actually suing on its patent, or even threatening to do so. But only such patentee suits (or threats, which would ground jurisdiction for an accused infringer's declaratory judgment suit) would expose the patentee to the risk of paying the bounty if the patent were voided.

A litigation-stage bounty thus would not discourage one from obtaining a patent if one's purpose for doing so were something other than using it to sue infringers. The bounty would, however, strongly discourage a patentee from suing on a patent if it had not invested adequate resources in ensuring that the patent could withstand an attack on its validity or enforceability. And that is good.

2. *"A patentee should not be forced to insure the Patent Office's work."*

The other likely variant of the "too anti-patent" objection is that it is unfair to require a patentee to, in effect, insure the work of the Patent Office with its own profits. "If the Patent Office, the expert agency charged with deciding the question, mistakenly thought an application was patentable," the objector opines, "the patentee should not have to disgorge its profits for that mistake." This criticism overestimates how thoroughly the Patent Office reviews applications and underestimates an applicant's

255. This list is adapted from discussions in Bartow, *supra* note 48, at 2-3, 8-10; Paul J. Heald, *A Transaction Costs Theory of Patent Law*, 12-13, 21-22, 24-25, at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=385841 (posted Apr. 2003); Lemley, *Rational Ignorance*, *supra* note 8, at 1504-06; Lemley, *Reconceiving Patents*, *supra* note 53, at 142-44; and Clarissa Long, *Patent Signals*, 69 U. CHI. L. REV. 625, 636-37, 641, 646-54 (2002).

power to greatly improve the quality of its application with more vigorous use of resources that are available at relatively low cost.

The Patent Office examines applications with what is, in essence, a quick look. A patent examiner spends an average of less than twenty hours total on an application.²⁵⁶ However long this low level of review has existed, it is not likely to change in the short term. The superficiality of patent examination is not, moreover, a mere matter of resource constraints: even if the Patent Office were to invest far more in reviewing applications, its review would still suffer from a basic knowledge deficit compared to that which well-informed inventors and their competitors possess.²⁵⁷ Unlike these parties, the Patent Office is not actually innovating on the leading edge of technological change in a given field.²⁵⁸ This structural disadvantage helps explain why the courts are empowered to engage in plenary review of patent validity and enforceability in the context of patent litigation, where the adversarial process harnesses the knowledge and experience of one of the patentee's competitors to thoroughly vet the invention's patentability. The Patent Office's quick look should not immunize a patentee from bounty liability when it seeks to exclude others from the market with a wrongly granted patent that it could have avoided with diligent and candid research, drafting, and prosecution.

The fundamental fairness of imposing a bounty on a patentee who seeks to exclude others from the market with a wrongly granted patent is all the more plain when one considers the resources that potential applicants can consult at relatively low cost.²⁵⁹ Indeed, the once-quaint notion that the Patent Office, rather than the applicant, should take primary responsibility for identifying the relevant prior art and articulating the precise way in which the claimed invention constitutes an advance over that

256. See, e.g., Lemley, *Rational Ignorance*, *supra* note 8, at 1500.

257. See *supra* note 105 and accompanying text.

258. See Merges, *Six Impossible Patents*, *supra* note 6, at 605. Merges states: To some extent, the ideal outside [patentability] search firm—the one with the lowest cost of acquiring relevant information—would be a firm with access to all the information available to firms that operate in the same industry as the patent applicant. Indeed, because at least some of this information is considered a trade secret, the truly ideal search firm is an *actual* competitor of the patent applicant.

Id.

259. The AIPLA reports that the median price charged for a “utility patent novelty search, analysis, and opinion” in 2003 was \$1,500, and the 75th percentile price was \$2,500. ECONOMIC SURVEY, *supra* note 78, at 87 tbl.21. This median investment could be tripled without hitting the \$5,000 mark.

art now borders on the lunatic.²⁶⁰ Corporate research and development departments now account for the great majority of patenting activity in the United States.²⁶¹ These firms and their patent counsel, whether in-house or in outside law firms, can afford to maintain high-quality technical databases and other reference materials by spreading the costs of such materials over many prosecution projects. The litigation framework should encourage them to do so. Solo inventors, for their part, have greater access than ever before to vast public library collections of current scientific and technical information, as well as electronic databases with word-search capabilities to help locate the most relevant resources.²⁶² Given that patent applicants know better than anyone else precisely what it is they have developed or invented, it makes good sense to restructure the litigation framework so that applicants experience more pressure to ensure that issued patents are valid, at least as to patents they plan to enforce in court or for which they plan to demand royalties.

