

THE RISE OF JUDICIAL RATEMAKING IN PATENT LAW

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ABSTRACT

Traditionally, the United States' generalist federal courts have been reluctant to engage in forward-looking price-setting. Jurists have long posited that such courts' deficiencies in expertise, general and continuing oversight authority, and investigatory capacities are likely to greatly hamper any efforts on their part to generate socially desirable (or at least not too socially undesirable) systems of forward-looking prices. Nonetheless, in the past two decades, United States patent law has undergone a transformation in which judicial ratemaking has become comparatively routine. Courts now unremarkably decline to grant injunctions against continuing infringement and impose on parties an ongoing, court-set royalty instead. This essay chronicles both the traditional background skepticism of such judicial ratemaking and the reasons for the rise of a new order in patent law. The essay further suggests that the bases for traditional skepticism retain force and counsel efforts to limit the use of courts' ratemaking powers, even while acknowledging that some judicial ratemaking is desirable. Particularly in the context of standard-essential patents ("SEPs"), progress in private ordering and administrative interventions might reduce the need for reliance on the courts. Meanwhile, courts themselves could adopt a more refined approach to applying the U.S. Supreme Court's decision in *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388 (2006). They could also help encourage pre-ratemaking settlement by more regularly bifurcating trials of liability and damages.

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I. INTRODUCTION

Traditionally, the United States’ generalist federal courts have been reluctant to engage in forward-looking price-setting.¹ As Daniel Crane succinctly stated at the start of an article published in 2009, the conventional wisdom was that “[j]udges will tell you that they are comparatively poor rate regulators.”² Even aside from situations in which juries would be used to determine monetary awards, courts have generally viewed themselves — with justification — as lacking in the expertise, general and continuing oversight authority, and investigatory capacities that specialized administrative agencies can bring to bear and that have commonly been thought helpful for achieving socially

1. See, e.g., Carl Shapiro, *Aftermarkets and Consumer Welfare: Making Sense of Kodak*, 63 ANTITRUST L.J. 483, 502 (1995) (noting “the understandable historical aversion of the courts to regulating the prices set by businesses”); Barak Yarkoni, Roy Shalem & Sharon Hannes, *The Best of Both Worlds: Compensation via Price-Caps for Passed-On Overcharges*, 13 J. LEGAL ANALYSIS 1, 37 (2021) (“Traditionally, courts are hesitant and reluctant to intervene in commercial trade and almost never set prices.”).

2. Daniel A. Crane, *Bargaining in the Shadow of Rate-Setting Courts*, 76 ANTITRUST L.J. 307, 307 (2009).

desirable (or at least not too socially undesirable) systems of forward-looking prices when existing markets cannot be trusted with the job.³

Nonetheless, in United States patent law, the court as rate-setter seems to have recently become a background norm rather than an extraordinary exception.⁴ This situation in part reflects general economic and international developments, such as the emergence of fair, reasonable and nondiscriminatory (“FRAND” or, where “fair” is omitted from the formulation, “RAND”⁵) licensing regimes for patents that are essential to globally implemented technological standards.⁶ But it also reflects more peculiar domestic developments, such as the United States Supreme Court’s decision in *eBay Inc. v. MercExchange, L.L.C.*,⁷ which has led to an approach to granting or denying permanent injunctions for continuing patent infringement that has made the denial of such relief much more common.⁸ In the wake of *eBay* and a later decision of the United States Court of Appeals for the Federal Circuit in *Paice LLC v. Toyota Motor Corp.*,⁹ the one-two combination of the denial of a permanent injunction against continuing infringement and the ordering of a court-determined “ongoing royalty” for future infringement has become an unremarkable outcome in U.S. patent litigation.¹⁰ Meanwhile, in the context of litigation over standard-essential patents (“SEPs”), courts in the United States and elsewhere have occasionally gone so far as to assume responsibility for determining or approving worldwide patent licensing rates not only for those courts’ traditional territorially bounded jurisdictions, but more generally for the world as a whole.¹¹

3. *See id.* (“The specialized, technical competence and supervisory capacity that public utilities commissions enjoy are usually absent from judicial chambers.”).

4. *See, e.g.,* Dan L. Burk, *Punitive Patent Liability: A Comparative Examination*, 37 REV. LITIG. 327, 349–50 (2018) (“[S]ince the promulgation of the *eBay* framework, American courts have become inured to the absence of the injunctive remedy in certain cases, and now routinely award an ‘ongoing’ royalty to cover future acts of infringement.”).

5. In this article, “FRAND” will commonly be used as a stand-in for “FRAND or RAND.”

6. *See* Jorge L. Contreras, *A Brief History of FRAND: Analyzing Current Debates in Standard Setting and Antitrust Through a Historical Lens*, 80 ANTITRUST L.J. 39, 42 (2015) (“In response to the perceived threat of patent hold-up, many [standards-development organizations] have adopted formal policies that impose one or both of the following obligations on participants: (1) an obligation to disclose patents essential to implementation of a standard, and/or (2) an obligation to license such patents on FRAND terms.”).

7. 547 U.S. 388 (2006).

8. *See* Burk, *supra* note 4, at 349–50.

9. 504 F.3d 1293 (Fed. Cir. 2007).

10. *See, e.g.,* BASF Plant Sci., LP v. Commonwealth Sci. & Indus. Rsch. Org., 28 F.4th 1247, 1276 (Fed. Cir. 2022) (reviewing “the district court’s denial of an infringement-stopping injunction and its calculation of the ongoing royalty it ordered in lieu of such an injunction”).

11. *See, e.g.,* Unwired Planet Int’l Ltd. v. Huawei Techs. (UK) Co. [2020] UKSC 47; TCL Comm’n Tech. Holdings Ltd. v. Telefonaktiebolaget LM Ericsson, 943 F.3d 1360, 1363, 1375 (Fed. Cir. 2019) (vacating a “district court’s determination of [a] release payment” and

The modern shift toward judicial ratemaking in patent law appears partly to reflect long-term legal and economic developments and partly to reflect quirks in the recent evolution of United States patent law.¹² The emergence of reasonable royalties as available remedies, and the emergence and acceptance of expert testimony better able to support them, have mitigated some concerns about the historical capacity of courts to provide forward-looking monetary relief in cases of continuing intellectual property (“IP”) infringement.¹³ On the other hand, even if there are substantial reasons for denying permanent injunctions against continued infringement on grounds that they are likely to lead to distorted, rather than reasonable, market outcomes, courts in significant ways still compare unfavorably to expert administrative agencies in their apparent capacities to handle technical and sometimes industry-cross-cutting tasks of rate setting.¹⁴ Further, continued struggles to achieve judicial settlement on satisfactory protocols for calculating reasonable royalties for exploitation of a patented invention all but invite questions about courts’ relative competence in this area.¹⁵

Absent better-developed markets for IP licensing, an especially elegant solution to resolving disputes over proper IP licensing rates is likely to remain elusive.¹⁶ In the long term, one can hope for better-developed approaches to private ordering that alleviate pressure on

“prospective FRAND royalty rates” but not calling into question the district court’s capacity to determine the rates for “a binding worldwide license” to a “portfolio of standard-essential patents”).

12. See *infra* text accompanying notes 56–76.

13. See *infra* text accompanying notes 34–35; see also Richard A. Epstein, *The History of Public Utility Rate Regulation in the United States Supreme Court: Of Reasonable and Nondiscriminatory Rates*, 38 J. SUP. CT. HIST. 345, 346 (2013) (contending that, in early phases of rate regulation, the United States Supreme Court “was able to fashion a set of principles that, more often than not, properly balanced competing interests in the perennial quest to avoid both monopoly profits on the one hand and confiscation on the other”).

14. See Jacob Noti-Victor, *Copyright’s Law of Dissemination*, 44 CARDOZO L. REV. 1769, 1806 (2023) (asserting that “administrative agencies are generally better [than courts] at complex price setting”); cf. Eric A. Posner & Adrian Vermeule, *Crisis Governance in the Administrative State: 9/11 and the Financial Meltdown of 2008*, 76 U. CHI. L. REV. 1613, 1658 (2009) (noting that “the inability of courts to determine utility rates and common carrier rates, through a succession of cases, was a major impetus behind the creation of early administrative agencies”). But cf. Epstein, *supra* note 13, at 366 (suggesting that, in relation to rate regulation, modern courts have gone awry by “preoccupy[ing] themselves with institutional questions of the sort that ask whether they should have the temerity to overrule Congress and the administrative agency, or whether they have the intellectual abilities to deal with complex questions that are better left to people with greater expertise”).

15. See *infra* text accompanying notes 43–55.

16. Cf. STEPHEN BREYER, REGULATION AND ITS REFORM 58 (1982) (concluding that “the need for administrative practicability and the difficulty of economic prediction, particularly about demand responses, make it virtually impossible for the [cost-of-service rate] regulator to replicate the price and cost results of a hypothetically competitive industry”).

courts to resolve difficulties in patent clearance or licensing.¹⁷ In the meantime, traditional views of coordinated ratemaking as a characteristically administrative problem¹⁸ suggest that an administrative solution, either national or global, is worth considering in a context such as those involving SEPs, where relatively thin IP markets seem especially likely to function poorly.¹⁹ Regardless, society seems likely, for the foreseeable future, to need to rely on courts in the United States and elsewhere for significant exercises of wisdom both in assessing prices and in deciding, in effect, how far to extend the reliance on judicial rate-setting through judgments on when and to what extent patent holders may obtain injunctions against future infringement. Courts might improve on the current situation by approaching the challenges of rate setting with greater humility and caution, recalling *Paice LLC*'s original suggestion that district courts should typically seek to encourage privately negotiated agreements on forward-looking licenses as a first option²⁰ and acknowledging that, as exercises in forward-looking price setting, court-ordered ongoing royalty rates present special problems in comparison with backward-looking awards of compensatory relief.

This essay proceeds as follows. Part II discusses the pre-*eBay* background of both patent remedies and traditional suspicion of judicial ratemaking. Part II specifically notes the existence of pre-*eBay* tendencies toward the routine granting of permanent injunctions against continuing patent infringement — both in the era of the United States Court of Appeals for the Federal Circuit and before it. Part II concludes by acknowledging failings of the Federal Circuit's pre-*eBay* approach and how these failings helped lay a foundation for the revolution that followed. Part III discusses the *eBay* decision and its aftermath. Part IV discusses various paths toward a return to a more modest role for courts in patent ratemaking.

