Permanent Injunctions in Patent Litigation After *eBay*: An Empirical Study

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ABSTRACT: The Supreme Court's 2006 decision in eBay v. MercExchange *is widely regarded as one of the most important patent law rulings of the past decade. Historically, patent holders who won on the merits in litigation nearly always obtained a permanent injunction against infringers. In* eBay, *the Court unanimously rejected the "general rule" that a prevailing patentee is entitled to an injunction, instead holding that lower courts must apply a four-factor test before granting such relief. Ten years later, however, significant questions remain regarding how this four-factor test is being applied, as there has been little rigorous empirical examination of* eBay's *actual impact in patent litigation.*

This Article helps fill this gap in the literature by reporting the results of an original empirical study of contested permanent injunction decisions in district courts for a 7.5-year period following eBay. *It finds that* eBay *has effectively created a bifurcated regime for patent remedies, as operating companies who compete against an infringer still obtain permanent injunctions in the vast majority of cases that are successfully litigated to judgment. In contrast, non-competitors and other non-practicing entities are generally denied injunctive relief. These findings are robust even after controlling for the field of patented technology and the particular court that decided the injunction request. This Article also finds that permanent injunction rates vary significantly based on patented technology and forum. Finally, this Article considers some implications of these findings for both participants in the patent system and policy makers.*

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I. INTRODUCTION

The Supreme Court's 2006 opinion in *eBay v. MercExchange*, which held that prevailing patentees in litigation are not automatically entitled to a permanent injunction,[1] is widely regarded as one of the most significant

1. *See* eBay Inc. v. MercExchange, L.L.C., 547 U.S. 388, 393–94 (2006) (holding that the Federal Circuit erred in "articulat[ing] a general rule, unique to patent disputes, that a permanent injunction will issue once infringement and validity have been adjudged").

patent law decisions of the past decade.[2] It has been extensively cited by lower federal courts,[3] and is the subject of numerous law review articles.[4] The case has also spawned a significant transformation in the field of remedies, reshaping the test for permanent injunctive relief in numerous areas outside of patent law.[5]

Despite its perceived importance, however, there has been little rigorous empirical examination of *eBay*'s actual impact in patent litigation.[6] This is significant because the *eBay* decision—which was unanimous—contains two

2. *See* Colleen V. Chien & Mark A. Lemley, *Patent Holdup, the ITC, and the Public Interest*, 98 CORNELL L. REV. 1, 8 (2012) ("The Supreme Court's 2006 decision in *eBay* represented a sea change in patent litigation." (footnote omitted)); Ryan Davis, *Top 15 High Court Patent Rulings of the Past 15 Years*, LAW360 (July 1, 2015, 8:27 PM), http://www.law360.com/articles/674205/top-15-high-court-patent-rulings-of-the-past-15-years (ranking *eBay* as the second most important patent law decision since 2000).

3. A recent search of WestlawNext finds that *eBay* has been cited in over 2000 federal court opinions. *See Citing References for* eBay Inc. v. MercExchange L.L.C., WESTLAWNEXT (last visited May 10, 2016); *see also* Dennis Crouch, *Most Cited Supreme Court Patent Decisions (2005–2015)*, PATENTLY-O (Mar. 11, 2015), http://patentlyo.com/patent/2015/03/supreme-court-cases.html (listing *eBay* as the second most cited U.S. Supreme Court patent case of the past decade).

4. For examples of significant *eBay*-related scholarship, see generally Andrew Beckerman-Rodau, *The Aftermath of* eBay v. MercExchange, *126 S. Ct. 1837 (2006): A Review of Subsequent Judicial Decisions*, 89 J. PAT. & TRADEMARK OFF. SOC'Y 631 (2007); Michael W. Carroll, *Patent Injunctions and the Problem of Uniformity Cost*, 13 MICH. TELECOMM. & TECH. L. REV. 421 (2007); Bernard H. Chao, *After* eBay, Inc. v. MercExchange*: The Changing Landscape for Patent Remedies*, 9 MINN. J.L. SCI. & TECH. 543 (2008); Chien & Lemley, *supra* note 2; Eric R. Claeys, *The Conceptual Relation Between IP Rights and Infringement Remedies*, 22 GEO. MASON L. REV. 825 (2015); Vincenzo Denicolò et al., *Revisiting Injunctive Relief: Interpreting* eBay *in High-Tech Industries with Non-Practicing Patent Holders*, 4 J. COMPETITION L. & ECON. 571 (2008); Douglas Ellis et al., *The Economic Implications (and Uncertainties) of Obtaining Permanent Injunctive Relief After* eBay v. MercExchange, 17 FED. CIR. B.J. 437 (2008); 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 (2012); John M. Golden, *"Patent Trolls" and Patent Remedies*, 85 TEX. L. REV. 2111 (2007) [hereinafter Golden, *Patent Trolls*]; John M. Golden, *Principles for Patent Remedies*, 88 TEX. L. REV. 505 (2010) [hereinafter Golden, *Principles*]; Ryan T. Holte, *The Misinterpretation of* eBay v. MercExchange *and Why: An Analysis of the Case History, Precedent, and Parties*, 18 CHAP. L. REV. 677 (2015) [hereinafter Holte, *Misinterpretation of* eBay]; Ryan T. Holte, *Trolls or Great Inventors: Case Studies of Patent Assertion Entities*, 59 ST. LOUIS U. L.J. 1 (2014) [hereinafter Holte, *Trolls or Great Inventors*]; Sarah R. Wasserman Rajec, *Tailoring Remedies to Spur Innovation*, 61 AM. U. L. REV. 733 (2012); Doug Rendleman, *The Trial Judge's Equitable Discretion Following* eBay v. MercExchange, 27 REV. LITIG. 63 (2007); and Karen E. Sandrik, *Reframing Patent Remedies*, 67 U. MIAMI L. REV. 95 (2012).

5. *See* Gergen et al., *supra* note 4, at 205 ("[T]he four-factor test from *eBay* has, in many federal courts, become *the* test for whether a permanent injunction should issue, regardless of whether the dispute in question centers on patent law, another form of intellectual property, more conventional government regulation, constitutional law, or state tort or contract law."); *see also* Shyamkrishna Balganesh, *Demystifying the* Right *to Exclude: Of Property, Inviolability, and Automatic Injunctions*, 31 HARV. J.L. & PUB. POL'Y 593, 598–99 (2008) (discussing *eBay*'s impact in real and personal property law); Jiarui Liu, *Copyright Injunctions After* eBay*: An Empirical Study*, 16 LEWIS & CLARK L. REV. 215, 218 (2012) (examining "how much the *eBay* decision has guided, and should guide, copyright cases").

6. *See infra* Part III.C (discussing the existing empirical work on this subject).

concurring opinions that express seemingly divergent perspectives regarding the availability of permanent injunctions in future patent cases.[7] In particular, it remains hotly contested whether so-called patent assertion entities ("PAEs")[8]—firms who principally exploit their patents through litigation and/or licensing rather than directly practicing them and who are sometimes pejoratively referred to as "patent trolls"[9]—should be able to obtain injunctive relief.[10]

This Article helps fill this significant gap in the literature by reporting the results of an original empirical study of contested permanent injunction decisions in the federal district courts for a 7.5 year period following *eBay*, representing the most in-depth effort to date to assess the post-*eBay* landscape. The data in this study reveal that, while the vast majority of patentees still obtain injunctive relief following *eBay*, PAEs rarely do.[11] This finding remains robust even after controlling for the field of technology of the infringed patents and the district court that decided the case.[12] Furthermore, PAEs

7. *See infra* Part III.B.3.

8. *See* FED. TRADE COMM'N, THE EVOLVING IP MARKETPLACE: ALIGNING PATENT NOTICE AND REMEDIES WITH COMPETITION 220 n.21 (2011) ("This report uses the term 'patent assertion entity' [or PAE] . . . to refer to firms whose business model focuses on purchasing and asserting patents."); Colleen V. Chien, *From Arms Race to Marketplace: The Complex Patent Ecosystem and Its Implications for the Patent System*, 62 HASTINGS L.J. 297, 328 (2010) (explaining that PAEs "are focused on the enforcement, rather than the active development or commercialization of their patents," and noting that PAEs "can be further divided into several types—large-portfolio companies, small-portfolio companies, and individuals"); *see also* James Bessen & Michael J. Meurer, *The Direct Costs from NPE Disputes*, 99 CORNELL L. REV. 387, 390 (2014) (defining a related concept, non-practicing entities ("NPEs"), as "individuals and firms who own patents but do not directly use their patented technology to produce goods or services, instead asserting their patents against companies that do produce goods and services").

9. *See In re* Packard, 751 F.3d 1307, 1325 (Fed. Cir. 2014) (Plager, J., concurring) ("Patent trolls are also known by a variety of other names: 'patent assertion entities' (PAEs), [and] 'non-practicing entities' (NPEs)."). For an informative history of the term "patent troll" and its malleability, see Kristen Osenga, *Formerly Manufacturing Entities: Piercing the "Patent Troll" Rhetoric*, 47 CONN. L. REV. 435, 442–45 (2014). *See also* Edward Lee, *Patent Trolls: Moral Panics, Motions in Limine, and Patent Reform*, 19 STAN. TECH. L. REV. 113, 117 (2015) (conducting "the first empirical study of the use of the term 'patent troll' by U.S. media" and finding that "starting in 2006, the U.S. media surveyed used 'patent troll' far more than any other term, despite the efforts of scholars to devise alternative, more neutral-sounding terms").

10. *Compare* FED. TRADE COMM'N, *supra* note 8, at 229 (explaining that when a PAE "seeks to license broadly, denial of an injunction" may be appropriate), *and* Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEX. L. REV. 1991, 2035–36 (2007) (contending that a "presumptive right to injunctive relief" should apply for patent holders who compete or exclusively license to a party that does, with other patentees being subject to a less favorable rule), *with* Golden, *Patent Trolls*, *supra* note 4, at 2148 (contending that "a categorically discriminatory rule" against non-practicing patentees "is not needed"), *and* Richard A. Epstein, *The Property Rights Movement and Intellectual Property*, REG. 58, 62 (2008) (criticizing *eBay* as creating a risk of "systematic under-compensation during the limited life of a patent[, which] is likely to reduce the level of innovation while increasing the administrative costs of running the entire system").

11. *See infra* Part V.A.4.