3. *"A patentee cannot tell, at the prosecution stage, which applications are worth the extra investment."*

The propriety of encouraging definitive patent challenges and thus, in turn, desirable patent applicant behavior raises an interesting side objection, one that turns my critique of the Thomas examination-stage bounty's timing back on the bounty proposed here. If patent examination is too early a time for firms in a given market to discern which applications cover commercially significant technologies and thus merit further scru-

260. Admittedly, vesting this responsibility primarily in the Patent Office may have made sense in 1836, when the Office was first created. At that time, unlike today, most inventors worked alone rather than in corporate research departments. *See Merges, One Hundred Years, supra* note 3, at 2215-16 ("In 1885, only 12 percent of patents were issued to corporations. Slightly more than 100 years later, the proportions had completely reversed: by 1998, only 12.5 percent of patents were issued to independent inventors.") (footnotes omitted). Public libraries, where they existed at all, did not likely stock up-to-date scientific or technical periodicals. Research libraries at universities were far less numerous, and less open to general public use, than they are today. *See generally* ARTHUR T. HAMLIN, *THE UNIVERSITY LIBRARY IN THE UNITED STATES* ch. 2 (1981) (describing the state of university libraries from the Revolutionary War period to 1876, the year of the Philadelphia Centennial Exposition). As a result, the Patent Office collection of its own issued patents, technical periodicals, and models (which, at that time, were required to be submitted) would likely have been far superior to the information base available to the average inventor or the average patent lawyer. This is not true any longer. Indeed, the opposite is likely true.

261. *See* John R. Allison & Mark A. Lemley, *Who's Patenting What? An Empirical Exploration of Patent Prosecution*, 53 *VAND. L. REV.* 2099, 2117 (2000).

262. *See supra* notes 169-170 and accompanying text.

tiny, then, one may ask, is it not also too early for applicants to discern which applications merit additional investments in ensuring patentability? After all, a litigation rule designed to promote greater care by patent applicants will not be effective if applicants cannot reliably distinguish matters that call for more care from those that do not. This concern largely dissolves, however, when one considers the information asymmetry that favors patent applicants in this context.

First, the patent applicant usually has a bundle of information that outside firms lack regarding the likely commercial significance of the technology that the patent purports to cover, as well as the incentive to make its investments in obtaining patent protection as effectively as possible. It is thus not too early for the applicant to identify, at least roughly, which applications require more internal scrutiny and care. Specifically, the applicant has ready access to information about the originating firm's supporting assets and activities (research on complementary technologies, product development budgets, marketing and distribution plans, etc.), and outside firms likely do not. These variables affect a technology's prospects for success in the market. If a bounty is designed to focus the energy of potential challengers on patents that actually prove to be commercially significant, applicants can use their own inside information to take greater care with the patent applications that are more likely to be enforced down the road.²⁶³ A litigation-stage bounty is not open to the timing objection raised against the Thomas bounty, for that objection turns on third parties' (relative) ignorance, not a patent applicant's ignorance, about a technology's likely market value. In other words, shifting the bounty to the litigation stage defers action until third parties are at least as well informed about the technology's fate in the market as the patent applicant was at the examination stage.

Second, the opportunity for *ex parte* patent reexamination greatly reduces any remaining concern about the instances where patent applicants mistakenly underinvest in the investigation and prosecution of patents that they will want to enforce when, for example, unforeseen market developments occur. Any party, including the patent owner, can request that the Patent Office reexamine a patent on the ground that prior art raises "a sub-

263. An examination-stage bounty, by contrast, focuses the energy of potential challengers on the patent applications that are easier to defeat (whether or not they cover commercially significant technologies), and thus pressures applicants to spread their investments in greater care over the full range of applications (both those that are more likely to prove commercially significant, and those that are less likely to do so).

stantial new question of patentability affecting any claim of the patent.”²⁶⁴ During the past decade, the Patent Office has granted reexamination requests quite liberally: the Patent Office received an average of about 360 (median of about 375) reexamination requests annually from 1991 to 2001, and granted an average of about 91% (median of about 92%) of these requests.²⁶⁵ If a litigation-stage bounty is put in place, a patentee who wants to enforce a patent, and is concerned that the patent may not have been examined adequately at the outset, can use reexamination to strengthen the patent without exposing it to the bounty. This procedure thus gives patentees a way to make continuing investments in the care with which they obtain patent protection based on up-to-date information about the commercial significance of the underlying technologies.