17. Cf. Robert P. Merges, *A New Dynamism in the Public Domain*, 7 U. CHI. L. REV. 183, 184 (2004) (noting the possibility of “a partial self-correcting impulse in the [intellectual property (IP)] system” through which “the same private initiative that has led to the expansion of IP rights may be capable of partially counteracting this expansion”).

18. See *Loomis v. Lehigh Valley R.R. Co.*, 240 U.S. 43, 50 (1916) (“In the last analysis the instant cause presents a problem which directly concerns rate-making and is peculiarly administrative.”).

19. See Thomas F. Cotter, *Reining in Remedies in Patent Litigation: Three (Increasingly Immodest) Proposals*, 30 SANTA CLARA HIGH TECH. L.J. 1, 12 (2013) (“In the context of SEPs, the risk of patent holdup seems particularly high, because *if* the patent is indeed standard essential, the defendant almost by definition cannot readily design around it *ex post*.”).

20. See *Paice LLC v. Toyota Motor Corp.*, 504 F.3d 1293, 1315 & n.15 (Fed. Cir. 2007).

II. PRE-*EBAY* VIEWS ON PATENT REMEDIES AND RATE-SETTING

A. Patent Remedies Before eBay

For more than a century prior to *eBay*, U.S. court judgments of patent infringement resulted in permanent injunctions against threatened future infringement “as a matter of course.”²¹ William Robinson’s landmark 1883 treatise, *The Law of Patents for Useful Inventions*, reported: “A perpetual injunction issues, as a matter of course, at the conclusion of a [patent-infringement] suit in equity, whenever the plaintiff has sustained the allegations of his bill, provided the patent has not then expired.”²² At the turn of the century, a patent law treatise that has continued to be updated to the present day — Albert H. Walker’s *Text-Book of the Patent Laws of the United States of America* — concurred: “A permanent injunction follows a decision in favor of the complainant [patent holder], on the interlocutory hearing of a patent case, unless some special reason exists for its being refused, or being postponed till after the master’s report, or being suspended pending an appeal.”²³

Indeed, in Walker’s account, the strength of the presumption in favor of issuing a permanent injunction against future infringement was suggested by the highly limited reasons that Walker cited for denying a permanent injunction: for example, “the fact that the patent ha[d] expired,”²⁴ the complainant’s prior assignment of “all his interest in the future duration of the patent right” to another,²⁵ and the death of “the infringing defendant.”²⁶ Further, although Robinson included language suggesting that a permanent injunction might be denied outside circumstances where “the defendant is able and is apparently disposed to commit [additional] acts of infringement,”²⁷ Walker discouraged making the issuance of a permanent injunction turn on an assessment of the existing and future intent of an adjudged infringer:

21. See John M. Golden, “Patent Trolls” and Patent Remedies, 85 TEX. L. REV. 2111, 2119–20 & n.38 (2007) (citing cases and treatises from 1900 or earlier) (internal quotation marks omitted).

22. 3 WILLIAM C. ROBINSON, THE LAW OF PATENTS FOR USEFUL INVENTIONS § 1220, at 653 (1890).

23. ALBERT H. WALKER, TEXT-BOOK OF THE PATENT LAWS OF THE UNITED STATES OF AMERICA § 697, at 548 (4th ed. 1904).

24. *Id.* § 698, at 548.

25. *Id.* § 699, at 549.

26. *Id.* § 700, at 549.

27. 3 ROBINSON, *supra* note 22, § 1088, at 400–01 (“But in every case where the patent is still in force, and the defendant is able and is apparently disposed to commit acts of infringement, if no established license fee exists, or if on account of the insolvency of the defendant or from any other cause this customary fee could not be collected, equity will restrain him from the use of the invention . . .”).

But the fact that the defendant has ceased to infringe the patent, and says that he will not infringe it in the future, is no reason for refusing an injunction against him. Whatever tort a man has once committed, he is likely to commit again, unless restrained from so doing.²⁸

Regardless, in concert with recognizing the “necess[ity]” of denying a permanent injunction against future infringement when the “infringing defendant is dead,” Walker acknowledged “the rule that [a court] will not enjoin an act which, from the nature of the case, cannot be committed.”²⁹ Thus, Walker apparently agreed with Robinson that the ability of a defendant to engage in future infringement could inform the determination of whether to issue a permanent injunction.

Moreover, Walker recognized some significant limits on the availability or potential timing of permanent injunctions in circumstances that resonate with modern concerns about injunctions possibly “not serv[ing] the public interest”³⁰ or having a disproportionate effect on the availability or use of a complex product or process in a situation in which the infringed patent only covers a relatively minor part of the whole.³¹ Specifically, Walker reported:

A permanent injunction will be postponed till a final decree, when such a postponement is necessary to save the defendant from special hardship, and is not injurious to the just rights of the complainant; or where an immediate discontinuance of the defendant’s use of the patented article is contrary to public policy.³²

Hence, Walker acknowledged the propriety of at least delaying permanent injunctive relief under circumstances where immediate issuance of an injunction would inflict undue hardship on the defendant or threatened to harm the public at large. Moreover, Walker recognized the possibility of *de minimis* infringement for which an injunction should not issue, saying, “[b]ut no injunction will be issued on account

28. WALKER, *supra* note 23, § 701, at 550.

29. *Id.* § 700, at 549.

30. *See* eBay Inc. v. MercExchange, L.L.C., 547 U.S. 338, 397 (2006) (Kennedy, J., concurring).

31. *See id.*

32. WALKER, *supra* note 23, § 702, at 550.

of an infringement which is so trivial as to be below the dignity of the court.”³³

Both Robinson and Walker wrote at times before the reasonable royalty remedy as a mechanism for rewarding the inventor was well established. The United States Supreme Court later embraced a reasonable royalty remedy in its 1915 decision in *Dowagiac Manufacturing Co. v. Minnesota Moline Plow Co.*³⁴ This decision helped put in motion a train of events that ultimately facilitated the adoption of a different approach to patent-infringement injunctions in the twenty-first century. Long-term trends toward greater court openness to expert economic testimony that could support a court’s assessment of a reasonable royalty undoubtedly also played a role in making judicial ratemaking for patents more feasible and acceptable.³⁵

Nonetheless, for many years after the creation of the U.S. Court of Appeals for the Federal Circuit in the early 1980s, the court largely adhered to the tradition indicated decades beforehand by Robinson and Walker. In particular, the Federal Circuit championed a pre-*eBay* approach to injunctive relief that favored the common issuance of permanent injunctions against adjudged patent infringers.³⁶ Relative to standard equity practice, however, the Federal Circuit did overstep to the extent that it hardened this practice into a “general rule”³⁷ tending to require permanent injunctions even when traditional equitable

33. *Id.* § 705, at 551–52; see also DAN B. DOBBS, HANDBOOK ON THE LAW OF REMEDIES § 6.2, at 435 (1973) (noting that the *de minimis* nature of infringement had been a basis for denying injunctive relief for patent infringement) (citing and quoting *Condenser Corp. of Am. v. Micamold Radio Corp.*, 145 F.2d 878, 880 (2d Cir. 1944) (Hand, J.) (“[T]here comes a point where what may be literally a wrong, is of too trifling importance to justify the intervention of a court” — e.g., because infringement centers on “a detail, obviously so useless in function.”)).

34. 235 U.S. 641, 648 (1915) (finding that in circumstances where “there was no established royalty . . . it was permissible to show the value [‘of what was taken’] by proving what would have been a reasonable royalty, considering the nature of the invention, its utility and advantages, and the extent of the use involved”); see also Oskar Liivak, *When Nominal Is Reasonable: Damages for the Unpracticed Patent*, 56 B.C. L. REV. 1031, 1043 (2015) (“[R]easonable royalties were created in the courts and later codified into the statute to liberalize patent damages from its then strictures.”); Michael Risch, *(Un)Reasonable Royalties*, 98 B.U. L. REV. 187, 204 (2018) (“*Dowagiac* represents the practical, if not actual, birth of reasonable royalties as an alternative to the complexities of awarding profits and the apportionment of those profits to the contribution of the invention.”).

35. See John M. Golden, *Reasonable Certainty in Contract and Patent Damages*, 30 HARV. J.L. & TECH., SPECIAL SYMPOSIUM 257, 269 (2017) (discussing judicial relaxation of “demands for reasonable certainty” and increased willingness to rely on “expert evidence to support inferences required for calculation of a damages amount” in the contract context).

36. See *eBay*, 547 U.S. at 395 (Roberts, C.J., concurring) (“From at least the early 19th century, courts have granted injunctive relief upon a finding of infringement in the vast majority of patent cases.”); see also Daniel A. Crane, *Intellectual Liability*, 88 TEX. L. REV. 253, 263 (2009) (“Until recently, property-rights protection of patents was the norm and rate-setting treatment was an aberration.”).

37. See *eBay*, 547 U.S. at 393–94 (rejecting what the Court characterized as the Federal Circuit’s “‘general rule,’ unique to patent disputes, ‘that a permanent injunction will issue once infringement and validity have been adjudged’”).

concerns such as undue hardship to the adjudged infringer might suggest otherwise.³⁸ At the same time, the Federal Circuit continued a far less patentee-favorable tradition of being much more stringent in the granting of preliminary injunctions against alleged patent infringement, in large part because of frequent uncertainty about the scope or validity of patent rights.³⁹

Meanwhile, the relatively certain expectation of a permanent injunction if a patent were likely to be unexpired at the time of an infringement judgment presumably helped encourage the practice of bifurcating damages trials. If, in the wake of an infringement judgment, parties expected to be negotiating over a patent license in light of — or in the expectation of — a permanent injunction, they anticipated having to assign at least some form of forward-looking value to the relevant patent rights, whether a strict monetary value or an alternative such as an “in kind” cross-licensing value. Given a background assumption of a need to take on this forward-looking task of licensing, a decision to embrace the further task of agreeing on backward-looking compensation for past infringement might have often seemed a no more than incremental addition to the work that the parties anticipated having to undertake to truly settle their dispute in the wake of an infringement judgment. This incremental burden likely seemed well worth taking on as an alternative to the expense and vagaries of litigating an exact monetary value for backward-looking compensation before an inexperienced jury. For these reasons, the heavy expectation of a permanent injunction in the wake of an infringement judgment presumably helped encourage the practice of bifurcating trials, with a damages phase to follow after a liability phase, and parties and their lawyers generally expecting that the case would terminate, through settlement or judgment of invalidity or no infringement, before the damages phase could occur. The bifurcation of damages trials thus helped support a practice of primarily relying on private-party valuations in settling patent disputes. Further, when parties went forward with the damages trial in any event, the bifurcation of damages trials presumably also had the benefit of helping focus due attention on assessing damages when that phase was reached.