12. *See infra* Part V.A.8.

often cannot establish the type of injury deemed "irreparable" following *eBay*, which is a prerequisite to obtaining a permanent injunction.[13] In sum, district courts appear to have adopted a de facto rule against injunctive relief for PAEs and other patent owners who do not directly compete in a product market against an infringer—a rule which, ironically, is in tension with the Supreme Court's conclusion in *eBay* that "the District Court erred in its categorical denial of injunctive relief" to a non-practicing patentee.[14]

This Article also evaluates the impact of other considerations on permanent injunction decisions after *eBay*. It finds that grant rates vary significantly by field of technology, with injunctions nearly always granted in cases involving patented drugs and biotechnology, but much less often for disputes involving computer software.[15] The study also finds that grant rates differ by district, even after controlling for the propensity of PAE litigants to file lawsuits in particular courts.[16] Furthermore, it assesses whether several other factors mentioned in the concurring opinions in *eBay* and the district court's decision after remand—such as the patentee's willingness to license the patented technology, whether the patented technology covers only a small component of an infringing product, and a finding that the defendant willfully infringed the patent—are correlated with injunction decisions.[17]

Finally, this Article reports the results of a second, related dataset that explores whether traditionally accepted indicators of patent value are correlated with injunction decisions.[18] Somewhat surprisingly, it finds that these indicators are not predictive of whether a patentee is likely to receive an injunction.[19]

The balance of this Article is organized as follows. Part II provides an overview of the theoretical distinction between property rules and liability rules for enforcing legal rights, focusing on their application to intellectual property ("IP") rights. Part III traces the historical development of the right to exclude in patent law. It then analyzes the *eBay* litigation and concludes with an overview of the existing literature on *eBay*'s impact in patent litigation. Part IV describes the research questions considered in this empirical study and the methodology used to address them. Part V reports the study's findings and assesses their implications for patentees, users of patented technology,

13. *See infra* Part V.A.6.

14. eBay Inc. v. MercExchange, L.L.C., 547 U.S. 388, 394 (2006); *see also* MercExchange L.L.C. v. eBay, Inc. (*MercExchange I*), 275 F. Supp. 2d 695, 712 (E.D. Va. 2003) ("In the case at bar, the evidence of the plaintiff's willingness to license its patents, its lack of commercial activity in practicing the patents, and its comments to the media as to its intent with respect to enforcement of its patent rights, are sufficient to rebut the presumption that it will suffer irreparable harm if an injunction does not issue.").

15. *See infra* Part V.A.2.

16. *See infra* Parts V.A.3, V.A.8.

17. *See infra* Part V.A.8.

18. *See infra* notes 202, 316–19 and accompanying text.

19. *See infra* Part V.B.

and the patent system and innovation policy more generally. In particular, it considers the impact of widespread denial of injunctive relief on non-practicing patentees. Part VI concludes.

II. PROPERTY RULES, LIABILITY RULES, AND INTELLECTUAL PROPERTY: AN OVERVIEW

In their landmark article, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, now-Judge Guido Calabresi and A. Douglas Melamed developed an analytic framework for protecting "entitlements"—the right to do something, or the right to prevent others from doing something.[20] An entitlement is not self-executing. Rather, the legal system must establish some mechanism to enforce entitlements.[21] Calabresi and Melamed distinguished between two primary forms[22] of protection for an entitlement: property rules and liability rules.[23]

Under a property rule, an entitlement can only be taken or transferred with a property owner's consent.[24] As explained by Calabresi and Melamed,

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20. *See* Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089, 1090 (1972) ("The first issue which must be faced by any legal system is one we call the problem of 'entitlement.' Whenever a state is presented with the conflicting interests of two or more people . . . it must decide which side to favor. . . . Hence the fundamental thing that law does is to decide which of the conflicting parties will be entitled to prevail."); *see also* Madeline Morris, *The Structure of Entitlements*, 78 CORNELL L. REV. 822, 827–39 (1993) (describing in more detail the allocation and construction of legal entitlements).

21. *See* Calabresi & Melamed, *supra* note 20, at 1090 ("Having made its . . . choice, society must enforce that choice. Simply setting the entitlement does not avoid the problem of 'might makes right'; a minimum of state intervention is always necessary.").

22. A third form of protection for entitlements, inalienable entitlements, exists when the transfer of that entitlement "is not permitted between a willing buyer and a willing seller." *Id.* at 1092. For purposes of this Article, inalienable entitlements are not at issue, as patent rights are freely transferable to others through assignment and licensing. *See* 35 U.S.C. § 261 (2012) (noting that patents and patent applications "shall be assignable in law by an instrument in writing"); Isr. Bio-Eng'g Project v. Amgen, Inc., 475 F.3d 1256, 1264 (Fed. Cir. 2007) ("Under long established law, a patentee or his assignee may grant and convey to another: (1) the whole patent, (2) an undivided part or share of that exclusive right, or (3) the exclusive right under the patent within and throughout a specified part of the United States.").

23. Calabresi & Melamed, *supra* note 20, at 1092. Calabresi and Melamed correctly note that "[t]he[se] categories are not . . . absolutely distinct." *Id.* For instance, if monetary damages—which usually embody a liability rule—are sufficiently high, they can operate more like a property rule because potential takers of an entitlement would be deterred from doing so. *See* Ian Ayres & Eric Talley, *Solomonic Bargaining: Dividing a Legal Entitlement to Facilitate Coasean Trade*, 104 YALE L.J. 1027, 1040–41 (1995) (explaining that with "relatively high damages, potential takers would be deterred from nonconsensual takings, and the entitlement would be transferred only by consensual agreement"). Some scholars have criticized the distinction between property rules and liability rules as having little relationship to the normative judgments embedded in private law remedies determinations. *See* Claeys, *supra* note 4, at 839–40 (contending that "'Cathedral'-style analysis raises normative questions more vexing than is often appreciated," including measures of efficiency and initial allocation of resource entitlements to parties).

24. *See* Calabresi & Melamed, *supra* note 20, at 1105 ("In our framework, much of what is

"[a]n entitlement is protected by a property rule to the extent that someone who wishes to remove the entitlement from its holder must buy it from him in a voluntary transaction in which the value of the entitlement is agreed upon by the seller."[25] For instance, a property rule would require the user of an IP right to obtain prior permission from its owner, which the owner would be free to withhold.[26] Thus, the holder of an entitlement protected by a property rule has the exclusive power to determine its value *ex ante*.[27] Injunctive relief is the dominant means for enforcing a property rule.[28]

In contrast, a liability rule exists when another party may violate an entitlement "if [it] is willing to pay an objectively determined value for it."[29] Thus, under a liability-rule regime, entitlements are protected, "but their transfer or destruction is allowed on the basis of a value determined by some [third-party authority] rather than by the parties themselves."[30] For instance, a liability rule applies when an IP right may be infringed in exchange for a predetermined royalty rate, as is the case for several compulsory licensing

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generally called private property can be viewed as an entitlement which is protected by a property rule. No one can take the entitlement . . . unless the holder sells it willingly and at the price at which he subjectively values the property.").

25. *Id.* at 1092.

26. *See* Robert P. Merges, *Of Property Rules, Coase, and Intellectual Property*, 94 COLUM. L. REV. 2655, 2655 (1994) ("[A] property rule is a legal entitlement that can only be infringed after bargaining with the entitlement holder.").

27. *See* Calabresi & Melamed, *supra* note 20, at 1092 (explaining that a property rule "lets each of the parties say how much the entitlement is worth . . . and gives the seller a veto if the buyer does not offer enough"); *see also* Richard A. Epstein, *A Clear View of* The Cathedral*: The Dominance of Property Rules*, 106 YALE L.J. 2091, 2091 (1997) ("Because property rules give one person the sole and absolute power over the use and disposition of a given thing, it follows that its owner may hold out for as much as he pleases before selling the thing in question . . . .").

28. *See* Merges, *supra* note 26, at 2655 (calling injunctions "the classic instance of a property rule"); Henry E. Smith, *Property and Property Rules*, 79 N.Y.U. L. REV. 1719, 1720 (2004) ("Such 'property rules' would include injunctions . . . ."). As my colleague Professor Doug Rendleman has explained, however, an enjoined party "can violate an injunction and convert the plaintiff's [property] right into a cause of action for compensatory contempt, money," and monetary remedies are more characteristic of a liability rule. DOUG RENDLEMAN, COMPLEX LITIGATION: INJUNCTIONS, STRUCTURAL REMEDIES, AND CONTEMPT 128 (2010); *see also* John M. Golden, *Injunctions as More (or Less) than "Off Switches": Patent-Infringement Injunctions' Scope*, 90 TEX. L. REV. 1399, 1412–13 (2012) ("When any threat of being found in contempt is realistically limited to a threat of civil contempt . . . [the] risk of being found in contempt can essentially amount to no more than a risk of being subjected to heightened but still limited monetary sanctions.").

29. Calabresi & Melamed, *supra* note 20, at 1092.

30. *Id.* Eric Claeys has criticized the "liability rule" concept as failing to fully reflect "private law judgments about wrongs and rights" and thus "eras[ing] some of the stigma associated with" certain forms of tortious conduct. Claeys, *supra* note 4, at 845–46; *see also* Jules L. Coleman & Jody Kraus, *Rethinking the Theory of Legal Rights*, 95 YALE L.J. 1335, 1340 (1986) (asserting that because "liability rules neither confer nor respect a domain of lawful control, liability rules cannot, in this view, protect rights. . . . The very idea of a 'liability rule entitlement,' that is of a right secured by a liability rule, is inconceivable").

provisions in the Copyright Act.[31] As a result, "a liability rule denies the holder of the asset the power to exclude others."[32]

There is a sizable body of literature analyzing the normative question of whether property rules or liability rules are preferable for the enforcement of IP rights.[33] Traditionally, the property rule of injunctive relief "has dominated the law of intellectual property."[34] Several rationales have been offered in support of "the strong presumption" of property rules for IP rights.[35] First, unlike most other forms of property (e.g., real property), intellectual property is non-rivalrous and non-excludable absent effective legal protection.[36] This prevents owners of intellectual property from restricting access to "free riders" who have not incurred the costs of creation from exploiting it.[37] The difficulty

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31. *See, e.g.*, 17 U.S.C. § 111 (2012) (compulsory licensing of secondary transmission of television programming by cable systems); *id.* § 114(d)–(f) (compulsory licensing of certain digital audio transmissions); *id.* § 115 (compulsory licensing of previously-released nondramatic musical works); *see also* Daniel A. Crane, *Intellectual Liability*, 88 TEX. L. REV. 253, 259–63 (2009) (discussing in further detail compulsory licensing provisions in the Copyright Act); Joseph P. Liu, *Regulatory Copyright*, 83 N.C. L. REV. 87, 108–22 (2004) (detailing the compulsory licensing provisions' depth and scope).

32. Epstein, *supra* note 27, at 2091; *see also* Andrew W. Torrance & Bill Tomlinson, *Property Rules, Liability Rules, and Patents: One Experimental View of the Cathedral*, 14 YALE J.L. & TECH. 138, 144 (2011) ("Under a liability rule, the owner of an entitlement is legally powerless to keep it exclusively for herself.").

33. *See* Mark A. Lemley & Philip J. Weiser, *Should Property or Liability Rules Govern Information?*, 85 TEX. L. REV. 783, 784 (2007) (arguing that liability rules are preferable to traditional property rights in markets where injunctive relief cannot be narrowly tailored); Merges, *supra* note 26, at 2664–65 (arguing property rights are generally preferable in protecting intellectual property); Henry E. Smith, *Intellectual Property as Property: Delineating Entitlements in Information*, 116 YALE L.J. 1742, 1799–1806 (2007) (explaining how information costs help explain why copyright law relies more on liability rights and patent law relies more on property rights); Stewart E. Sterk, *Property Rules, Liability Rules, and Uncertainty About Property Rights*, 106 MICH. L. REV. 1285, 1304–08 (2008) (arguing that liability rules limit incentives to conduct searches for the scope of property rights); *see also* Crane, *supra* note 31, at 255 (reframing the "property–liability debate" by focusing more broadly on other rights inherent in intellectual property).