B. “This Bounty Is Too Pro-Litigation”

Another group of likely objections clusters around the notion that the bounty proposed here is “too pro-litigation.” The proposed bounty, to be sure, would provide a prize that could not be won except by obtaining a court judgment that a patent is void. More court judgments would result. The fundamental premise of the bounty proposed here, however, is the qualitative judgment that we suffer from an undersupply of a type of beneficial information—definitive proof that a patent is void—that we cannot readily obtain in any other way. These additional court judgments would help eliminate the likely higher social costs imposed by wrongly granted patents,²⁶⁶ leading to a net benefit.

1. “This bounty invites people to become professional patent attackers.”

One might object that the creation of a prize that is awarded in litigation will induce people to set aside more socially productive activities to become, as it were, professional patent attackers. The Article III case-or-

264. 35 U.S.C. § 303(a) (2000). Congress recently amended the reexamination statute to overrule legislatively the Federal Circuit’s decision in *In re Portola Packaging, Inc.*, 110 F.3d 786 (Fed. Cir. 1997), according to which prior art that was in the patent prosecution history during the original examination could not be the basis for granting reexamination. As a result, for reexamination requests received after November 2, 2002, a substantial new question of patentability can arise even where no new prior art has been discovered. See MUELLER, *supra* note 7, at 219 (explaining effect of this amendment).

265. These data are derived from Patent Office annual reports. The Patent Office does not report separate grant rates for reexamination requests filed by patentees and requests filed by third parties. Over the past ten years, patentees have filed an average of 43% (median of 43%) of the requests.

266. See *supra* notes 83-84 and accompanying text.

controversy requirement, however, should prevent this result, for only those who have a genuine interest in the technology that the patent purports to cover will be able to bring suit.

Under current case law, the courts will not review the patent's validity or enforceability unless the patentee has sued or threatened suit *and* the alleged infringer has already engaged in purportedly infringing acts or taken concrete steps toward doing so.²⁶⁷ As a result, a party who desired to earn the bounty, but who had no real interest in practicing the technology claimed in the patent, would be unable to use a declaratory judgment action to seek the bounty.²⁶⁸ In addition, a party who desired to earn the bounty, but who had no genuine basis upon which to fear an infringement suit by the patentee, would likewise be unable to use a declaratory judgment action to seek the bounty.²⁶⁹ A litigation-stage bounty is, in fact, far less likely than an examination-stage bounty (which has no case-or-controversy requirement) to spark the creation of a class of rent-seeking patent bounty hunters.

267. The Declaratory Judgment Act does not relieve a plaintiff alleged infringer from satisfying the case-or-controversy requirement. *See Aetna Life Ins. Co. v. Haworth*, 300 U.S. 227, 239-41 (1937). The Federal Circuit's test for determining whether declaratory judgment jurisdiction exists in a patent case is thus as follows: "First, the defendant's conduct must have created on the part of the plaintiff a reasonable apprehension that the defendant will initiate suit if the plaintiff continues the allegedly infringing activity. Second, the plaintiff must actually have either produced the device or have prepared to produce that device." *Goodyear Tire & Rubber Co. v. Releasomers, Inc.*, 824 F.2d 953, 955 (Fed. Cir. 1987).

268. *See, e.g., Jervis B. Webb Co. v. S. Sys., Inc.*, 742 F.2d 1388, 1398-99 (Fed. Cir. 1984) (vacating trial court's invalidity judgment due to lack of declaratory judgment jurisdiction where alleged infringer failed to present any evidence that it ever produced, or took steps to produce, items of the type covered by the patent claims in question).