38. See Douglas Laycock, *The Neglected Defense of Undue Hardship (and the Doctrinal Train Wreck in Boomer v. Atlantic Cement)*, 4 J. TORT L., Dec. 31, 2011, at 22–29 (describing the doctrinal structure and law-and-economics underpinnings of the undue hardship defense to injunctive relief); Adam Mossoff, *The Injunction Function: How and Why Courts Secure Property Rights in Patents*, 96 NOTRE DAME L. REV. 1581, 1587 (2021) (“[T]he Federal Circuit was . . . mistaken that there was a general rule requiring injunctions. Since the United States defined and secured patents as private property rights, federal courts applied to patents the same legal doctrines governing the issuance of injunctive remedies as they applied to all other property rights.”).

39. See Golden, *supra* note 21, at 2119 & n.37 (describing U.S. courts’ traditionally relatively stingy approach to granting preliminary injunctions in favor of patentees asserting infringement).

Regarding these remedial practices favoring general awards of permanent injunctions and associated de-emphasis of reasonable-royalty damages awards, turn-of-the-twenty-first-century commentary was largely acquiescent. The historical foundation for the average import of Federal Circuit doctrine on these points presumably explains why commentary of the era seems largely to have accepted the Federal Circuit's approach to injunctive relief as an apparently unobjectionable *fait accompli*. Hence, the 2002 version of Donald Chisum's massive, multi-volume treatise on patent law included a subsection on "Permanent Injunctions" that had a single regular-text sentence supported by an approximately six-page footnote: "A patent owner prevailing on the merits of a patent infringement [suit] will usually be granted a permanent injunction against future infringement unless the public interest otherwise dictates."⁴⁰ Likewise, in 1993, Dan B. Dobbs' treatise on remedies acknowledged that "[t]he traditional equity rule" limiting equitable remedies to contexts where legal remedies were inadequate — i.e., where without equitable remedies "the plaintiff would be irreparably harmed" — "d[id] not often limit injunctive remedies in the intellectual property fields because trademarks, copyrights and patents all involve items unique in at least some respect; they deserve protection of the right to exclusive use."⁴¹ Per Dobbs, "[p]erhaps another way to say this is to say that the remedy in damages for future infringements ordinarily is not adequate in patent cases, so that, absent discretionary reasons for denial, the injunction should go once the patent's validity and its infringement by the defendant have been established together with a threat of future infringement."⁴²

B. Traditional Aversion to Judicial Ratemaking in Antitrust and Administration

Around the turn of the twenty-first century, the practice of generally awarding injunctive relief to successful patent owners in patent-infringement suits seemed at least indirectly supported by a wealth of judicial opinions and academic commentary emphasizing courts' limitations in setting prices outside the context of patent-infringement suits. For example, the 2002 edition of Phillip Areeda and Herbert Hovenkamp's leading U.S. treatise on antitrust law opined that antitrust courts should generally seek to avoid a compulsory licensing remedy because of "serious if not intractable problems in determining a 'reasonable' royalty rate," a value that the treatise described as "almost impossible to determine, apart from such an obvious case as an improved process that reduces everyone's production costs by, say, 10

40. 7 DONALD S. CHISUM, CHISUM ON PATENTS § 20.04[2], at 20-761.

41. 2 DAN B. DOBBS, DOBBS LAW OF REMEDIES § 6.2(5), at 43 (2d ed. 1993).

42. *Id.* § 6.2(5), at 44.

percent.”⁴³ In discussing the possibility of a compulsory-licensing remedy in a situation where a patentee had refused to license, Areeda and Hovenkamp even more specifically emphasized that “to establish the price and other terms of [such a] license [was] a task that is improper for an antitrust court and for which it is not well suited.”⁴⁴

This view regarding the federal courts’ lack of suitability for price setting resonated with a long tradition of courts disclaiming any substantial aptitude for ratemaking — a task commonly characterized as more appropriate for an expert administrative body.⁴⁵ Even amidst the U.S. Supreme Court’s *Lochner* era,⁴⁶ the Court was able to unite in a unanimous opinion such as that in *Loomis v. Lehigh Valley Railroad Co.*,⁴⁷ which held that a dispute about whether the railroad should compensate shippers for necessary modifications to railroad cars presented a “complicated administrative problem” for which “the preservation of uniformity and prevention of discrimination render essential some appropriate ruling by the Interstate Commerce Commission before it may be submitted to a court.”⁴⁸ Through decisions such as that in *Keogh v. Chicago & Northwestern Railway Co.*,⁴⁹ similarly unanimous, the Court embraced a “filed rate doctrine” providing “that where a tariffing regime commits pricing supervision to an expert regulatory agency, the antitrust laws have very little scope” in protecting against allegedly excessive pricing.⁵⁰ In 1994, the U.S. Court of Appeals for the Second Circuit explained the rationale for the

43. 3 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶ 707j, at 209 (2d ed. 2002); see also *id.* ¶ 707k, at 211 (noting that a court’s “order[ing] compulsory licensing at reasonable royalties . . . entails the usual difficulties of judicially determining the ‘reasonable’ rate”).

44. *Id.* ¶ 709b, at 220; see also *id.* ¶ 709b, at 228 (“[O]nce licensing is compelled, the antitrust tribunal must regulate prices, a task for which it is not suited.”).

45. See William H. Page, *Judging Monopolistic Pricing: F/RAND and Antitrust Injury*, 22 TEX. INTELL. PROP. L.J. 181, 183 (2014) (“Courts themselves often claim to be less well equipped than administrative agencies to calculate reasonable prices.”).

46. See David E. Bernstein, *Lochner Era Revisionism, Revised: Lochner and the Origins of Fundamental Rights Constitutionalism*, 92 GEO. L.J. 1, 10 (2003) (describing the *Lochner* era as stretching from 1897 to 1937 and featuring a “vast majority of . . . Justices [who] were at least moderate *Lochner*ians in the sense that they believed the Court should engage in meaningful review of regulatory legislation that interfered with the liberty of contract to ensure that such legislation was constitutionally valid”).

47. 240 U.S. 43 (1916).

48. *Id.* at 50–51; cf. *Atchison, Topeka & Santa Fe Ry. Co. v. United States*, 232 U.S. 199, 221 (1914) (“The courts . . . cannot make rates. They cannot interfere with rates fixed or practices established by the Commission unless it is made plainly to appear that those ordered are void.”).

49. 260 U.S. 156 (1922).

50. See James B. Speta, *Antitrust and Local Competition Under the Telecommunications Act*, 71 ANTITRUST L.J. 99, 101 (2003); see also *Keogh*, 260 U.S. at 162 (rejecting the proposition that “Keogh, a private shipper, may recover damages under section 7 because he lost the benefit of rates still lower” than those approved by the Interstate Commerce Commission); *id.* at 164 (“[I]t is the Commission which must determine whether a rate is discriminatory; at least, in the first instance.”).

doctrine's general provision "that any 'filed rate' — that is, one approved by the governing regulatory agency — is per se reasonable and unassailable in judicial proceedings brought by ratepayers."⁵¹ In particular, the Second Circuit embraced the district court's observation "that 'two companion principles lie at the core of the filed rate doctrine: first, that legislative bodies design agencies for the specific purpose of setting uniform rates, and second, that courts are not institutionally well suited to engage in retroactive rate setting.'"⁵²

Separately, economist Suzanne Scotchmer emphasized ratemaking problems with respect to patents that could frustrate even the most gifted rate-setters: (1) fundamental difficulty in assessing patent rights' value⁵³ and (2) "a circularity in the definition of lost royalty" that results from the facts that a "potential licensee" may be expected to accept paying no more than the expected court-set royalty for patent-infringement damages and a potential licensor may be expected to accept no less than that court-set amount.⁵⁴ According to Scotchmer, the upshot of the circularity problem was that "the profitability of the licensed innovation is indeterminate, and the possibility of low rewards [through licensing or court-ordered damages that resulted] may discourage innovation" by "undermin[ing] the incentive to invest."⁵⁵

In short, at the turn of the twenty-first century, pre-*eBay* commentary seems commonly to have supported concerns with the capacities of courts to set proper royalty rates for patents and, relatedly, to have offered relatively little basis for opposing a regime in which a permanent injunction against future infringement was typically a presumptive remedy for a patent owner's success in a patent-infringement suit.

C. Concerns with the Pre-eBay Approach

Nonetheless, although the Federal Circuit's pre-*eBay* approach to permanent and preliminary injunctions appears to have comported not only with much pre-*eBay* commentary, but also with the modal (i.e., dominant) tendencies of prior patent law and practice, there is reason

51. See *Wegoland Ltd. v. NYNEX Corp.*, 27 F.3d 17, 18 (2d Cir. 1994).

52. See *id.* at 19 (quoting *Wegoland, Ltd. v. NYNEX Corp.*, 806 F. Supp. 1112, 1115 (S.D.N.Y. 1992)); see also *Arsberry v. Illinois*, 244 F.3d 558, 562 (7th Cir. 2001) (Posner, J.) (describing the filed-rate doctrine as "based both on historical antipathy to rate setting by courts, deemed a task they are inherently unsuited to perform competently, and on a policy of forbidding price discrimination by public utilities and common carriers").

53. See SUZANNE SCOTCHMER, *INNOVATION AND INCENTIVES* 40 (2006) (observing that a "prize giver" may find "observ[ing] the value *v*" associated with patent rights to "be impossible"); *id.* at 210 ("Although it is firmly established in legal doctrine that lost profit can be lost royalty ('reasonable royalty'), there are no clear guidelines for calculating it.").