34. Ben Depoorter, *Property Rules, Liability Rules and Patent Market Failure*, 1 ERASMUS L. REV. 59, 61 (2008); *see also* Balganesh, *supra* note 5, at 598 ("[T]he right to exclude in the context of both tangible and intangible property has come to be associated with an entitlement to exclusionary (injunctive) relief."); Kenneth W. Dam, *The Economic Underpinnings of Patent Law*, 23 J. LEGAL STUD. 247, 255 (1994) ("Remedies for infringement of a patent are, with limited exceptions, those appropriate for property. Injunctions, both permanent and temporary, are available against infringers on proof of validity and infringement.").

35. Merges, *supra* note 26, at 2667.

36. Smith, *supra* note 33, at 1744; *see also* ROBERT P. MERGES, PETER S. MENELL & MARK A. LEMLEY, INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE 2 (6th ed. 2012) ("All justifications for intellectual property protection . . . must contend with a fundamental difference between ideas and tangible property. Tangible property . . . is composed of atoms, physical things that can occupy only one place at a given time. This means that possession of a physical thing is necessarily 'exclusive' . . . . Ideas, though, do not have this characteristic of excludability.").

37. *See* Michael A. Carrier, *Cabining Intellectual Property Through a Property Paradigm*, 54 DUKE L.J. 1, 32–33 (2004). For the leading critique of the idea that eliminating free riding is a primary

of valuing IP rights is another rationale advanced for a property rule.[38] "Because each asset covered by an [IP right] is in some sense unique," it can be "difficult for a court . . . to properly value the [IP] right-holder's loss."[39]

However, some scholars have argued in favor of imposing liability rules on IP rights, at least in certain circumstances.[40] One situation where liability rules may be preferred is when private ordering—for instance, *ex ante* licensing under a property rule—would result in an inefficient outcome. This might occur, for example, if high transaction costs prevent the parties from reaching an otherwise mutually beneficial agreement regarding the use of IP rights.[41] High transaction costs may exist if numerous parties are involved in the bargaining process, such as when IP rights to various aspects of a particular technology are owned by disparate entities.[42] These difficulties may be compounded by the uncertain scope of some IP rights, such as the meaning of a patent's claims.[43]

Holdup is another reason advanced by some scholars for adopting liability rules.[44] Holdup occurs when an IP owner uses the prospect of

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goal of intellectual property law, see Mark A. Lemley, *Property, Intellectual Property, and Free Riding*, 83 TEX. L. REV. 1031, 1032 (2005).

38. *See* THOMAS F. COTTER, COMPARATIVE PATENT REMEDIES: A LEGAL AND ECONOMIC ANALYSIS 54 (2013) ("[T]he job of putting a value on patent rights is inherently difficult, particularly in industries in which the technology itself is rapidly evolving."); Golden, *Patent Trolls*, *supra* note 4, at 2152 (explaining "[t]he difficulty of assessing [damages] has in fact been one of the principal rationales for granting permanent injunctions" in patent cases).

39. Merges, *supra* note 26, at 2664. One common approach for valuing IP is to compare "the advantages it confers . . . with the next-best available alternative." COTTER, *supra* note 38, at 53–54; *see also* Christopher B. Seaman, *Reconsidering the* Georgia-Pacific *Standard for Reasonable Royalty Patent Damages*, 2010 BYU L. REV. 1661, 1711–15 (2010) (discussing the role of non-infringing alternatives in determining royalty rates for patent rights).

40. *See* Crane, *supra* note 31, at 254 ("Intellectual property is incrementally moving away from . . . . a property regime to a liability regime.").

41. *See* Ian Ayres & J.M. Balkin, *Legal Entitlements as Auctions: Property Rules, Liability Rules, and Beyond*, 106 YALE L.J. 703, 706 n.9 (1996) ("[L]egal scholars have interpreted Calabresi and Melamed to be saying that property rules are more efficient when transaction costs are low."); Merges, *supra* note 26, at 2655 ("Ever since Calabresi and Melamed, transaction costs have dominated the choice of the proper entitlement rule, with a liability rule being the entitlement of choice when transaction costs are high."). Collective rights organizations have emerged as one mechanism to mitigate this problem. *See generally* Robert P. Merges, *Contracting into Liability Rules: Intellectual Property Rights and Collective Rights Organizations*, 84 CALIF. L. REV. 1293 (1996).

42. *See* Lemley & Weiser, *supra* note 33, at 793 (noting "that if a buyer must aggregate rights from a number of different parties in order to achieve a useful end result, it will have to deal with a number of different sellers," thus raising transaction costs).

43. *See* JAMES BESSEN & MICHAEL J. MEURER, PATENT FAILURE: HOW JUDGES, BUREAUCRATS, AND LAWYERS PUT INNOVATORS AT RISK 46–72 (2008) (arguing that patents fail to provide clear notice of the scope of patent rights); Greg Reilly, *Completing the Picture of Uncertain Patent Scope*, 91 WASH. U. L. REV. 1353, 1353 (2014) ("Uncertain patent scope is perhaps the most significant problem facing the patent system."); *see also* Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 535 U.S. 722, 731 (2002) ("Unfortunately, the nature of language makes it impossible to capture the essence of a thing in a patent application.").

44. *See* Mark A. Lemley, *Contracting Around Liability Rules*, 100 CALIF. L. REV. 463, 468

injunctive relief to extract compensation significantly in excess of the IP right's economic value.[45] Proponents of a liability rule in these situations assert that "[i]njunction threats often involve a strong element of holdup in the common circumstance in which the defendant has already invested heavily to design, manufacture, market, and sell [a] product" that practices the patented technology.[46] At that point, the infringer "would be willing to pay much more than he rationally would have negotiated *ex ante* in order not to pull the product from the shelves."[47] Critics of property rules argue that holdup operates as a "tax" on new high-tech products, which ultimately impedes growth rather than promoting innovation.[48] Other scholars, however, have questioned whether holdup is a significant problem on both empirical and theoretical levels.[49]

In sum, the theoretical literature has historically favored protecting IP rights—particularly patent rights—through property rules. But as explained

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(2012) ("The biggest risk of applying property rules in IP cases is holdup.").

45. *See* FED. TRADE COMM'N, *supra* note 8, at 58 ("Under some circumstances, the grant or threat of a permanent injunction can lead an infringer to pay higher royalties than it would pay in a competitive market for a patented invention."); *see also* COTTER, *supra* note 38, at 59 ("[P]atent[ed] holdup involves the strategic use of a patent . . . to extract ex post rents that are disproportionate to the ex ante value of the invention in comparison with the next-best available alternative."); Alexander Galetovic, Stephen Haber & Ross Levine, *An Empirical Examination of Patent Holdup*, 11 J. COMPETITION L. & ECON. 549, 549–50 (2015) ("[T]he patent holdup hypothesis asserts that patent holders charge licensing royalties to manufacturing firms that exceed the true economic contribution of the patented technology, thereby discouraging innovation by manufacturers and hurting consumers."); Lemley & Shapiro, *supra* note 10, at 1993 ("[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.").

46. Lemley & Shapiro, *supra* note 10, at 1993 (emphasis omitted); *see also* COTTER, *supra* note 38, at 59 (explaining that the strategy of holdup "rests upon the patent owner's ability to obtain an injunction against the distribution of the end product, after the costs of designing, producing, and distributing the end product have been sunk").

47. COTTER, *supra* note 38, at 59; *see also* Lemley & Shapiro, *supra* note 10, at 1995–2008 (modeling how a patent holder can exploit the cost of switching technologies to obtain licensing revenue greater than would have occurred in an *ex ante* negotiation). The holdup problem is asserted to be particularly acute for widely-adopted technological standards, where a single patent owner can use the threat of an injunction to "extract unreasonably high royalties from suppliers of standard-compliant products and services." Microsoft Corp. v. Motorola, Inc., 696 F.3d 872, 876 (9th Cir. 2012); *see also* Mark A. Lemley, *Ten Things to Do About Patent Holdup of Standards (and One* Not *to)*, 48 B.C. L. REV. 149, 153–54 (2007).

48. Lemley & Shapiro, *supra* note 10, at 1993; *see also* FED. TRADE COMM'N, *supra* note 8, at 26 (explaining that "[a]n injunction's ability to cause patent hold-up . . . can deter innovation by increasing costs and uncertainty for manufacturers" and "raise prices to consumers by depriving them of the benefit of competition among technologies").

49. *See generally* Einer Elhauge, *Do Patent Holdup and Royalty Stacking Lead to Systematically Excessive Royalties?*, 4 J. COMPETITION L. & ECON. 535 (2008); Golden, *Patent Trolls*, *supra* note 4, at 2148–60; J. Gregory Sidak, *Holdup, Royalty Stacking, and the Presumption of Injunctive Relief for Patent Infringement: A Reply to Lemley & Shapiro*, 92 MINN. L. REV. 714 (2008); *see also* Galetovic et al., *supra* note 45, at 552–54, 570–72 (finding no empirical evidence to support the claim of holdup for standard-essential patents).

in more detail in the balance of this Article, *eBay* represents a significant shift away from a property rule approach, at least for certain types of patent owners.

III. PATENTS AND THE RIGHT TO EXCLUDE

This Part chronicles the historic right of patentees to a property rule excluding others from practicing patented inventions. It then analyzes the *eBay* litigation and the Supreme Court's announcement of a four-factor test to govern the district courts' equitable power to grant injunctive relief. Finally, it addresses the existing literature regarding *eBay*'s impact on the availability of permanent injunctions in patent litigation.

A. *HISTORICAL DEVELOPMENT*

Property rules have long predominated in patent law.[50] As Chief Justice Roberts noted in his concurrence in *eBay*, since "at least the early 19th century, courts have granted injunctive relief upon a finding of infringement in the vast majority of patent cases."[51]

The Patent Act of 1790, passed by the First Congress, granted inventors "the sole and exclusive right and liberty of making, constructing, using and vending to others to be used, the . . . invention or discovery."[52] The earliest patent laws provided only for remedies at law—that is, recovery of monetary damages for infringing conduct.[53] Starting in 1819, however, Congress expressly authorized injunctive relief to preclude future infringement:

> [T]he circuit courts of the United States . . . shall have authority to grant injunctions, according to the course and principles of courts of equity, to prevent the violation of the rights of any . . . inventors, secured to them by any laws of the United States, on such terms and conditions as the said courts may deem fit and reasonable . . . .[54]

The current statutory language in § 283 of the Patent Act is remarkably similar, providing that "courts . . . may grant injunctions in accordance with

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50. *See supra* note 34; *see also* Frank H. Easterbrook, *Intellectual Property is Still Property*, 13 HARV. J.L. & PUB. POL'Y 108, 109 (1990) ("Patents give a right to exclude, just as the law of trespass does with real property.").