269. *See, e.g., Phillips Plastics Corp. v. Kato Hatsujou Kabushiki Kaisha*, 57 F.3d 1051, 1053-54 (Fed. Cir. 1995) ("The offer of a patent license does not create an actual controversy. . . . The 'reasonable apprehension of suit' test requires more than the nervous state of mind of a possible infringer; it requires that the objective circumstances support such an apprehension.") (rejecting jurisdiction); *Shell Oil Co. v. Amoco Corp.*, 970 F.2d 885, 888-89 (Fed. Cir. 1992) (rejecting declaratory judgment jurisdiction where party initiated meeting with patentee to obtain agreement that its planned activity would not infringe a patent and then sued when patentee would not agree that the planned activity fell outside patent, on the ground that "[t]he Declaratory Judgment Act was intended to protect threatened parties, not to drag a non-threatening patentee into court"); *see also EMC Corp. v. Norand Corp.*, 89 F.3d 807, 811-12 (Fed. Cir. 1996) (reviewing cases on "reasonable apprehension of suit" requirement).

2. *“This bounty simply weighs too heavily against patent litigation settlement.”*

Finally, one might object that, by making it so much more attractive for an alleged infringer to fight a patent case to the finish, a litigation-stage bounty too strongly discourages litigation settlements. Settlement is, of course, a social good in the typical contract or tort suit. Rather than continue to waste gains from trade by paying lawyers to fight, the parties find a way to allocate those gains by agreement and end their dispute. The innumerable statements in the cases that public policy favors settlement over continued litigation make some sense when limited to typical contract and tort matters. Patents, however, are not contracts or tort rights. They are nationwide rights that affect the behavior, potentially, of every firm in the country, as well as many outside it.

When parties dispute the existence of a valid and enforceable patent claim in court, they are not merely haggling over gains from trade in which they alone have an interest. They are, instead, helping to determine an issue of considerable public interest in the very forum that the patent laws designate for a thorough airing of the technology's patentability. This is why the Supreme Court, when confronted with lower court practices that tend openly to disfavor full adjudication of patent validity issues, has criticized or overturned these practices.²⁷⁰ A litigation-stage bounty, by promoting the definitive resolution of patent challenges, similarly vindicates the public interest in eliminating from the market both wrongly granted patents and the high social costs they impose.

VI. CONCLUSION

The Patent Office grants invalid patents at a high rate. And invalid patents impose high social costs. It is thus quite troubling that patent litigation's basic framework has, at least since the Supreme Court's decision in *Blonder-Tongue*, tilted decisively against definitive court tests of patent validity and enforceability. The issue-preclusion rules force a patent challenger who successfully voids a patent claim to share that success with all other parties, including its competitors. It is not surprising that, in the face

270. See *Cardinal Chem. Co. v. Morton Int'l, Inc.*, 508 U.S. 83 (1993) (overturning Federal Circuit's practice of routinely vacating invalidity judgment where the case could be decided on noninfringement grounds); *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 330 (1945) (decrying lower court practice of refusing to reach validity issues where cases could be resolved on narrower infringement grounds).

of this free rider problem, many firms decide to settle rather than fight. We have, in short, an undersupply of patent challenges.

A bounty that only the successful patent challenger enjoys counteracts the free rider problem that *Blonder-Tongue* creates. Indeed, the basic reasoning that supports providing such an unshared reward is the same basic reasoning that supports the existence of the patent system itself. The timing and size of the bounty will, of course, determine its ultimate effectiveness.

An examination-stage bounty would be too early, before third parties could reliably assess the underlying technology's commercial significance. It would thus divert resources toward eliminating patent applications that were not worth the trouble. A litigation-stage bounty, by contrast, is properly timed to focus third-party fire on patents that cover commercially significant technologies and thus, if void, impose the highest avoidable social costs. Among the available metrics for determining the appropriate size of the bounty, the most suitable is the patentee's profit from practicing the technology set forth in the patent. It both tracks the market significance of the underlying technology and resists patentee manipulation.

Our experience with the litigation-stage bounty for drug patents, which speeds entry by generic drug makers and competitive pricing for consumers, indicates that a generally applicable litigation-stage bounty will speed the removal of wrongly granted patents and their ill effects from the market. It is past time to create one.

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