54. See *id.* at 211.

55. See *id.*; *cf. id.* at 41 (discussing difficulties in apportioning costs to innovation as a basis for determining the value of a potential "prize" to reward an innovator).

to believe that the focus on these modal tendencies became too narrow. In particular, the Federal Circuit's pre-*eBay* approach to permanent injunctions appears to have shed significant aspects of the nuance of traditional law regarding injunctive relief. The largest deviation was arguably in the seemingly near elimination, if not entire elimination, of concern for hardship to an adjudged infringer: the Federal Circuit repeatedly discouraged the notion that a permanent injunction's infliction of hardship on an adjudged infringer might justify denying, rather than merely delaying, injunctive relief.⁵⁶ Further, the Federal Circuit's repeated, explicit reservation of a possibility of denying a permanent injunction in the public interest could come across as overly qualified or merely perfunctory.⁵⁷ The apparent rigidity of the Federal Circuit's approach left it ripe for course adjustment by the U.S. Supreme Court as concerns grew about injunctions that could threaten access to many-component technologies such as communications systems (a) based on infringement by what might seem a quite small part and (b) on behalf of non-practicing patent holders who provide no competing products or services.⁵⁸

III. THE *EBAY* REVOLUTION AND ITS REASONABLE-ROYALTY AFTERMATH

The Supreme Court's 2006 decision in *eBay Inc. v. MercExchange, L.L.C.* rejected the Federal Circuit's "general rule that courts will issue

56. See *Windsurfing Int'l, Inc. v. BIC Leisure Prods., Inc.*, 782 F.2d 995, 1003 n.12 (Fed. Cir. 1986) ("One who elects to build a business on a product found to infringe cannot be heard to complain if an injunction against continuing infringement destroys the business so elected."). Although doing little actively to encourage entertainment of the possibility, the Federal Circuit's "elect[ion]" language in *Windsurfing* might nonetheless have left some room for permitting a party who inadvertently stumbled into infringement under sympathetic circumstances to invoke disproportionate hardship from an injunction as a basis for denying such relief. Cf. *id.* (noting that "[t]he district court[] recogniz[ed] the absence of bad faith on the part of all parties," but determining that, with both sides' businesses dependent on relevant products, "no warrant appears on this record for denying the requested injunction").

57. See *Xerox Corp. v. 3Com Corp.*, 61 Fed. Appx. 680, 685 (Fed. Cir. 2003) (nonprecedential) ("The important public needs that would justify the unusual step of denying injunctive relief, however, have typically been related to public health and safety."). Similarly, outside the possibility of stays of injunctions pending appeal, there seems little evidence that courts frequently engaged in serious consideration of staying or otherwise tailoring permanent injunctions to improve their capacity to serve the public interest. Cf. John M. Golden, *Injunctions as More (or Less) than "Off Switches": Patent-Infringement Injunctions' Scope*, 90 TEX. L. REV. 1399, 1401 (2012) (discussing the "comparatively neglected question" of patent-infringement injunction's scope).

58. See *eBay v. MercExchange, L.L.C.*, 547 U.S. 388, 396 (2006) (Kennedy, J., concurring) (expressing concern about the possibility of disproportionate licensing fees being sought in situations where the patent holder is a mere patent assertion entity or where "the patented invention is but a small component of the product the companies seek to produce"); cf. ROBERT P. MERGES, *AMERICAN PATENT LAW: A BUSINESS AND ECONOMIC HISTORY* 254 (2022) (contending that "the recent *eBay* case . . . owes much to the pressure built up by the changing dynamics of patent litigation").

permanent injunctions against patent infringement absent exceptional circumstances.”⁵⁹ But by emphasizing a plaintiff’s burden to justify a permanent injunction under “a four-factor test”⁶⁰ that itself departed “from traditional equitable practice,”⁶¹ the *eBay* decision generated much more than a mere rejection of the Federal Circuit’s seemingly dismissive attitude toward equitable possibilities for denying permanent injunctions against continued patent infringement.⁶² Instead, the decision heralded a profound change in approaches to awarding such relief, with reverberations beyond patent law⁶³ and outside the United States.⁶⁴

Specifically, the opinion for the Court in *eBay* stated that, to obtain a permanent injunction:

A plaintiff must demonstrate: (1) that it has suffered an irreparable injury; (2) that remedies available at law, such as monetary damages, are inadequate to compensate for that injury; (3) that, considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and (4) that the public interest would not be disserved by a permanent injunction.⁶⁵

As indicated by the puzzling use of the past tense in the first factor and the apparent redundancy of the first and second factors, this four-factor *eBay* test has facial flaws and demands interpretation.⁶⁶ Along with coauthors Mark Gergen and Henry Smith, I have argued that *eBay* and its framework may be understood and applied in ways that substantially

59. 547 U.S. at 391 (quoting *MercExchange, L.L.C. v. eBay, Inc.*, 401 F.3d 1323, 1339 (Fed. Cir. 2005), *vacated in relevant part*, 547 U.S. 388 (2006)); *see also id.* at 394 (declaring that the Federal Circuit had “erred in its categorical grant of such relief”).

60. *Id.* at 391.

61. Mark P. Gergen, John M. Golden & Henry E. Smith, *The Supreme Court’s Accidental Revolution? The Test for Permanent Injunctions*, 112 COLUM. L. REV. 203, 207 (2012).

62. *Id.* at 204 (describing *eBay* as having triggered “an American revolution” in “[t]he law of equitable remedies”).

63. *See* Gergen et al., *supra* note 61, at 205 (noting *eBay*’s impact on remedies in relation to non-patent “intellectual property, more conventional government regulation, constitutional law, [and] state tort [and] contract law”).

64. *See* Lisa Van Dongen, *Proportionality and Flexibilities in Final Injunctive Relief*, in THE UNITARY PATENT PACKAGE & UNIFIED PATENT COURT: PROBLEMS, POSSIBLE IMPROVEMENTS, AND ALTERNATIVES 357, 357 (Luc Desautettes-Barbero, Fernand de Visscher, Alain Strowel & Vincent Cassiers eds., 2023) (“In 2006, the patent world was shaken to the core by *eBay v. MercExchange*, a case that questioned several basic principles in patent enforcement that were considered well established for quite some time.”).

65. 547 U.S. at 391.

66. *See* Gergen et al., *supra* note 61, at 209 (noting that “[t]he test’s requirements of (1) irreparable injury and (2) inadequacy of legal remedies are redundant” and, on their face, “also redundantly and, it seems, strangely require[] proof of *past* irreparable injury . . . to justify an injunction that might be wholly directed at preventing future infringing behavior”).

reconcile it with more traditional equitable practice and that would turn the decision into more of a marker of a corrective shift, rather than an avulsive change.⁶⁷ For example, courts might understand there to be presumptions in favor of vindicating patent rights that alleviate the apparent burdens on a successful plaintiff to provide positive proof of an injunction-favoring balance of hardships or a lack of antagonism to an injunction on the part of the public interest.⁶⁸ U.S. courts have so far tended not to take this route, however, and have instead tended to read *eBay* to eliminate previously recognized presumptions — such as a presumption of irreparable injury from continuing infringement — that had favored grants of injunctive relief.⁶⁹ The result has been a situation in which, for large classes of patents and patent owners, *eBay* can seem, in Dan Burk’s words, to “effectively create[] a compulsory license or liability regime where the four factors align against exclusivity.”⁷⁰

Within United States patent law, key practical effects have included not only a shift toward generally making such relief unavailable for patent assertion entities,⁷¹ but also an unprecedented emphasis on the remedy of a reasonable royalty, the only legal remedy for past infringement to which a patent assertion entity can expect routine access.⁷² In the wake of *eBay*, forward-extending reasonable royalties have also become important as an instrument of prospective

67. *See id.* at 249 (contending that “courts still have ample opportunity to take a better-considered approach to interpreting and applying the Supreme Court’s holding”).

68. *See id.* at 227 (“[W]hen balance-of-hardships concerns enter through the undue-hardship defense, the right violator bears a considerable burden of production from the start, a situation that contrasts with that under an *eBay* test unsupplemented by any presumptions in favor of the right holder.”); *see also id.* at 246–47 (“Traditional presumptions and safety valves [providing defenses to injunctive relief] that turn on good faith and disproportionate hardship thereby narrowly target the [so-called patent] troll problem while also protecting patentees from deliberate encroachment and erosion of their rights’ value.”).

69. *See id.* at 215–16 (“[M]any courts have openly recognized *eBay* as disruptive, in particular by requiring the abrogation of previously settled presumptions in favor of an injunction, including presumptions that continuing rights violations entail irreparable injury.”); *cf.* Pamela Samuelson, *Withholding Injunctions in Copyright Cases: Impacts of eBay*, 63 WM. & MARY L. REV. 773, 823 (2022) (chronicling the development of “the now-considerable consensus about *eBay*’s implications for injunctions in copyright cases and its abrogation of presumptions of irreparable harm”).

70. Burk, *supra* note 4, at 349.

71. *See* Christopher B. Seaman, *Permanent Injunctions in Patent Litigation after eBay: An Empirical Study*, 101 IOWA L. REV. 1949, 1952–53 (2016) (concluding from “an original empirical study of contested permanent injunction decisions in the federal district courts for a 7.5 year period following *eBay*” that “district courts appear to have adopted a de facto rule against injunctive relief for [patent assertion entities] and other patent owners who do not directly compete in a product market against an infringer”).

72. *See* John M. Golden & Karen E. Sandrik, *A Restitution Perspective on Reasonable Royalties*, 36 REV. LITIG. 335, 340 (2017) (discussing how, “in the wake of *eBay*” and “[i]n light of the increased prominence of . . . monetizing patent holders in the U.S. patent landscape, reasonable royalty damages have become more important than ever to how the patent regime operates”).

equitable relief.⁷³ Within a year and a half of *eBay*, the Federal Circuit made clear in *Paice LLC v. Toyota Motor Corp.* that, when a district court declines to grant a permanent injunction against continuing infringement, the court may instead “award[] an ongoing royalty” for the adjudged infringer’s continued use of the patented technology.⁷⁴ The Federal Circuit also counseled, however, that such an award should not be made “as a matter of course whenever a permanent injunction is not imposed” and that, “[i]n most cases, . . . the district court may wish to allow the parties to negotiate a license amongst themselves regarding future use of a patented invention before imposing an ongoing royalty.”⁷⁵ Regardless, ongoing royalty awards have become common, even if not dominant, in cases in which a permanent injunction against continuing infringement is denied.⁷⁶

The seemingly ever-increasing importance and prominence of technological standards⁷⁷ have added to the demand and opportunities for courts to engage in exercises in patent ratemaking. Standard setting can promote both socially desirable competition⁷⁸ and widespread enjoyment of significant positive network effects.⁷⁹ But settlement on a technological standard can also make users of the relevant technology especially vulnerable to so-called “patent holdup” — an opportunistic demand for a licensing fee disproportionate to the value of a patented

73. See *id.* at 339 (mentioning “an ongoing royalty” as among the remedies whose assessment has “become[] much more crucial to the effective functioning of the patent regime”).