51. eBay Inc. v. MercExchange, L.L.C., 547 U.S. 388, 395 (2006) (Roberts, C.J., concurring).

52. An Act to Promote the Progress of Useful Arts, ch. 7, § 1, 1 Stat. 109, 110 (1790).

53. *See* 3 WILLIAM C. ROBINSON, THE LAW OF PATENTS FOR USEFUL INVENTIONS § 1082, 391–92 (1890) ("The acts of Congress, prior to 1819, made no provision for any suit in equity by the owner of a patent, nor for his enjoyment of any form of equitable relief in connection with his action for damages at common law."); *see also* Elizabeth E. Millard, Note, *Injunctive Relief in Patent Infringement Cases: Should Courts Apply a Rebuttable Presumption of Irreparable Harm After* eBay Inc. v. MercExchange, L.L.C.*?*, 52 ST. LOUIS U. L.J. 985, 992 (2008) (noting that "the earliest patent statutes provided only for remedies at law").

54. An Act to Extend the Jurisdiction of the Circuit Courts of the United States to Cases Arising Under the Law Relating To Patents, ch. 19, 3 Stat. 481, 481–82 (1819).

the principles of equity to prevent the violation of any right secured by patent, on such terms as the court deems reasonable."[55]

Prior to *eBay*, courts routinely characterized patents as conferring a property right on their owners.[56] In turn, the right to exclude has been widely viewed as the "hallmark of a protected property interest"[57] and "one of the most treasured strands in an owner's bundle of property rights."[58] As early as 1852, the Supreme Court declared that the rights conferred by a patent include "the right to exclude [others] from making, using, or vending the thing patented, without the permission of the patentee."[59]

The Court's 1908 decision in *Continental Paper Bag Co. v. Eastern Paper Bag Co.* confirmed that patents confer the right to exclude others, even if the patentee itself has not practiced the patent.[60] In that case, the patent owner, Eastern Paper Bag Co. ("Eastern"), had purchased a patent on an improved machine for making paper bags, but Eastern did not use the improved machine, nor did it license anyone else to do so, as it feared that a competitor using the improved machine would erode its profits.[61] A competing manufacturer, Continental Paper Bag Co. ("Continental"), started using a

55. 35 U.S.C. § 283 (2012).

56. *See, e.g.*, Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 535 U.S. 722, 730 (2002) (explaining that the patent laws provide "a temporary monopoly . . . [which] is a property right"); Fla. Prepaid Postsecondary Educ. Expense Bd. v. Coll. Sav. Bank, 527 U.S. 627, 642 (1999) (noting that patents "have long been considered a species of property"); Dawson Chem. Co. v. Rohm & Haas Co., 448 U.S. 176, 215 (1980) (noting "the long-settled view that the essence of a patent grant is the right to exclude"); Hartford-Empire Co. v. United States, 323 U.S. 386, 415 (1945) (stating that it "has long been settled" that "a patent is property, protected against appropriation both by individuals and by government"); Wilson v. Rousseau, 45 U.S. (4 How.) 646, 674 (1846) (explaining that "[t]he law has thus impressed upon [a patent] all the qualities and characteristics of property"). The Patent Act provides that "patents shall have the attributes of personal property." 35 U.S.C. § 261 (2012).

57. *Fla. Prepaid Postsecondary Educ. Expense Bd.*, 527 U.S. at 643.

58. Loretto v. Teleprompter Manhattan CATV Corp., 458 U.S. 419, 435 (1982); *see also* Kaiser Aetna v. United States, 444 U.S. 164, 176 (1979) (describing "the right to exclude" as "one of the most essential sticks in the bundle of rights that are commonly characterized as property"); Lemley & Weiser, *supra* note 33, at 783 ("The foundational notion of property law is that the 'right to exclude' is the essence of a true property right."); Thomas W. Merrill, *Property and the Right to Exclude*, 77 NEB. L. REV. 730, 730 (1998) ("[T]he right to exclude others is more than just 'one of the most essential' constituents of property—it is the *sine qua non*.").

59. Bloomer v. McQuewan, 55 U.S. (14 How.) 539, 549 (1852); *see also* Herbert F. Schwartz, Note, *Injunctive Relief in Patent Infringement Suits*, 112 U. PA. L. REV. 1025, 1041–42 (1964) ("By the middle of the nineteenth century, courts generally recognized that the plaintiff was entitled to . . . an injunction against future infringements for the life of the patent." (footnotes omitted)).

60. Cont'l Paper Bag Co. v. E. Paper Bag Co., 210 U.S. 405, 429 (1908).

61. *Id.* at 407, 427–28. According to the trial court, Eastern's purpose in purchasing the patent-in-suit was to "lock[ ] up" the technology and thus prevent competitors from using it for the rest of the patent's life. *See* E. Paper Bag Co. v. Cont'l Paper Bag Co., 142 F. 479, 487 (C.C.D. Me. 1905) ("[Eastern] has never attempted to make any practical use of [the patent], either itself or through licenses, and apparently its proposed policy has been to avoid this.").

machine that allegedly infringed on Eastern's patent.[62] The trial court found Eastern's patent valid and infringed, and it granted permanent injunctive relief.[63]

On appeal, Continental argued the trial court erred in granting an injunction because Eastern had unreasonably failed to use the patented invention.[64] Continental's argument was primarily based on the policy claim that Eastern's non-use did not promote the constitutional purpose of the patent system "to promote the progress of science and useful arts."[65] The Court rejected this claim, holding that "patents are property" and thus are "entitled to the same rights and sanctions as other property."[66] Because a patent is the "absolute property" of its owner, the Court reasoned, Eastern was entitled to "insist upon all the advantages and benefits which [patent law] promises," including injunctive relief, despite its non-use.[67] It concluded by explaining that the patent "right can only retain its attribute of exclusiveness by a prevention of its violation. Anything but prevention takes away the privilege which the law confers upon the patentee."[68]

After its creation by Congress in 1982, the U.S. Court of Appeals for the Federal Circuit—which hears all appeals of patent infringement claims[69]—continued to treat patents as conferring a strong property right to exclude.[70] For instance, it stated in one early decision that "the right to exclude recognized in a patent is . . . the essence of the concept of property."[71] Although recognizing that "a district court has discretion whether to enter an injunction,"[72] the Federal Circuit declared "that an injunction should issue once infringement has been established unless there is a sufficient reason for denying it."[73] In practice, this resulted in a "general rule that courts will issue permanent injunctions against patent infringement."[74] Only in rare instances,

62. *Cont'l Paper Bag Co.*, 210 U.S. at 416.

63. *Id.* at 407. The court also ordered an accounting of Continental's profits derived from the infringement. *Id.*

64. *Id.* at 422.

65. *Id.* at 422–23 (citing U.S. CONST. art. I, § 8).

66. *Id.* at 425.

67. *Id.* at 424.

68. *Id.* at 430.

69. 28 U.S.C. § 1295(a)(1) (2012).

70. *See In re* Etter, 756 F.2d 852, 859 (Fed. Cir. 1985) ("The patent right is a right to exclude. . . . The essence of all property is the right to exclude, and the patent property right is certainly not inconsequential."); Carl Schenck, A.G. v. Nortron Corp., 713 F.2d 782, 786 n.3 (Fed. Cir. 1983) ("The patent right is but the right to exclude others, the very definition of 'property.'").

71. Connell v. Sears, Roebuck & Co., 722 F.2d 1542, 1548 (Fed. Cir. 1983) (citation omitted); *see also* Dawson Chem. Co. v. Rohm & Hass Co., 448 U.S. 176, 215 (1980) (noting "the long-settled view that the essence of a patent grant is the right to exclude").

72. Trans-World Mfg. Corp. v. Al Nyman & Sons, Inc., 750 F.2d 1552, 1564 (Fed. Cir. 1984) (citation omitted).

73. W.L. Gore & Assocs., Inc. v. Garlock, Inc. 842 F.2d 1275, 1281 (Fed. Cir. 1988).

74. MercExchange, L.L.C. v. eBay, Inc. (*MercExchange II*), 401 F.3d 1323, 1339 (Fed. Cir. 2005).

such as to prevent harm to public health or welfare, did courts deny permanent injunctions.[75]

B. *eBay v. MercExchange*

This Subpart describes the *eBay* litigation, culminating with the Supreme Court's rejection of the "general rule" in favor of injunctive relief and its replacement with a four-factor test. As explained in more detail below, the application of this four-factor test represents a significant shift away from property rules toward liability rules for the enforcement of patent rights.

1. Initial District Court Decision

MercExchange, L.L.C., a failed startup founded by the inventor of the patent-in-suit,[76] asserted that eBay, Inc., infringed U.S. Patent No. 5,845,265 ("the '265 patent"), which claimed a method and apparatus "for an electronic market designed to facilitate the sale of goods between private individuals by establishing a central authority to promote trust among participants."[77] After a five-week trial, a jury found the '265 patent (and one other patent in the same family as the '265 patent) was valid and infringed, and it awarded MercExchange $35 million in damages.[78]

MercExchange subsequently moved for entry of a permanent injunction, which the district court denied.[79] While recognizing that "the grant of injunctive relief against the infringer is considered the norm," the district court stated that it was required to consider "traditional equitable principles," including "(i) whether the plaintiff would face irreparable injury if the injunction did not issue, (ii) whether the plaintiff has an adequate remedy at

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75. *See* Rite-Hite Corp. v. Kelley Co., 56 F.3d 1538, 1547 (Fed. Cir. 1995) ("[C]ourts have in rare instances exercised their discretion to deny injunctive relief in order to protect the public interest."); City of Milwaukee v. Activated Sludge, Inc., 69 F.2d 577, 593 (7th Cir. 1934) (denying a permanent injunction that would have required closing Milwaukee's sewage treatment plan and dumping untreated sewage into Lake Michigan, thus endangering "the health and the lives of more than half a million people"). One notable example of a pre-*eBay* denial of a permanent injunction occurred in *Foster v. American Machine & Foundry Co.*, where the Second Circuit affirmed the trial court's denial of a permanent injunction when a patentee who did not manufacture a product using the patented technology sought to exclude a manufacturing infringer. Foster v. Am. Mach. & Foundry Co., 492 F.2d 1317, 1324 (2d Cir. 1974).

76. For a detailed description of MercExchange and its founder, Thomas G. Woolston, who was also the inventor of the '265 patent, see Holte, *Trolls or Great Inventors*, *supra* note 4, at 23–30.

77. eBay Inc. v. MercExchange, L.L.C., 547 U.S. 388, 390 (2006).

78. *MercExchange I*, 275 F. Supp. 2d 695, 698–99 (E.D. Va. 2003). The district court struck $5.5 million from the jury's award for eBay's inducement of a third party to infringe the '265 patent, concluding that it would result in impermissible double counting. *Id.* at 710. In addition, the jury's $4.5 million verdict for infringement of another patent-in-suit (U.S. Patent No. 6,085,176) was subsequently vacated on appeal because that patent was invalid as anticipated. *MercExchange II*, 401 F.3d at 1333–35 (referring to *MercExchange I*, 275 F. Supp. 2d at 698–99).

79. *MercExchange I*, 275 F. Supp. 2d at 710–15. For a summary of the parties' briefing on the issue of injunctive relief at the trial court level, see Holte, *Misinterpretation of* eBay, *supra* note 4, at 691–95.

law, (iii) whether granting the injunction is in the public interest, and (iv) whether the balance of the hardships tips in the plaintiff's favor."[80]

After evaluating these factors, the district court found none of them weighed in favor of granting an injunction. First, the district court pointed to "evidence of the plaintiff's willingness to license its patents, its lack of commercial activity in practicing the patents, and its comments to the media as to its intent with respect to enforcement of its patent rights" in concluding that eBay had rebutted the presumption that MercExchange would suffer irreparable harm absent an injunction.[81] Second, the district court relied on MercExchange's practice of "licens[ing] its patents to others in the past" and "its willingness to license the patents to the defendants in this case" as evidence that it had an adequate remedy at law.[82] Third, it held "the public interest factor equally supports granting an injunction to protect [MercExchange]'s patent rights, and denying an injunction to protect the public's interest in using a patented business-method that the patent holder declines to practice."[83] Finally, the district court concluded the balance of hardships favored eBay because "[a]ny harm suffered . . . by the defendants' infringement of the patents can be recovered by way of damages."[84]

2. Federal Circuit Decision

MercExchange appealed to the Federal Circuit, which affirmed the jury's findings that the '265 patent was valid and infringed by eBay in a published decision in March 2005, but it reversed the district court's denial of a permanent injunction.[85] The Federal Circuit first recounted "the general rule . . . that a permanent injunction will issue once infringement and validity have been adjudged."[86] It then concluded that the district court had failed to "provide any persuasive reason to believe this case is sufficiently exceptional to justify the denial of a permanent injunction."[87] In particular, the Federal Circuit criticized the district court's reasoning that MercExchange's willingness to license its patents meant that it did not suffer irreparable harm and that it had an adequate remedy at law, stating that offers to license "should not . . . deprive [MercExchange] of the right to an injunction to which it would otherwise be entitled. Injunctions are not reserved for patentees who intend to practice their patents, as opposed to those who

80. *MercExchange I*, 275 F. Supp. 2d at 711.
81. *Id.* at 712.
82. *Id.* at 713.
83. *Id.* at 714.
84. *Id.*
85. *MercExchange II*, 401 F.3d at 1326.
86. *Id.* at 1338 (citing Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1246–47 (Fed. Cir. 1989)).
87. *Id.* at 1339.

choose to license."[88] It also held that the district court's "general concern regarding business-method patents" were "not a sufficient basis for denying a permanent injunction."[89] On the issue of damages, the Federal Circuit declined to overturn the $25 million award for past infringement of the '265 patent.[90]

3. Supreme Court Decision

On November 28, 2005, the Supreme Court granted eBay's petition for writ of certiorari on the issue of permanent injunctive relief.[91] In particular, the Court explicitly directed the parties to brief and argue "[w]hether this Court should reconsider its precedents, including *Continental Paper Bag Co. v. Eastern Paper Bag Co.*, on when it is appropriate to grant an injunction against a patent infringer."[92] The appeal attracted significant media attention from the popular press,[93] and numerous intellectual property scholars, bar organizations, and high-technology firms filed amicus briefs with the Court.[94]

On May 16, 2006, the Court unanimously reversed the Federal Circuit.[95] The Court's opinion, delivered by Justice Thomas, is succinct—less than five full pages in the official *United States Reports*. After summarizing the parties and procedural history of the case, the Court announced that "[a]ccording to well-established principles of equity, a plaintiff seeking a permanent injunction must satisfy a four-factor test."[96] Specifically, it held that the patentee must show:

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88. *Id.*

89. *Id.*

90. *Id.* at 1326; *see also supra* note 78 and accompanying text (explaining how the jury's verdict was reduced to $25 million).

91. eBay Inc. v. MercExchange, L.L.C., 546 U.S. 1029 (2005) (granting writ of certiorari).

92. *Id.* (internal citation omitted).

93. *See, e.g.*, Katie Hafner, *Justices Will Hear Patent Case Against eBay*, N.Y. TIMES (Mar. 27, 2006), http://www.nytimes.com/2006/03/27/technology/27ebay.html (noting that the *eBay* appeal "has attracted an unusual amount of public attention in part because of recent attempts by large corporations to change patent law to lessen the threat posed by so-called nonpracticing patent holders"); *see also* Joan Biskupic, *Supreme Court Hears eBay Patent Case*, USA TODAY, (Mar. 29, 2006, 9:47 PM), http://www.usatoday30.usatoday.com/tech/news/2006-03-29-ebay-case_X.htm.

94. *See, e.g.*, Brief Amici Curiae of 52 Intellectual Property Professors in Support of Petitioners, eBay Inc. v. MercExchange, L.L.C., 547 U.S. 388 (2006) (No. 05-130), 2006 WL 1785363; Brief of Various Law & Economics Professors as Amici Curiae in Support of Respondent, *eBay*, 547 U.S. 388 (No. 05-130), 2006 WL 639164; Brief of the American Bar Ass'n as Amicus Curiae Supporting Respondent, *eBay*, 547 U.S. 388 (No. 05-130), 2006 WL 639167; Brief of American Intellectual Property Law Ass'n & Federal Circuit Bar Ass'n as Amici Curiae in Support of Neither Party, *eBay*, 547 U.S. 388 (No. 05-130), 2006 WL 148639; Brief of Amicus Curiae Yahoo! Inc. in Support of Petitioner, *eBay*, 547 U.S. 388 (No. 05-130), 2006 WL 218988; Brief of I.B.M. Corp. as Amicus Curiae in Support of Neither Party, *eBay*, 547 U.S. 388 (No. 05-130), 2006 WL 235006. A summary of the amicus briefs filed in the Supreme Court is available at Holte, *Misinterpretation of* eBay, *supra* note 4, at 691–95.

95. *eBay*, 547 U.S. at 390.

96. *Id.* at 391. Several remedies scholars have persuasively argued that the four-factor test

> (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.[97]

The Court then declared that this four-part test "appl[ied] with equal force to disputes arising under the Patent Act."[98]

The Court's opinion acknowledged that patents confer property rights upon their owners, including "the right to exclude others from making, using, offering for sale, or selling the invention."[99] However, it rejected the Federal Circuit's reasoning that this right "justifies [the] general rule in favor of permanent injunctive relief," asserting—without citing to any authority—that "the creation of a right is distinct from the provision of remedies for violations of that right."[100] Instead, it concluded that "injunctive relief 'may' issue only 'in accordance with the principles of equity.'"[101]

The Court held that neither the district court nor the Federal Circuit had "fairly applied . . . traditional equitable principles in deciding [MercExchange]'s motion for a permanent injunction."[102] First, it criticized the district court for apparently "adopt[ing] certain expansive principles suggesting that injunctive relief could not issue in a broad swath of cases," including when a patent owner did not commercially practice the patented invention or when it was willing to license the patent-in-suit to others, declaring that these "categorical rule[s] . . . cannot be squared with the principles of equity adopted by Congress."[103] The Court specifically cited its decision in *Continental Paper Bag* to support its conclusion that the district court could not categorically deny injunctive relief to a non-practicing patent holder.[104] At the same time, it rebuffed the Federal Circuit's adoption of a "general rule, unique to patent disputes, that a permanent injunction [should] issue" absent "exceptional circumstances," explaining that the

articulated in *eBay* was in fact not "well-established." *See* DOUGLAS LAYCOCK, MODERN AMERICAN REMEDIES: CASES AND MATERIALS 339 (4th ed. 2012) (concluding that "there was no 'traditional' four-part test" for permanent injunctions); Gergen et al., *supra* note 4, at 207 (explaining how the *eBay* decision's "four-factor test differs from traditional equitable practice in at least three, and possibly four, significant ways"); Rendleman, *supra* note 4, at 76 n.71 (noting that "[r]emedies specialists had never heard of the four-point test" announced in *eBay*).

97. *eBay*, 547 U.S. at 391.
98. *Id.*
99. *Id.* at 392 (quoting 35 U.S.C. § 154(a)(1) (2006)).
100. *Id.*
101. *Id.* (quoting 35 U.S.C. § 283 (2006)).
102. *Id.* at 393.
103. *Id.*
104. *Id.* (citing Cont'l Paper Bag Co. v. E. Paper Bag Co., 210 U.S. 405, 422–430 (1908)).

Federal Circuit's departure "in the opposite direction" also was incompatible with the four-factor test.[105] The Court then vacated and remanded the case to the district court to apply "the traditional four-factor framework."[106]

This unanimous opinion, however, only thinly veiled an apparent deep-seated disagreement between the Justices regarding the proper circumstances for granting permanent injunctions in future patent cases.[107] These diverging views burst to the forefront in two concurring opinions. In a two-paragraph concurrence, Chief Justice Roberts, joined by Justices Scalia and Ginsburg, suggested trial courts would be wise to consider "a page of history" and continue to grant injunctions in the "vast majority of patent cases" after *eBay*.[108] In particular, the Chief Justice noted the difficulty of protecting the right to exclude "through monetary remedies that allow an infringer to *use* an invention against the patentee's wishes."[109]

In a separate concurrence, Justice Kennedy, joined by Justices Stevens, Souter, and Breyer, initially expressed agreement with the Chief Justice's statement that "history may be instructive in applying [the four-factor] test," but immediately proceeded to critique the Chief Justice's assertion regarding the difficulty of protecting the right to exclude without an injunction.[110] Justice Kennedy's concurrence contended that "[b]oth the terms of the Patent Act and the traditional view of injunctive relief accept that the existence of a right to exclude does not dictate the remedy for a violation of that right."[111] It then asserted that modern patent cases often differed from historical patent litigation in several important ways, including the role of non-practicing patentees who employ injunctive relief "as a bargaining tool to charge exorbitant fees to companies that seek to buy licenses to practice the patent."[112] Justice Kennedy's concurrence also explained that injunctions may be inappropriate "[w]hen the patented invention is but a small component of the product the companies seek to produce and the threat of an injunction is

105. *Id.* at 393–94 (quoting *MercExchange II*, 401 F.3d 1323, 1339 (Fed. Cir. 2005)).

106. *Id.* at 394.

107. *See* James M. Fischer, *The "Right" to Injunctive Relief for Patent Infringement*, 24 SANTA CLARA COMPUTER & HIGH TECH. L.J. 1, 20 (2007) ("The Court's decision in *eBay*, although presented as a unanimous decision . . . is sufficiently terse, pithy, and fractured by the two concurrences as to provide some support to practically any conclusion one wishes to draw from the decision."); Paul M. Mersino, Note, *Patents, Trolls, and Personal Property: Will* eBay *Auction Away a Patent Holder's Right to Exclude?*, 6 AVE MARIA L. REV. 307, 326 (2007) ("The generality in the [C]ourt's holding [in *eBay*] was compounded by the fact that, although it was technically unanimous, the two concurring opinions were highly divergent on exactly how the holding should be applied.").