74. See *Paice LLC v. Toyota Motor Corp.*, 504 F.3d 1293, 1314 (Fed. Cir. 2007).

75. *Id.* at 1314–15.

76. See Jorge L. Contreras & Jessica Maupin, *Unenjoined Infringement and Compulsory Licensing*, 38 BERKELEY TECH. L.J. 661, 690–91 (2023) (observing ongoing-royalty awards in twenty-five of seventy-seven (about 32%) identified post-*eBay* decisions in which a request for a permanent injunction was denied); see also Christopher B. Seaman, *Ongoing Royalties in Patent Cases After eBay: An Empirical Assessment and Proposed Framework*, 23 TEX. INTELL. PROP. L.J. 203, 219 (2015) (“[O]ngoing royalties have been routinely granted by district courts and regularly confirmed by the Federal Circuit since *Paice*.”).

77. See Brad Biddle, Frank X. Curci, Timothy F. Haslach, Gary E. Marchant, Andrew Askland & Lyn Gaudet, *The Expanding Role and Importance of Standards in the Information and Communications Technology Industry*, 52 JURIMETRICS J. 177, 178 (2012) (“Standards adopted by various types of private and quasi-governmental standards-setting organizations (SSOs) play a critical and growing role in the development and commercialization of many technologies.”).

78. See Ruben Cano Perez, *Non-Discrimination Under FRAND Commitment: One Size Fits All, or Does Not Fit All? The Example of Wireless Technology: IoT and 5G*, 54 LES NOUVELLES 257, 258 (2019) (noting potential “pro-competitive effects of standardisation (high-performance interoperable solutions, progressively lower consumer prices, increased innovation, no market entrance limitations, etc.)”).

79. See Burk, *supra* note 4, at 330 (“Users of a network gain substantial positive spillover benefits from conforming to the existing standard, both as savings from not having to develop an independent technology, and from valuable interaction with other adopters as the network grows.”).

invention⁸⁰ — by the owner of a standard-essential patent.⁸¹ This special susceptibility follows because the threat of an injunction against infringement of an SEP can in effect threaten an adjudged infringer's ability, through the manufacture of standard-compliant products or otherwise, to benefit from the entirety of the value associated with standardization, which can have little, if anything, intrinsic to do with an SEP's specifically covered technology.⁸²

Standard development organizations (“SDOs”) have commonly responded to the “holdup” concern by requiring that participants in standard setting agree that they will nonexclusively license SEPs that they own on reasonable and nondiscriminatory (or fair, reasonable, and nondiscriminatory — i.e., FRAND) terms.⁸³ In combination with the likelihood that any individual patent will implicate only a small measure of the innovation embodied in a new technological standard,⁸⁴ FRAND commitments can make courts especially unlikely to find for permanent injunction against continuing infringement under the *eBay* test.⁸⁵ The Federal Circuit has stated that “[a] patentee subject to FRAND commitments may have difficulty establishing irreparable harm” and has indicated that the existence of “many license agreements

80. See Brian J. Love, *The Misuse of Reasonable Royalty Damages as a Patent Infringement Deterrent*, 74 MO. L. REV. 909, 931 (2009) (defining “patent holdup” as “the opportunistic use of patent rights to extract above-benchmark compensation”); Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEX. L. REV. 1991, 1993 (2007) (“[T]he threat of an injunction can enable a patent holder to negotiate royalties far in excess of the patent holder’s true economic contribution.”).

81. See Christopher R. Leslie, *The DOJ’s Defense of Deception: Antitrust Law’s Role in Protecting the Standard-Setting Process*, 98 OR. L. REV. 379, 386 (2020) (“After the standard has been adopted and implemented, the owners of SEPs may attempt to extort unreasonable royalties from manufacturers by threatening to deny them licenses or by suing them for infringement if they continue to make standard-compliant products.”).

82. See *id.* at 382 (“[A]n unscrupulous owner of a standard-essential patent (SEP) could threaten to sue manufacturers and enjoin them from making standard-compliant products unless the manufacturers pay an exorbitant royalty, a royalty based on the value of the standard as opposed to the incremental value of the SEP.”); Carl Shapiro & Mark A. Lemley, *The Role of Antitrust in Preventing Patent Holdup*, 168 U. PA. L. REV. 2019, 2044 (2020) (“If compliance with a standard is essential to market success, as it often is in network markets, a company has no choice but to invest in assets that might later turn out to be subject to SEPs.”). Commentators have contested the question of the extent to which a SEP holder should be able to obtain a reasonable royalty that reflects in part the value of a standard to which the SEP technology is a contributing part. See Norman V. Siebrasse & Thomas F. Cotter, *The Value of the Standard*, 101 MINN. L. REV. 1159, 1168 (2017) (“[W]e argue that the incentive-to-invent and incentive-to-participate principles require that the SEP owner *should* be able to capture some portion of the network effects (if any) arising from standardization . . .”).

83. See Barbara Lauriat, “Pay No Attention to the Comparable Behind the Curtain!” *The Harms of Opacity in Standard Essential Patent Licensing*, 38 BERKELEY TECH. L.J. 463, 465 (2023) (describing FRAND-licensing requirements as “a widely adopted solution to the problems that can arise in standard setting in patent-heavy areas of technology”).

84. See Seaman, *supra* note 71, at 1998 (“When a patent is found to cover a small component [‘of an infringing product’], district courts rarely grant an injunction . . .”).

85. See *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1331 (Fed. Cir. 2014) (noting that “Motorola’s FRAND commitments are certainly criteria relevant to its entitlement to an injunction”).

encompassing [an SEP],” presumably a common circumstance for SEPs, “strongly suggest[s] that money damages are adequate to fully compensate [the SEP owner] for any infringement.”⁸⁶ Because of a perception that a FRAND licensing agreement is presumptively global in scope, a further result can be a court’s embrace of a responsibility — or at least an authority — to determine not only a FRAND royalty rate applicable for its traditional, territorially limited jurisdiction, but FRAND royalty terms for the entire world.⁸⁷

With a variety of circumstances thus ensuring that reasonable royalties play an unprecedentedly prominent role in determining patent system performance, judges — in particular, the judges of the Federal Circuit — have had to grapple with the reality that courts’ tools for assessing reasonable royalties, including constitutionally required jury trials, are far from precise.⁸⁸ Post-*eBay*, the Federal Circuit has issued multiple opinions intended to improve district courts’ implementation and policing of damages assessment.⁸⁹ But consistent with the pre-*eBay* consensus that courts should not be expected to be especially adept ratemakers, criticisms of court-ordered royalties and their methods for determination as manifesting significant vagaries, distortions, and incoherencies continue.⁹⁰ Moreover, such concerns have taken on a

86. *Id.* at 1332.

87. *Cf.* *Unwired Planet Int’l Ltd. v. Huawei Techs. (UK) Co.*, [2020] UKSC 47, [2021] 1 All ER 1141, [49]–[63] (determining that “the English courts have jurisdiction and may properly exercise a power without the agreement of both parties (a) to grant an injunction restraining the infringement of a UK SEP unless the defendant enters into a global licence on FRAND terms of a multinational patent portfolio and (b) to determine royalty rates and other disputed items for a settled global licence and to declare that such terms are FRAND” (emphasis omitted)).

88. *See* Golden, *supra* note 35, at 262 (“[T]he Federal Circuit and district courts have continued to demonstrate a willingness to allow parties to fudge certain aspects of the reasonable royalty calculus.”).

89. *See* Golden & Sandrik, *supra* note 72, at 347 (“In the past decade, the U.S. Court of Appeals for the Federal Circuit has issued a raft of opinions tightening standards for proving reasonable royalty damages . . .”).

90. *See, e.g.*, Thomas F. Cotter, *Standing, Nominal Damages, and Nominal Damages “Workarounds” in Intellectual Property Law After TransUnion*, 56 U.C. DAVIS L. REV. 1085, 1101 (2023) (“Critics often charge . . . that under current practice [use of an oft-cited set of reasonable-royalty] factors can be costly, unpredictable, and not susceptible to meaningful appellate review.”); Thomas F. Cotter, *Fifty Years of Patent Remedies Case Law: Two Steps Forward, One Step Back*, 50 AIPLA Q.J. 607, 616 (2022) (“One of the principal areas [in patent remedies law] that could benefit from greater clarity involves the determination of the appropriate royalty base from which to calculate reasonable royalties.”); *cf.* Michael A. Carrier, *Why is FRAND Hard?*, 2023 UTAH L. REV. 931, 948 (2023) (discussing difficulties in assessing “the incremental value of [a] patented technolog[y]”). In the wake of *eBay*, there seems a somewhat mysterious disjunction between the attitudes of the Areeda and Hovenkamp treatise toward compulsory licensing as a judicially oriented remedy in the patent and antitrust contexts. The treatise characterizes this remedy as “requir[ing] the court to establish the price and other terms of the license, a task that is improper for an antitrust court and for which it is not well suited.” 3 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW § 709b1, at 374 (4th ed. 2015). On the other hand, the treatise suggests that,

significant international aspect, with some courts ostensibly of no more than national patent jurisdiction, including at least one district court in the United States, taking on the assessment of global royalty rates for standard-essential patents that are commonly licensed for worldwide use.⁹¹

IV. TOWARD MORE MODESTY IN JUDICIAL RATEMAKING

Parts II and III have described how we have arrived in a situation in which courts frequently assume a rate-setting role — including the setting of forward-looking rates — for the use of patent technology despite longstanding and continuing worries that they are not generally up to the task. This Part considers why and how courts might return — or be returned — to a more modest role in determining monetary rewards for patenting. Section IV.A first considers arguments for and against courts' expanded role in ratemaking, concluding that current circumstances provide no more than partial justification for this expansion. In accordance with this conclusion, Sections IV.B through IV.D suggest some ways to curtail — albeit by no means to end — modern judicial ratemaking in patent law, thereby bringing U.S. practice somewhat more in line with the traditional skepticism of courts' aptitude for price-setting. Section IV.B discusses possibilities to relieve modern demand for judicial ratemaking through more substantial private ordering or administrative intervention, particularly in relation to standard-essential patents, with respect to which both demands for and concerns about judicial ratemaking might currently be sharpest. Sections IV.C and IV.D then discuss various steps that courts themselves can take to better restrain or channel their ratemaking efforts.

A. Judicial Ratemaking Reconsidered

Judges and commentators have offered a variety of rationales for a greater judicial role in modern patent ratemaking. In *eBay* itself, Justice Kennedy's concurring opinion suggested that reasons for cutting back on the "[t]he traditional practice of issuing injunctions against patent infringers" have emerged in the forms of a rise of patent-enforcement entities, the possibility that such entities might engage in patent

when compulsory licensing is, in effect, generated through the denial of an injunction and the award of a reasonable royalty in the wake of *eBay*, it is less problematic, even though presumably administered by a district court that might alternatively sit as "an antitrust court." *See id.* § 708d, at 368 (describing at least "some . . . concerns" with compulsory licensing as "attenuated when the solution lies not in antitrust but rather in limitations on the infringement remedy to damages, as the *eBay* decision indicates").

91. *See supra* note 11 and accompanying text.

holdup — i.e., might use an injunction “to charge exorbitant fees” for patent licensing, the related possibility of a “patented invention [being] but a small component of the product [that] companies seek to produce,” and the growth in importance of “patents over business methods” marked (at least sometimes) by “potential vagueness and suspect validity.”⁹² A host of commentators have similarly affirmed or even expanded on these reasons.⁹³ For example, Justice Kennedy’s opinion did not highlight risks of holdup particular to SEPs.⁹⁴ Further, commentators have pointed out that notice concerns regarding the scope or validity of patent rights are by no means limited to the context of business method patents.⁹⁵ Others have pointed out that, with the U.S. Patent and Trademark Office (“USPTO”) regularly issuing hundreds of thousands of new patents each year,⁹⁶ the sheer volume of patents whose relevance, scope, and validity might need to be assessed contributes to a situation in which complete “preclearance” of others’ patent rights can entail costs that make it “infeasible” for a private party and so wasteful of resources as to be socially undesirable.⁹⁷ If a permanent injunction against continuing infringement will generate a significant risk of the adjudged infringer’s being subjected to extortionate demands for a licensing fee far beyond a patented invention’s reasonable value, one could view there as being substantial injustice as well as social inefficiency in imposing that risk on an

92. *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 396–97 (2006) (Kennedy, J., concurring).

93. *See, e.g.*, Jonathan M. Barnett, *Has the Academy Led Patent Law Astray?*, 13 *BERKELEY TECH. L.J.* 1313, 1327–28 (2017) (“The Court’s decision [in *eBay*] and, in particular, the concurrence authored by Justice Kennedy, reflects holdup concerns that had been expressed in the academic literature . . .”); Sarah Rajec, *Third-Party Interests and the Property Law Misfit in Patent Law*, 41 *CARDOZO L. REV.* 1859, 1885–86 (2020) (“Improvidently granted and overbroad patents can lead to potential holdup problems, particularly in the information technology and software fields, as can patents for small components of complex, multipart technologies such as semiconductor chips.”).

94. *See supra* text accompanying notes 80–81.

95. *See* Peter S. Menell & Michael J. Meurer, *Notice Failure and Notice Externalities*, 5 *J. LEGAL ANALYSIS* 1, 18. (2013) (“[D]evelopers of many intangible resource projects face significant problems in identifying potentially conflicting rights, ascertaining the boundaries of those properties that they can find, locating the owners of potentially conflicting properties, and assessing the scope of potentially conflicting rights.”).

96. *See* U.S. PATENT & TRADEMARK OFF., FY2023 WORKLOAD TABLES 1, 6 (2023) (indicating that the USPTO issued more than 300,000 utility patents each year from fiscal year 2016 through fiscal year 2023).

97. *See* William F. Lee & A. Douglas Melamed, *Breaking the Vicious Cycle of Patent Damages*, 101 *CORNELL L. REV.* 385, 404 (2016) (contending that “[t]he explosion in the number of issued patents has created a different dynamic in many industries” such that “[t]raditional conceptions regarding the feasibility and desirability of patent preclearance are often inapplicable”).

infringer for whom there was no reasonable means to avoid infringement.⁹⁸

The above points provide justifications for cutting back on the issuance of patent-infringement injunctions relative to the Federal Circuit's pre-*eBay* approach.⁹⁹ But they fail to answer longstanding concerns about generalist federal courts' fundamental aptitude for ratemaking — in particular, lack of expertise in the economic and technical subject matter involved, lack of the sort of broad and continuing oversight authority that would help them ensure consistency in ratemaking methodology and results, and their related substantial dependence of parties involved in individualized disputes to bring ratemaking questions and evidence before them.¹⁰⁰ These concerns suggest that, as traditionally, courts should continue to tend to approach ratemaking reluctantly, particularly forward-looking ratemaking that, by nature, can involve more speculation compared to backward-looking damages and, unless a court chances on a proper form and number, is also more likely than damages to have a directly distortive impact on future party decisions. Damages for past conduct can ordinarily be expected to be a sunk cost or, to the beneficiary, received compensation that has little impact on the forward-looking incentives of a rational profit-maximizing party except indirectly — for example, to the extent the damages number affects expectations regarding potential future damage awards for new courses of conduct.¹⁰¹ In contrast, a court-ordered ongoing royalty determines prices for future activity by the adjudged infringer and thus can be expected quite generally to have a direct impact on future incentives. Moreover, even if the basic level of court's ongoing royalty reward is correct, a court's ongoing-royalty arrangement can, if it simply sets a flat royalty rate, be suboptimal compared to typical private-party patent licenses that include more reticulated provisions that can better promote or guide the use of patented technology.¹⁰²

98. Cf. Gergen et al., *supra* note 61, at 240 (“Equitable rights tend to be enforced vigorously against right violators who acted with notice, and many doctrines soften the treatment of those who lacked notice and thus acted in good faith.”).

99. See *supra* Section II.C; see also Stewart E. Sterk, *Property Rules, Liability Rules, and Uncertainty About Property Rights*, 106 MICH. L. REV. 1285, 1334 (2008) (“[B]y limiting the leverage patent owners can exercise against infringers who could not easily have discovered their infringement, patent doctrine discourages inefficient expenditures directed to increasing certainty about the scope of legal rights.”).

100. See *supra* text accompanying note 3.

101. See Andrew J. Wistrich & Jeffrey J. Rachlinski, *How Lawyers' Intuitions Prolong Litigation*, 86 S. CAL. L. REV. 571, 613 (2013) (discussing the so-called “sunk-cost fallacy” under which individuals act as if the existence already-incurred costs should directly impact future action).

102. See John M. Golden, *Principles for Patent Remedies*, 88 TEX. L. REV. 505, 535 n.170 (2010) (noting that a patent holder “can use the terms of a negotiated license to guide the way in which an invention is exploited”).

Of course, both backward-looking awards of reasonable-royalty damages and forward-looking orders of an ongoing royalty can also be expected to impact expectations regarding the level of future court awards as well as licensing and patent-clearance behavior in the shadow of those expectations. If courts' reasonable-royalty levels are randomly distributed around optimum levels, one might expect the vagaries of deciding on the level of an individual award to average out and for risk-neutral parties therefore to have proper incentives despite even substantial inconsistency — “noise” — in the amounts of courts' individual awards.¹⁰³ But in part because the volume of court-ordered royalty awards is relatively low and scattershot, an assumption that such awards average out to an optimum seems implausibly heroic. Some commentators have argued that court-ordered reasonable royalties tend to be systematically inflated above their optimal amounts.¹⁰⁴ Others have argued that court-ordered reasonable royalties are significantly likely to tend to be too low.¹⁰⁵ If reasonable royalties tend to be too high, this average excessiveness could undercut the advantages expected from shifting emphasis to judicial ratemaking as an alternative to enjoining continuing infringement.¹⁰⁶ If reasonable royalties tend to be too low, the result could be insufficient incentives for innovators and significant harm to social welfare relative to a more injunction-oriented patent system.¹⁰⁷

Daniel Crane has nonetheless argued that we should not worry too much about courts' likelihood of erring one way or the other because private parties will generally bargain their way to rates on their own and “[t]he very unpredictability and inadequacy of the institutional mechanisms available for such rate setting are a spur to bargaining.”¹⁰⁸

103. See Louis Kaplow & Steven Shavell, *Property Rules Versus Liability Rules: An Economic Analysis*, 109 HARV. L. REV. 713, 731 (1996) (contending that, “[a]s long as [court’s harm] estimates are not systematically biased, average damages will equal average harm, and [an] argument about the superiority of the liability rule [for protecting certain interests] will remain valid”).

104. See Lee & Melamed, *supra* note 97, at 465–66 (contending that U.S. patent law features “a vicious cycle that perpetuates excessive royalty rates”); Lemley & Shapiro, *supra* note 80, at 2044 (“[T]he way reasonable royalties are calculated, particularly for component inventions, has made them into a tool for patentees to capture more than their fair share of a defendant’s profit margins.”).

105. See Einer Elhauge, *Do Patent Holdup and Royalty Stacking Lead to Systematically Excessive Royalties?*, 4 J. COMPETITION L. & ECON. 535, 535–36 (2008) (finding that “economic models” suggest a likelihood “that current patent remedies often (arguably usually) result in royalty rates that are too low to sufficiently reward socially optimal invention”).

106. *Cf.* Kaplow & Shavell, *supra* note 103, at 761 (“When takers expect courts’ estimates of common value to be too high, takings will be rare, so that the result will be close to that achieved under the property rule.”).

107. *Cf. id.* at 730 (indicating that, if courts “set damages systematically below average harm . . . [t]he liability rule might then be inferior to property rule protection of victims because excessive harm will occur under the liability rule”).

108. Daniel A. Crane, *Intellectual Liability*, 88 TEX. L. REV. 253, 293 (2009).

But that bargaining will still be shaped by expectations about the rates a court likely would set and thus would likely reflect any expected bias in court-set rates. Further, parties might be expected at least sometimes to bargain to lower rates when court-set rates are biased upwards: potential users of a patented invention will presumably at least sometimes be in a position to say in advance that they will refuse to use the invention unless they can license it at such a lower rate.¹⁰⁹ In contrast, when court-set rates are expected to be biased downwards, a potential user might be expected to have little incentive to bargain in advance for a license at a higher rate than a court would later determine that they need to pay.¹¹⁰ Such asymmetry in bargaining incentives might be especially stark if a court has already determined a reasonable-royalty rate for past infringement that the parties expect to be the court's starting position for determining an ongoing royalty for the adjudged infringer's future use of the patented invention.