108. *eBay*, 547 U.S. at 395 (Roberts, C.J., concurring) (citation omitted).

109. *Id.*

110. *Id.* at 395–96 (Kennedy, J., concurring).

111. *Id.* at 396.

112. *Id.*

employed simply for undue leverage in negotiations."[113] Finally, Justice Kennedy pointed to the "burgeoning number of patents over business methods," some of which suffer from "potential vagueness and suspect validity," as another reason to potentially deny injunctive relief.[114]

4. After Remand

An important part of the *eBay* litigation—although sometimes overlooked in the shadow of the landmark Supreme Court decision—is the decision of the district court after remand. Applying the four-factor test mandated by the Court's decisions, the district court again denied injunctive relief to MercExchange.[115] This opinion is instructive because the district court's reasoning has been widely adopted by subsequent courts when declining to grant injunctive relief to prevailing patentees.

In a detailed written decision issued on July 27, 2007, the district court found that three of the four *eBay* factors weighed against an injunction.[116] First, it concluded MercExchange could not demonstrate irreparable harm. The district court explained that the traditional presumption of irreparable harm following a finding of infringement did not survive the Supreme Court's decision, which "require[d] the [patentee] to demonstrate that it has suffered an irreparable injury."[117] MercExchange could not demonstrate such harm, the court reasoned, because it had "acted inconsistently with defending its right to exclude" by "follow[ing] a consistent course of licensing its patents to market participants."[118] In particular, MercExchange's "consistent course of litigating or threatening litigation to obtain money damages . . . indicates that MercExchange has utilized its patents as a sword to extract money rather than as a shield to protect its right to exclude."[119] Thus, it concluded MercExchange's patent licensing practice "plainly weighs against a finding of irreparable harm."[120] For similar reasons, the district court found MercExchange had an adequate remedy at law because it had demonstrated a "consistent desire to obtain royalties in exchange for a license to its

113. *Id.*

114. *Id.* at 397.

115. MercExchange L.L.C. v. eBay, Inc. (*MercExchange III*), 500 F. Supp. 2d 556, 559 (E.D. Va. 2007).

116. *Id.* at 569–91.

117. *Id.* at 569 (emphasis omitted); *see also id.* ("[E]ven though an affirmed jury verdict establishes that eBay is a willful infringer . . . , a permanent injunction shall only issue if *plaintiff carries its burden* of establishing that, based on traditional equitable principles, the case specific facts warrant entry of an injunction.").

118. *Id.*

119. *Id.* at 572.

120. *Id.* at 573. The District Court also noted that MercExchange's failure to seek preliminary injunctive relief and its business method patent also weighed against a finding of irreparable harm. *Id.* at 574–75.

intellectual property" and thus could be made whole through monetary damages.[121]

Third, the court found that the "balance of the hardships" factor favored neither party due to a variety of uncertainties, including eBay's claimed design around, the possibility that the '265 patent would be invalidated in reexamination, and the potential of eBay to lose customers if it was forced to remove the infringing buy-it-now option from its website.[122] Fourth, the district court determined that the final *eBay* factor, the public interest, weighed slightly against entry of an injunction because the public interest favored damages—a liability rule—rather than an injunction because MercExchange was "merely seeking an injunction as a bargaining chip to increase [its] bottom line."[123] In the court's judgment, this outweighed "the public . . . benefits from a strong patent system."[124]

Following denial of a permanent injunction, the district court directed entry of final judgment that the '265 patent was willfully infringed and valid, and it confirmed the damages award.[125] eBay then launched a second appeal to the Federal Circuit,[126] but the parties resolved their dispute in February 2008 through an out-of-court settlement in which eBay agreed to purchase the '265 patent (and two other patents) for an undisclosed sum.[127]

B. EXISTING LITERATURE ON EBAY*'S IMPACT*

In the wake of the Supreme Court's decision, scholars and others questioned how *eBay* would affect the availability of injunctive relief in patent litigation.[128] The existing literature regarding *eBay*'s impact suggests that

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121. *Id.* at 583 (emphasis omitted).

122. *Id.* at 583–86.

123. *Id.* at 588.

124. *Id.* at 587.

125. MercExchange, L.L.C. v. eBay, Inc. (*MercExchange IV*), 660 F. Supp. 2d 653, 658–59 (E.D. Va. 2007).

126. Notice of Appeal, MercExchange, L.L.C. v. eBay, Inc., No. 2:01-CV-00736 (E.D. Va. Dec. 18, 2007), ECF No. 758. eBay's appeal was docketed as No. 2008-1139.

127. *See* Press Release, *eBay Inc. and MercExchange, L.L.C. Reach Settlement Agreement*, EBAY (Feb. 28, 2008), http://investor.ebayinc.com/releasedetail.cfm?releaseid=296670.

128. *See, e.g.*, FED. TRADE COMM'N, *supra* note 8, at 217 (noting that *eBay* "created significant uncertainty concerning the circumstances under which courts would deny permanent injunctions"); F. Scott Kieff, *Removing Property from Intellectual Property and (Intended?) Pernicious Impacts on Innovation and Competition*, *in* COMPETITION POLICY AND PATENT LAW UNDER UNCERTAINTY: REGULATING INNOVATION 416, 425 (Geoffrey A. Manne & Joshua D. Wright eds., 2011) ("In the final analysis, the full impact of the *eBay* case remains an open question for debate."); Crane, *supra* note 31, at 264 ("In light of *eBay*, injunctions no longer issue as a matter of course in infringement cases, but it remains to be seen just how wide the impact of *eBay* will be."); *The Supreme Court, 2005 Term—Leading Cases*, 120 HARV. L. REV. 125, 337 (2006) (asserting that "*eBay* raises more questions about the grant of permanent injunctions than it answers" and that "the opinion leaves patent holders to speculate whether fewer permanent injunctions against infringers will issue in a post-*eBay* world").

while permanent injunctions are still commonly granted, certain types of patent disputes have largely shifted from a property rule to a liability rule.

Several previous studies have found that prevailing patentees still receive permanent injunctions approximately three-quarters of the time following *eBay*. One article published in 2008 found that district courts awarded permanent injunctions in approximately 78% of cases.[129] Another study of injunction decisions through May 2009 disclosed that permanent injunctions were granted 72% of the time.[130] Similarly, in a 2012 article, Colleen Chien and Mark Lemley reported that "courts have granted about 75% of requests for injunctions, down from an estimated 95% pre-*eBay*."[131] A recent paper by Kirti Gupta and Professor Jay Kesan found that permanent injunction motions between *eBay* and 2012 were granted 80% of the time.[132] Finally, a database of permanent injunction decisions hosted by the University of Houston Law Center's Institute for Intellectual Property and Information Law indicates permanent injunctions have been granted 75% of the time from *eBay* through 2013.[133]

Although patentees as a whole appear to enjoy a relatively high success rate in obtaining injunctive relief following *eBay*, prior commentators have noted that patent holders who primarily engage in licensing and litigation—commonly referred to as PAEs[134]—are much less successful.[135] For instance, Chien and Lemley found that through August 2011, district courts granted injunctions to PAEs only 26% of the time—and only 7% of cases where the

129. *See* Ellis et al., *supra* note 4, at 441–42 nn.35–36 (finding permanent injunctions awarded in 28 of 36 district court decisions).

130. Ernest Grumbles III et al., *The Three Year Anniversary of* eBay v. MercExchange*: A Statistical Analysis of Permanent Injunctions*, INTELLECTUAL PROP. TODAY (Nov. 2009), at 25.

131. Chien & Lemley, *supra* note 2, at 9–10 (footnotes omitted).

132. Kirti Gupta & Jay P. Kesan, Studying the Impact of *eBay* on Injunctive Relief in Patent Cases 9 fig.3 (July 10, 2015) (unpublished manuscript), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2629399.

133. *Post-*eBay *Permanent Injunction Rulings in Patent Cases to 12-31-13*, PATSTATS.ORG, http://patstats.org/Patstats2.html (last visited Mar. 11, 2016) [hereinafter PATSTATS.ORG]. After removing apparently duplicative entries, this database reports that permanent injunctions were granted in 174 cases and denied in 57 cases. *Id.* However, a review of the listed cases in this database indicates that a number of these decisions involved cases where the entry of a permanent injunction was unopposed by the infringer, thus skewing the overall grant rate somewhat higher. *Id; see also infra* note 175 and accompanying text.

134. *See supra* note 8 and accompanying text.

135. *See* Chien & Lemley, *supra* note 2, at 2 ("In the wake of . . . *eBay* . . . district courts rarely grant injunctions in patent infringement cases to patent-assertion entities . . . ."); Lily Lim & Sarah E. Craven, *Injunctions Enjoined; Remedies Restructured*, 25 SANTA CLARA COMPUTER & HIGH TECH. L.J. 787, 798 (2009) (finding that "an NPE's chance of getting an injunction [fell] precipitously" after *eBay* compared to "a patentee who directly competes in the marketplace"); Sandrik, *supra* note 4, at 111 (noting that "NPEs are hard-pressed to get an injunction" after *eBay*); Yixin H. Tang, Note, *The Future of Patent Enforcement After* eBay v. MercExchange, 20 HARV. J.L. & TECH. 235, 246 (2006) (asserting that after *eBay*, "patent holders who did not practice their patents found themselves in a more difficult position").

injunction request was contested by the infringer.[136] Similarly, a report by the Federal Trade Commission found that "non-practicing patentees have been less likely than practicing patentees to receive injunctions."[137] Many of these decisions relied on the reasoning in Justice Kennedy's concurrence suggesting that patent holders who do not practice their patents generally should not receive an injunction because it would give them "undue leverage" in licensing negotiations.[138]

Another factor discussed in the existing literature is the relationship between the litigants.[139] When the parties-in-suit are competitors, a permanent injunction typically issues.[140] Indeed, the Federal Circuit has gone so far as to declare that the "essential attribute of a patent grant is that it provides a right to exclude *competitors* from infringing the patent."[141] According to one commentator, "[i]f the parties can fairly be described as direct competitors, the first two factors" of the *eBay* test—irreparable injury and absence of an adequate remedy at law—"will weigh heavily in favor of the

136. Chien & Lemley, *supra* note 2, at 10 fig.1; *see also id.* at 11 ("Of all groups, PAEs are least likely to obtain an injunction; they tend to succeed in their requests only when the defendant fails to object.").

137. FED. TRADE COMM'N, *supra* note 8, at 256. This report found that patentees who practiced the patent received injunctions at an 83% rate, while patentees who did not practice the patent received an injunction at a 43% rate. *Id.* at 259.