In sum, the arguments that have justified a significant shift to a greater prominence for judicial ratemaking in United States patent law seem generally not to call into question the conventional wisdom that the United States' generalist courts are not especially good ratemakers. Moreover, courts' limitations in ratemaking can impose significant social costs in terms of suboptimal innovator, implementer, and user behavior. Consequently, although a move toward limiting permanent injunctions against continuing infringement seems reasonably justified relative to pre-*eBay* norms, there also seems interest in continuing to limit reliance on judicial ratemaking. The next Sections make proposals to help advance this end.

B. Private Ordering and Administrative Interventions Regarding Standard-Essential Patents

The context of standard-essential patents subject to FRAND licensing obligations can seem a facially promising area for more substantial private-ordering or administrative alternatives to judicial ratemaking. As discussed above,¹¹¹ this context is one where post-*eBay* prospects for a permanent injunction against continuing infringement can be plausibly characterized as “low to nominal.”¹¹² Thus, court-ordered reasonable royalties, including forward-looking ongoing royalties, are likely to play an especially prominent role in how the

109. See John M. Golden, *Response, Intellectual Liability in Context*, 88 TEX. L. REV. 211, 217 (2010) (discussing the possibility that “expected and actual government-set rates [will] act as ceilings but not floors”).

110. See *id.*

111. See *supra* text accompanying notes 16–19.

112. See Jonathan M. Barnett, *Patent Groupthink Unravels*, 34 HARV. J.L. & TECH. 419, 430–31 (2021).

patent regime operates with respect to SEPs.¹¹³ Further, FRAND licensing obligations generally reflect the existence of a standard-development organization (“SDO”) that has coordinated a variety of private actors’ efforts and, in doing so, has taken the significant step of requiring that such actors undertake FRAND obligations if they wish to participate in the SDO’s standard-setting process.¹¹⁴ Meanwhile, coordinated standards-development processes among competitors and other industry players and resulting “standards essentiality” of patents in private hands tend understandably to attract government attention.¹¹⁵ A natural ask can be for either SDOs or governments, who are already at least somewhat in the SEP arena, to do more to lessen the burden on the courts to make sense of FRAND commitments and the nature of reasonable-royalty rates that should be associated with them.

In particular, SDOs might be asked to do more to clarify the nature of FRAND commitments,¹¹⁶ perhaps even by having standard-setting participants agree to arbitration of a substantial range of potential patent-infringement or licensing disputes.¹¹⁷ But there are many hurdles to SDOs doing substantially more to prevent or resolve FRAND rate disputes.¹¹⁸ SDO participants can understandably prefer to focus on the core problems of envisioning and agreeing on a technical standard, rather than expanding their stewardship of later licensing of SEPs.¹¹⁹ Further, by involving SDO’s more deeply in ratemaking or its regulation, such stewardship expansion could raise legal concerns

113. See J. Gregory Sidak, *Ongoing Royalties for Patent Infringement*, 24 TEX. INTELL. PROP. L.J. 161, 171 (2016) (noting that, in part because of the frequently “ongoing use of . . . SEPs, ongoing royalties are likely to be particularly relevant in determining a FRAND royalty for SEPs”).

114. See Contreras, *supra* note 6, at 42 (discussing standards development and “FRAND policies”).

115. See Olia Kanevskaia, *Governance of ICT Standardization: Due Process in Technocratic Decision-Making*, 45 N.C. J. INT’L L. 549, 580 (2020) (“The US federal agencies have often acknowledged potential antitrust risks stemming from coordinated standards development.”).

116. See Stanley M. Besen, *Looking for FRAND: Patent Owners, Standard-Setting Organizations, and the Courts*, 25 TUL. J. TECH. & INTELL. PROP. 213, 222 (2023) (contending that participants in standard development are “in the best position to estimate the extent to which the ‘best’ technologies are ‘better’ than their next-best alternatives” and that “[t]he same cannot be said for the courts”); see also Carrier, *supra* note 90, at 944–46 (highlighting the potential helpfulness of “clear policies” from SDOs).

117. Jorge L. Contreras, *Global Rate Setting: A Solution for Standards-Essential Patents?*, 94 WASH. L. REV. 701, 738 (2019) (presenting a proposal for SDOs to “require (mandatory version) or offer (optional version) that their participants resolve all disputes regarding the level of FRAND royalties to be charged for SEPs covering the SDO’s standards through an international, non-governmental rate-setting tribunal”).

118. See Besen, *supra* note 116, at 225–26 (discussing potential explanations).

119. Cf. *id.* at 225 (“Some have expressed a concern that setting FRAND rates would add further delays to an already time-consuming standard setting process.”).

about potential antitrust liability¹²⁰ as well as potentially outrunning the SDO's capacity for accurate economic, legal, or technological prediction and analysis.¹²¹ Finally, there is also the likelihood that a good number of SDO participants or hoped-for participants would oppose whatever further constraint or guidance relating to FRAND that an SDO might consider imposing or providing, thereby making such a course of action either impossible to ratify within the SDO or possibly too costly in terms of decreased willingness of industry players to participate in the SDO.¹²² By decreasing input into standard setting by knowledgeable parties and reducing the extent to which relevant intellectual property is likely to be covered by FRAND commitments, loss of participation in standard setting could, in turn, undermine the social utility of both the technological standard and the FRAND commitments made by SDO members.

Administrative ratemaking and regulation of FRAND licensing for SEPs — or, at least, administrative advisory opinions on royalty rates — might be considered next-in-line alternatives.¹²³ Administrative ratemaking or rate-advising could in principle promote prices and forms for FRAND licensing that better promote the public interest as well as reasonably balance the interests of patent holders and technology implementers.¹²⁴ But even with respect to licensing of SEPs, there seems reason to question whether there is yet a sufficient

120. *See id.* (“Others have attributed the reluctance of [standard-setting organizations] to become more engaged in the rate-setting process to SSOs’ desire to avoid possible antitrust liability . . .”); *see also* William H. Page, *Judging Monopolistic Pricing: F/RAND and Antitrust Injury*, 22 TEX. INTELL. PROP. L.J. 181, 185–86 (2014) (noting contentions “that the generality of the RAND commitment is unavoidable because of practical and antitrust impediments to SSOs establishing more specific price constraints”).

121. *See* Besen, *supra* note 116, at 226 (“[I]t has been argued that it is difficult to compute *ex ante* incremental values for individual SEPs.”); Joseph Scott Miller, *Standard Setting, Patents, and Access Lock-In: RAND Licensing and the Theory of the Firm*, 40 IND. L. REV. 351, 369 (2007) (“[E]ven if they were expert in business and licensing details, [SDO] participants would still face data gaps that render highly detailed *ex ante* negotiations nearly impossible.” (emphasis omitted)).

122. *Cf.* Besen, *supra* note 116, at 226 (contending that there is substantial evidence that “patent owners that participate in [SDOs] resist having the [SDOs] become involved in rate-setting in order to increase their bargaining leverage in royalty negotiations with implementers after a standard is adopted”).

123. *See, e.g.,* Erick S. Lee, *Reconsidering Reasonable Royalty Damages Methodology in Patent Infringement Suits: Supplementing Georgia Pacific with the Reasonable Royalty Determination Board*, 92 J. PAT. & TRADEMARK OFF. SOC’Y 104, 108, 114 (2010) (proposing the creation of “a neutral, federal administrative body” to “provide parties . . . in licensing negotiations with an independent, non-biased opinion as to an appropriate reasonable royalty rate” and potentially “to provide the fact finder in the damages phase of a patent infringement suit with guidance as to a starting point for their deliberations”).

124. *Cf.* Jonas J. Monast, *Precautionary Ratemaking*, 69 UCLA L. REV. 520, 522 (2022) (noting states’ long “reli[ance] on public utilities commissions (PUCs) to ensure that investor-owned electric utilities deliver affordable and reliable power to their customers”).

case¹²⁵ for the sort of “serious market failure” commonly thought necessary to justify the costs and risks of adopting a systematic regime of administrative ratemaking.¹²⁶ The European Union might be on the verge of adopting a more limited measure that would establish a SEP “Competence Centre” at the European Union Intellectual Property Office that would, *inter alia*, make non-binding FRAND royalty assessments.¹²⁷ As the United States’ federal government has so far struggled to provide consistent, meaningful instruction even on how it thinks FRAND licensing or court approaches thereto should proceed,¹²⁸ this might be a situation where the United States’ most plausible way forward is first to watch how the EU’s experiment unfolds and then to build on any lessons therefrom.¹²⁹ With near-term possibilities for significant action by the United States’ Executive Branch seeming no more promising than the possibility that SDOs might significantly tighten up FRAND regimes themselves, questions about how to restrain reliance on judicial ratemaking almost inevitably return to questions of what new approaches might be adopted by the courts.

125. See Jonathan M. Barnett, *The “License as Tax” Fallacy*, 28 MICH. TECH. L. REV. 197, 227–28 (2022) (contending that “[a]lmost three decades of market performance have not supported th[e] predictions” of “competition regulators [seeking] to reengineer SEP licensing markets . . . [based] on theoretical models of patent holdup and royalty stacking”).

126. See BREYER, *supra* note 16, at 59 (concluding that “the regulatory process — even when it functions perfectly — cannot reproduce the price signals that a workably competitive market would provide” and “[t]hus, only serious market failure will, even arguably, warrant the adoption of cost-of-service ratemaking as a cure”).

127. See TAMBIA MA DIEGA, EUR. PARLIAMENTARY RSCH. SERV., PE 754.578, STANDARD ESSENTIAL PATENTS REGULATION 6 (2023) (describing a “FRAND determination procedure . . . initiated at the request of a SEPs holder, a potential SEPs implementer, or by both parties voluntarily”).

128. In December 2021, a trio of executive agencies released a “Draft Policy Statement” on SEP licensing and remedies. U.S. DEPARTMENT OF JUSTICE, U.S. PATENT AND TRADEMARK OFFICE & NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY, DRAFT POLICY STATEMENT ON LICENSING NEGOTIATIONS AND REMEDIES FOR STANDARDS-ESSENTIAL PATENTS SUBJECT TO VOLUNTARY F/RAND COMMITMENTS 1 (Dec. 6, 2021) (describing the statement as addressing “remedies for the infringement of standards-essential patents (or SEPs) that are subject to a RAND or F/RAND licensing commitment” and also “provid[ing] guidance on what demonstrates good-faith negotiation in this context.”). In June 2022, however, the agencies abandoned this draft statement while withdrawing a 2019 policy statement from the Trump Administration, leaving in its place little more than an anodyne declaration that the Department of Justice would “review conduct by SEP holders or standards implementers on a case-by-case basis.” U.S. DEPARTMENT OF JUSTICE, U.S. PATENT AND TRADEMARK OFFICE & NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY, DRAFT POLICY STATEMENT ON LICENSING NEGOTIATIONS AND REMEDIES FOR STANDARDS-ESSENTIAL PATENTS SUBJECT TO VOLUNTARY F/RAND COMMITMENTS 1–2 (June 8, 2022).

129. See William Magnuson, *The Race to the Middle*, 95 NOTRE DAME L. REV. 1183, 1204 (2020) (“[S]tates that are seeking to reform their laws have the option of attempting to innovate (that is, create new rules or laws that have little precedent) or copy (that is, adopt the rules or laws that other states have adopted).”); *cf. id.* (contending that “[t]he second-mover advantage is likely even stronger in the regulatory sphere than in private markets, given that the precise structure of a given regulatory scheme — that is, its legislative text — is publicly available”).

C. More Refined Application of eBay and Greater Use of Equitable Alternatives

The courts could most straightforwardly restrain their involvement in judicial ratemaking in situations where it is not legally necessary — e.g., in exercising equitable discretion to award forward-looking ongoing royalties as opposed to backward-looking reasonable royalties that the Patent Act mandates be available to compensate for past infringement.¹³⁰ As Mark Gergen, Henry Smith, and I have previously indicated, the courts could limit their involvement in ratemaking by adopting a more appropriate approach to implementing *eBay*, which did not explicitly or necessarily prohibit continued application of “presumptions and safety valves” that courts acting in equity had long deployed but which has too readily been viewed as doing so.¹³¹ Among these was a traditional rebuttable presumption “that legal remedies are presumptively inadequate in cases of continuing injury, whether that injury is to intellectual property rights or to other legally protected interests.”¹³²

Somewhat ironically, courts that declare legal remedies to be adequate as part of their justification for rejecting a permanent injunction against continuing infringement commonly act consistently with the presumption of such inadequacy if they then award an ongoing royalty — a form of equitable relief that mitigates the threat of continuing infringement for which the legal remedy of backward-looking damages is no answer.¹³³ An award of an ongoing royalty is thus, in effect, an acknowledgment that equity routinely does have a proper role to play in addressing threats of continuing infringement and that the real question in such situations often should be understood to be what form of equitable remedy is most apt for the task. The ordering of an ongoing royalty might sometimes be the best available answer, but a court might productively consider other alternatives, such as a tailored injunction against patent infringement that avoids disproportionately burdening an adjudged infringer through custom-

130. See 35 U.S.C. § 284 (“Upon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty . . .”).

131. See Gergen et al., *supra* note 61, at 242 (describing “*eBay*’s four-factor test [as] obscur[ing] . . . the structure of presumptions and safety valves that holds out the promise of making equitable relief and its prospect effective deterrents, while also limiting their potential for destabilizing and chilling effect”).

132. *Id.* at 212.

133. See Contreras & Maupin, *supra* note 76, at 673–74 (noting that “most courts that have denied injunctions against continuing tortious conduct, whether patent infringement or nuisance, have not required injured parties to bring successive claims to recover for future harm” (emphasis omitted)).

made limits on timing and scope.¹³⁴ Given courts' institutional limitations with respect to ratemaking, a plus of such an injunctive alternative could be that it allows the court to avoid the ratemaking exercise that the ordering of an ongoing royalty necessarily entails.

D. Anticipation of an "Ongoing Royalty" as Reason to Bifurcate Damages and Liability Trials

A further step that courts could take to help limit reliance on judicial ratemaking or, at least, try to improve its implementation would be to more consistently bifurcate damages trials from liability trials — perhaps particularly in cases involving SEPs subject to FRAND commitments.¹³⁵ Because a standard can be widely used and the “essentiality” of its SEPs can make them difficult to design around,¹³⁶ such cases can involve a particularly high likelihood that a court's royalty award, whether for past or ongoing infringement, will have a substantial influence on future pricing for the production or use of patented technology. The Federal Rules of Civil Procedure provide that, “[f]or convenience, to avoid prejudice, or to expedite and economize, the court may order a separate trial of one or more separate issues, claims, crossclaims, counterclaims, or third-party claims.”¹³⁷ Bifurcating damages and liability trials does not only save on the costs to the parties and the court system of litigating damages when, as in the great majority of patent cases litigated to a judgment on liability, liability is not found.¹³⁸ Bifurcation also provides an important opportunity for settlement between the determination on liability and the assessment of damages, thereby helping limit courts' need to engage in ratemaking even where infringement of a valid and

134. See Golden, *supra* note 57, at 1465 (describing how a court might deploy “a specially tailored injunction,” perhaps with “a sunset provision,” to limit concerns of “injunction overreach”); Henry E. Smith, *Equity as Meta-Law*, 130 YALE L.J. 1050, 1133–34 (2021) (“What [the property rule-liability rule framework] leaves out are all the ways in which injunctions are keyed to different aspects of behavior (such as good faith and disproportionate hardship) and can be tailored to achieve specific remedial goals (such as timing and conditions).”).

135. See Cotter, *Standing, Nominal Damages, and Nominal Damages “Workarounds” in Intellectual Property Law After TransUnion*, *supra* note 90, at 1126 & n.165 (asserting that “some of the problems surrounding the calculation of reasonable royalties in patent litigation . . . could be reduced through procedural reforms” including “more frequent bifurcation of liability and damages determinations”).

136. See Cotter, *supra* note 19, at 12 (“[I]f the patent is indeed standard essential, the defendant almost by definition cannot readily design around it *ex post*.”).

137. FED. R. CIV. P. 42(b).

138. See, e.g., John R. Allison, Mark A. Lemley & David L. Schwartz, *How Often Do Non-Practicing Entities Win Patent Suits?*, 32 BERKELEY TECH. L.J. 237, 269 (reporting empirical results “consistent with prior work showing that patentees win approximately a quarter of their cases” that end with “a final judgment”); Paul M. Janicke & LiLan Ren, *Who Wins Patent Infringement Cases?*, 34 AIPLA Q.J. 1, 3 (2006) (“For a number of years, accused patent infringers have been winning patent infringement suits at a rate of three to one.”).

enforceable patent is established.¹³⁹ This opportunity exists even when the damages phase follows relatively immediately upon conclusion of the liability phase.¹⁴⁰ To the extent a court does not wish to delay damages discovery so that it occurs later than discovery relating to other issues,¹⁴¹ a court need not bifurcate damages and liability discovery.¹⁴²

V. CONCLUSION

Courts can and should consider how to bring judicial ratemaking in patent law more in line with courts' longstanding hesitation to be drawn into exercises in price setting. Court involvement in setting reasonable royalties for patent infringement is inevitable. The Patent Act mandates the availability of a reasonable royalty as a backstop remedy for infringement.¹⁴³ Moreover, for a variety of reasons, somewhat greater present-day reliance on court-ordered royalty rates seems to be a reasonable development relative to pre-*eBay* norms.¹⁴⁴ Nonetheless, by carefully considering the appropriateness of equitable remedies from injunctions against patent infringement to ongoing royalties, and by using mechanisms such as bifurcated trials to help encourage pre-royalty-determination settlement, courts can at least limit the extent to which they take on a task for which they have long been thought inapt. Even while accepting the need — and even social desirability — of judicial ratemaking under some circumstances, courts

139. See The Sedona Conference, *Commentary on Patent Damages & Remedies*, 15 SEDONA CONF. J. 53, 70 (2014) (noting that a district judge had in part adopted a default rule of bifurcating damages and liability in the “belief[] that parties are likely to settle after liability has been found to avoid an unpredictable damages award”).

140. See *Wis. Alumni Rsch. Found. v. Apple, Inc.*, 261 F. Supp. 3d 900, 907 (W.D. Wis. 2017) (describing a two-phase “jury trial” in which the jury first returned a verdict of infringement and no invalidity and then, “[i]n the second phase of the trial,” “awarded WARF \$234,277,669.00 in damages”).

141. Cf. Stuart Graham, Peter Menell, Carl Shapiro & Tim Simcoe, *Final Report of the Berkeley Center for Law & Technology Patent Damages Workshop*, 15 August 2016, 25 TEX. INTELL. PROP. L.J. 115, 135 (2017) (“[I]t may be reasonable and advantageous in at least some classes of cases to ask parties to identify the damages estimation models/theories/approaches and the range or order of magnitude that these methods are likely to produce earlier than has been common in the case management timeline.”).

142. See, e.g., *Intell. Ventures I LLC v. Toshiba Corp.*, 221 F. Supp. 3d 534, 557–59 (D. Del. 2016) (deciding to “bifurcate damages” in concert with deciding various motions for summary judgment or partial summary judgment); *Enovsys LLC v. AT&T Mobility LLC*, No. 11-5210, 2016 WL 3460794, at *4 (C.D. Cal. Feb. 16, 2016) (noting that, after claim construction and summary judgment rulings, “[t]he Court . . . determined that the interests of justice would be served by bifurcating the liability and damages phases of the trial” and that there would be only “limited” allowance for additional damages discovery after the liability phase (internal quotation marks omitted)).

143. See *supra* note 130 and accompanying text.

144. See *supra* Section II.C.

can look to reasonably limit their ratemaking interventions as no more than the best among an unfortunate set of alternatives.

Meanwhile, private actors and governments can continue to explore how innovations in private ordering or in government regulation or guidance might improve patent clearance and licensing. The seeming lack of likelihood that any precise and entirely satisfactory solution to the problem of calculating reasonable royalties suggests that courts and other actors might help improve patent system performance by being more consistently sensitive to the courts' (and, more generally, any ratemaker's) limitations and more flexibly directed toward avoiding undesirable extremes as opposed to investing heavily in chasing elusive optima.