138. eBay Inc. v. MercExchange, L.L.C., 547 U.S. 388, 396 (2006). For examples of district court opinions citing Justice Kennedy's concurrence in denying an injunction to a non-practicing patentee, see Hynix Semiconductor Inc. v. Rambus Inc., 609 F. Supp. 2d 951, 966 (N.D. Cal. 2009); i4i Ltd. P'ship v. Microsoft Corp., 670 F. Supp. 2d 568, 600 (E.D. Tex. 2009); Commonwealth Sci. and Indus. Research Organisation v. Buffalo Tech. Inc., 492 F. Supp. 2d 600, 605 (E.D. Tex. 2007); MPT, Inc. v. Marathon Labels, Inc., 505 F. Supp. 2d 401, 419–20 (N.D. Ohio 2007); and z4 Techs., Inc. v. Microsoft Corp., 434 F. Supp. 2d 437, 441 (E.D. Tex. 2006). *See also* Ted Sichelman, *Purging Patent Law of "Private Law" Remedies*, 92 TEX. L. REV. 517, 520–22 & n.13 (2014) (discussing Justice Kennedy's "influential concurrence").

139. *See* Chao, *supra* note 4, at 549 (noting that "[o]ne category of fact patterns that has figured prominently in cases applying the *eBay* factors [is] the existence, or lack of direct competition" between the litigants).

140. *See, e.g.*, SynQor, Inc. v. Artesyn Techs., Inc., No. 2:07-CV-497-TJW-CE, 2011 WL 238645, at *3 (E.D. Tex. Jan. 24, 2011) ("The best case for obtaining a permanent injunction often occurs when the plaintiff and defendant are competing in the same market."); Advanced Cardiovascular Sys., Inc. v. Medtronic Vascular, Inc., 579 F. Supp. 2d 554, 558 (D. Del. 2008) ("Courts awarding permanent injunctions typically do so under circumstances where plaintiff practices its invention and is a direct market competitor."); Beckerman-Rodau, *supra* note 4, at 632 ("Typically, permanent injunctions continue to issue when the patent owner and the infringer are direct marketplace competitors."); Chao, *supra* note 4, at 553 ("[T]he existence of direct competition appears to be a good predictor of whether a permanent injunction will issue."); Ellis et al., *supra* note 4, at 442 ("To date, the relationship of the parties-in-suit has been the single most important determinant as to whether an injunction will issue. For the most part, when the parties-in-suit were deemed *direct* competitors, permanent injunctions were issued." (footnotes omitted)). An FTC study found that injunctions were granted 87% of the time when the patentee and the defendant competed. FED. TRADE COMM'N, *supra* note 8, at 259.

141. Acumed LLC v. Stryker Corp., 551 F.3d 1323, 1328 (Fed. Cir. 2008) (emphasis added).

[patentee]."[142] For instance, the types of competition-related harms that courts have found sufficient to demonstrate an irreparable injury include loss of market share, loss of goodwill among customers, and price erosion.[143] In contrast, "district courts appear to have consistently denied permanent injunctions in cases where . . . the infringer and patent holder were not competitors."[144]

A third consideration is whether the patentee has licensed or offered to license the patented technology to others.[145] As the district court concluded after remand in *eBay*, a patentee's licensing activity may demonstrate both lack of irreparable harm and the existence of an adequate remedy at law.[146] However, a recent report by the Federal Trade Commission found that permanent injunctions were still granted in the majority of cases where the patentee licensed others to practice the patent.[147]

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142. Stacy Streur, *The* eBay *Effect: Tougher Standards but Courts Return to the Prior Practice of Granting Injunctions for Patent Infringement*, 8 NW. J. TECH. & INTELL. PROP. 67, 71 (2009); *see also* George M. Newcombe et al., *Prospective Relief for Patent Infringement in a Post-*eBay *World*, 4 N.Y.U. J.L. & BUS. 549, 559–60 (2008) (finding "the infringer was a direct horizontal competitor" to the patentee in 28 of 30 cases where a permanent injunction issued); Benjamin H. Diessel, Note, *Trolling for Trolls: The Pitfalls of the Emerging Market Competition Requirement for Permanent Injunctions in Patent Cases Post-*eBay, 106 MICH. L. REV. 305, 318 (2007) ("The market competition requirement, more than merely correlating with results, appears to be dispositive in determining whether to grant an injunction.").

143. Newcombe et al., *supra* note 142, at 560–62. The Federal Circuit itself has explained that "facts relating to the nature of the competition between the parties undoubtedly are relevant to the irreparable harm inquiry." Robert Bosch LLC v. Pylon Mfg. Corp., 659 F.3d 1142, 1150 (Fed. Cir. 2011).

144. Golden, *Patent Trolls*, *supra* note 4, at 2113; *see also* FED. TRADE COMM'N, *supra* note 8, at 259 (finding permanent injunctions were granted only 25% of the time when patentee and infringer did not compete).

145. *See* Jay Dratler, Jr., eBay*'s Practical Effect: Two Differing Visions*, 2 AKRON INTELL. PROP. J. 35, 49 (2008) ("If the patent at issue already has been licensed to multiple parties on a nonexclusive basis, at a standard royalty rate, all four equitable factors ordinarily favor denying an injunction." (emphasis omitted)); Ellis et al., *supra* note 4, at 452 ("[C]ompanies and individuals . . . who license to un-related entities have been less successful in their requests for an injunction."); *see also* T.J. Smith & Nephew Ltd. v. Consol. Med. Equip., Inc., 821 F.2d 646, 648 (Fed. Cir. 1987) (concluding in a pre-*eBay* case that licensing the patent is "incompatible with the emphasis on the right to exclude that is the basis for the presumption" of irreparable harm).

146. *See supra* notes 118–21 and accompanying text (discussing the district court's reasoning); *see also* Telcordia Techs., Inc. v. Cisco Sys., Inc., 592 F. Supp. 2d 727, 748 n.10 (D. Del. 2009) (concluding that the patentee's "willingness to license its patents also suggests that its injury is compensable in monetary damages, which is inconsistent with the right to exclude"); Sundance, Inc. v. DeMonte Fabricating Ltd., No. 02–73543, 2007 WL 37742, at *2 (E.D. Mich. Jan. 4, 2007) (concluding that the patentee's "licens[ing] the [patent-in-suit] to others, and offer[ing] to license it to [the defendant] prior to filing suit . . . demonstrate[es] that money damages are adequate"); Andrei Iancu & W. Joss Nichols, *Balancing the Four Factors in Permanent Injunction Decisions: A Review of Post-*eBay *Case Law*, 89 J. PAT. & TRADEMARK OFF. SOC'Y 395, 398 (2007) (noting "the predilection some courts have to deny an injunction upon a showing of a willingness to license").

147. FED. TRADE COMM'N, *supra* note 8, at 259; *see also id.* at 264 ("District courts have also granted injunctions to organizations that often seek to license their patents non-exclusively.").

Whether the patented invention is a "small component" of an infringing product also may be relevant. Justice Kennedy's concurring opinion in *eBay* suggested that situations where "the patented invention is but a small component of the [infringing] product" may be inappropriate for injunctive relief due to the threat of holdup.[148] Existing scholarship suggests that district courts frequently deny injunctive relief in these situations.[149]

One additional factor that has been mentioned as potentially favoring entry of an injunction is a finding of willful infringement. Willful misconduct is traditionally considered in determining the availability of equitable relief.[150] For example, after remand in *eBay*, the district court concluded that eBay's "status as a willful infringer . . . plainly favors [the patentee] when conducting an equitable balancing" in the injunction analysis.[151] However, other district courts have denied injunctions against willful infringers,[152] and scholarship published shortly after *eBay* concluded that "willful infringement does not appear to be a significant factor in predicting or explaining judicial decisions that grant or deny permanent injunctions."[153]

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148. eBay Inc. v. MercExchange, L.L.C., 547 U.S. 388, 396 (2006) (Kennedy, J., concurring).

149. *See* Benjamin Petersen, Note, *Injunctive Relief in the Post-*eBay *World*, 23 BERKELEY TECH. L.J. 193, 198 (2008) ("[I]n five of the ten cases where courts denied an injunction, the court found that the patented invention is merely a small component of the infringing product. There were no instances where a court awarded an injunction after determining that the patent covers only a small component of the infringing product."); *cf.* Bernard Chao, *Causation and Harm in a Multicomponent World*, 164 U. PA. L. REV. ONLINE 61, 76 (2016) (arguing that courts should not grant injunctions in patent cases involving infringing features for multicomponent devices if it will cause holdup).

150. *See* Precision Instrument Mfg. Co. v. Auto. Maint. Mach. Co., 324 U.S. 806, 815 (1945) ("Any willful act concerning the cause of action which rightfully can be said to transgress equitable standards of conduct is sufficient cause for the invocation of the maxim by the chancellor."); *see also* Beckerman-Rodau, *supra* note 4, at 656 (noting that "[w]illful infringement, arguably, should be relevant when the remedy being sought, such as permanent injunctive relief, is equitable in nature"); Diessel, *supra* note 142, at 317 (explaining that "historically willfulness has weighed heavily on the decision to grant an injunction"); William R. Everding, Comment, "*Heads-I-Win, Tails-You-Lose*"*: The Predicament Legitimate Small Entities Face Post* eBay *and the Essential Role of Willful Infringement in the Four-Factor Permanent Injunction Analysis*, 41 J. MARSHALL L. REV. 189, 211–17 (2007) (contending that willful infringement is relevant in several factors of the *eBay* test).

151. *MercExchange III*, 500 F. Supp. 2d 556, 590 (E.D. Va. 2007) (emphasis omitted); *see also* Wald v. Mudhopper Oilfield Servs., Inc., No. CIV-04-1693-C, 2006 WL 2128851, at *5 (W.D. Okla. July 27, 2006) (explaining that "the Court is unpersuaded that there is no need for an injunction" in light of, *inter alia*, "the finding of willful infringement").

152. *See, e.g.*, Fractus, S.A., v. Samsung Elecs. Co., 876 F. Supp. 2d 802, 828–30, 852–54 (E.D. Tex. 2012); Creative Internet Advert. Corp. v. Yahoo! Inc., 674 F. Supp. 2d 847, 849–52 (E.D. Tex. 2009); Voda v. Cordis Corp., No. CIV–03–1512–L, 2006 WL 2570614, at *1, *5–6 (W.D. Okla. Sept. 5, 2006), *aff'd*, 536 F.3d 1311 (Fed. Cir. 2008); z4 Techs., Inc., v. Microsoft Corp., 434 F. Supp. 2d 437, 438–44 (E.D. Tex. 2006).

153. Beckerman-Rodau, *supra* note 4, at 656; *see also* Diessel, *supra* note 142, at 312–17 (analyzing the first twenty-five district court cases applying *eBay* and concluding "[w]hether infringement was willful d[id] not bear on whether a plaintiff obtain[ed] an injunction");

While valuable, the existing scholarship on *eBay*'s impact is limited in several important respects. First, many of the studies rely on a relatively small number of decisions—usually several dozen cases—issued within a few years of the Supreme Court's decision.[154] This small size makes it difficult to conduct rigorous empirical analysis due to the lack of statistical power.[155] Second, several of these studies appear to be limited to district court decisions that are reported in the *Federal Supplement* or commercial electronic databases like LexisNexis and Westlaw,[156] which may not be representative of all injunction decisions.[157] Third, most studies report only a few data points for each decision, such as the ultimate outcome on injunctive relief, the identity of the patent owner, and whether the litigants were competitors.[158] This introduces the possibility of omitted variable bias by failing to include one or more potentially important factors in assessing the district court's reasoning

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Sandrik, *supra* note 4, at 111 ("Another area of tension within the structure of patent remedies is in cases where a willful infringer is permitted to continue engaging in behavior that was deemed punish-worthy.").

154. *See* FED. TRADE COMM'N, *supra* note 8, at 257 (surveying 49 district court injunction decisions from *eBay* through December 2008); Ellis et al., *supra* note 4, at 441–42 & nn.35–36 (studying 36 district court decisions issued from *eBay* through early 2008); Grumbles III et al., *supra* note 130, at 26 (reviewing 67 district court cases issued since the *eBay* decision); Newcombe et al., *supra* note 142, at 557–59 & n.57, n.59 (evaluating 38 district court decisions from *eBay* through February 2008); Petersen, *supra* note 148, at 196 (studying 33 district court decisions applying *eBay* through February 2008). The exceptions are Chien & Lemley, *supra* note 2, at 9–10 & n.46 (analyzing 192 decisions from July 2006 through August 2011); Gupta & Kesan, *supra* note 132, at 6 tbl.1 (tallying 514 permanent injunction motions after *eBay*); and PATSTATS.ORG, *supra* note 133 (collecting 231 district court decisions from *eBay* through December 2013).

155. *See* THE SAGE GLOSSARY OF THE SOCIAL AND BEHAVIORAL SCIENCES 489 (Larry E. Sullivan ed. 2009) (explaining statistical power as "the probability of correctly rejecting a false null hypothesis").

156. *See* Ellis et al., *supra* note 4, at 441–42 nn.35–36 (relying on decisions reported in the *Federal Supplement* and LexisNexis); Newcombe et al., *supra* note 142, at 557–59 & n.57, n.59 (same).

157. *See* Michael Heise, *The Past, Present, and Future of Empirical Legal Scholarship: Judicial Decision Making and the New Empiricism*, 2002 U. ILL. L. REV. 819, 843–44 ("Many [empirical legal] studies are confined to a universe of written and published decisions. The focus on such decisions . . . reduces the generalizability of the findings."); David A. Hoffman et al., *Docketology, District Courts, and Doctrine*, 85 WASH U. L. REV. 681, 686 (2007) (noting that published "opinions might be unrepresentative of how trial courts resolve legal problems"); *see also* Hillel Y. Levin, *Making the Law: Unpublication in the District Courts*, 53 VILL. L. REV. 973, 982 (2008) ("If we accept that the law is what judges do, then we cannot evaluate the legal system by reference to only published decisions because they may not reflect what goes on in the majority of cases." (emphasis omitted)).

158. *See* Chien & Lemley, *supra* note 2, at 9–11 & 10 fig.1 (reporting permanent injunction grant rates by entity type—university, individual practicing company, and patent assertion entity); Grumbles III et al., *supra* note 130, at 27–29 (reporting injunction decision, case name, date of decision, district court, and whether the patentee and infringer were competitors); Gupta & Kesan, *supra* note 132, at 7 fig.1 (reporting preliminary and permanent injunction motion and grant rates by year); PATSTATS.ORG, *supra* note 133 (reporting permanent injunction decision, names of plaintiff and defendant, district court, date of decision, and judge).

for why an injunction was granted or denied.[159] Finally, the existing literature does not study the characteristics of the patents at issue in these decisions—such as the number of claims in each patent, the number of citations to prior art, and the technological field of the patented invention—to determine whether they are related to the grant or denial of injunctive relief.[160]

IV. METHODOLOGY

This Part first describes the research questions addressed through an empirical study of district court decisions on permanent injunctions following *eBay*. It then explains the study design and collection process for the data and findings reported in this Article.[161] Finally, it describes some limitations of the datasets.[162]

A. RESEARCH QUESTIONS

This study seeks to evaluate how district courts have applied *eBay*'s four-factor test for permanent injunctions in patent cases. In particular, it attempts to determine how often injunctions are granted to prevailing patentees following *eBay*, both in general and for particular types of patentees such as PAEs. It also focuses on several considerations related to injunctive relief mentioned in Justice Kennedy's concurrence, such as the patentee's willingness to license the patent(s)-in-suit and the assertion of a "business method" patent.[163] Furthermore, it seeks to determine whether injunction grant rates vary based on several other factors, such as the field of technology, the district court deciding the injunction request, and whether the infringer acted willfully. In addition, this study seeks to determine if infringed patents' characteristics correlate to district courts' decisions on injunctive relief. Previous empirical studies have found patents' characteristics to be useful in predicting their value and whether they will likely be the subject of an infringement lawsuit.[164]

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159. *See* OXFORD DICTIONARY OF ECONOMICS (John Black et al. eds., 4th ed. 2012) (defining omitted variable bias as "[a] bias . . . of a coefficient in a linear regression caused by the omission of a relevant variable from the regression, when this variable is correlated with one or more of the variables included in the regression").

160. *See* John R. Allison, Mark A. Lemley, Kimberly A. Moore & R. Derek Trunkey, *Valuable Patents*, 92 GEO. L.J. 435, 438 (2004) (studying these and other patent characteristics and concluding "that valuable patents differ in substantial ways from ordinary patents"); Colleen V. Chien, *Predicting Patent Litigation*, 90 TEX. L. REV. 283, 287 (2011) (finding that "patents that do end up in litigation differ markedly from patents that do not").

161. *See* Susan D. Franck, *Empiricism and International Law: Insights for Investment Treaty Dispute Resolution*, 48 VA. J. INT'L L. 767, 786–88 (2008) (explaining the importance of transparency regarding methodology, data collection, and analysis in empirical legal research). The data collected in this study will be made publicly available upon this Article's publication.

162. *See infra* Part IV.C.

163. eBay Inc. v. MercExchange, L.L.C., 547 U.S. 388, 396–97 (2006).

164. *See, e.g.*, Allison et al., *supra* note 160, at 448–60 (finding certain patent characteristics correlated with assertion in litigation and thus patent value); Chien, *supra* note 160, at 297–326

Empirical studies like this one use observations of data and statistical analysis to evaluate causal inference—that is, "whether one factor or set of factors leads to (or causes) some outcome."[165] Empirical analysis can "allow[] scholars to verify or refute . . . claims about case law,"[166] such as "the impact of a new precedent,"[167] thus helping "identify[] previously unnoticed patterns that warrant deeper study."[168] This study engages in the technique of "content analysis," in which the investigator identifies relevant court decisions, systematically reads and codes these decisions for information about the issue(s) being studied, and then analyzes the resulting data.[169] Numerous prior studies in the field of patent law have utilized a similar methodology.[170]

B. STUDY DESIGN AND DATA COLLECTION

Two original datasets were created for this study. For the first dataset (the "Decisions Dataset"), the author sought to identify all contested permanent injunction decisions by federal district courts in patent infringement cases from the date of the Supreme Court's decision in *eBay* (May 13, 2006) through December 2013. This represents over 7.5 years of court decisions on injunctive relief.

(finding that litigated characteristics have different intrinsic and acquired characteristics than non-litigated patents); Dietmar Harhoff et al., *Citations, Family Size, Opposition and the Value of Patent Rights*, 32 RES. POL'Y 1343, 1344–45 (2003) (finding that various patent characteristics are correlated with patent value); Jean O. Lanjouw & Mark Schankerman, *Characteristics of Patent Litigation: A Window on Competition*, 32 RAND J. ECON. 129, 129 (2001) ("[T]he frequency of legal disputes is strongly correlated with a variety of characteristics of innovations and their owners . . . ."); Kimberly A. Moore, *Worthless Patents*, 20 BERKELEY TECH. L.J. 1521, 1551 (2005) ("The fact that certain patent characteristics do predict . . . likelihood of patent litigation suggests that they are useful predictors of value.").

165. Lee Epstein & Gary King, *The Rules of Inference*, 69 U. CHI. L. REV. 1, 34–35 (2002); *see also* Kevin M. Clermont & Theodore Eisenberg, *Litigation Realities*, 88 CORNELL L. REV. 119, 125 (2002) ("Empirical methods are those that employ means for the systematic observation of experience in pursuit of inductive ends.").

166. Mark A. Hall & Ronald F. Wright, *Systematic Content Analysis of Judicial Opinions*, 96 CALIF. L. REV. 63, 77 (2008).

167. *Id.* at 91.

168. *Id.* at 87.

169. *See id.* at 67–76 (describing the methodology of content analysis in the context of legal studies).

170. *See generally* John R. Allison & Mark A. Lemley, *Empirical Evidence on the Validity of Litigated Patents*, 26 AIPLA Q.J. 185 (1998); John R. Allison, Mark A. Lemley & David L. Schwartz, *Understanding the Realities of Modern Patent Litigation*, 92 TEX. L. REV. 1769 (2014); Kimberly A. Moore, Markman *Eight Years Later: Is Claim Construction More Predictable?*, 9 LEWIS & CLARK L. REV. 231 (2005); Lee Petherbridge, Jason Rantanen & Ali Mojibi, *The Federal Circuit and Inequitable Conduct: An Empirical Assessment*, 84 S. CAL. L. REV. 1293 (2011); Lee Petherbridge & R. Polk Wagner, *The Federal Circuit and Patentability: An Empirical Assessment of the Law of Obviousness*, 85 TEX. L. REV. 2051 (2007); Jason Rantanen, *The Federal Circuit's New Obviousness Jurisprudence: An Empirical Study*, 16 STAN. TECH. L. REV. 709 (2013); Christopher B. Seaman, *Willful Patent Infringement and Enhanced Damages After* In re Seagate*: An Empirical Study*, 97 IOWA L. REV. 417 (2012).

Several sources were utilized to create a comprehensive list of these injunction decisions. First, the author started with a spreadsheet of injunction rulings compiled by Patstats.org from *eBay* through May 2013.[171] The author also searched the Lex Machina database of intellectual property litigation[172] and the permanent injunction decisions listed in the Federal Trade Commission's 2011 report on patent notice and remedies[173] to identify additional relevant decisions. Injunctions that were uncontested, such as those following entry of a default judgment or where the infringer consented to a permanent injunction, were excluded from the dataset.[174] Decisions involving preliminary (rather than permanent) injunctions were also omitted,[175] as were cases involving design patents.[176] In total, 218 district court

171. *Post*-eBay *Permanent Injunction Rulings in Patent Cases*, PATSTATS.ORG, http://patstats.org/Injunction_rulings_post-eBay_to_5-26-2013.xls (last visited Mar. 11, 2016) (hereinafter *Post*-eBay *Permanent Injunction Rulings*). This document was updated to include injunction rulings up to Dec. 31, 2013. *See id.*

172. LEX MACHINA, https://lexmachina.com (last visited Mar. 11, 2016). The following steps were taken to search Lex Machina: (1) selected "Documents" tab; (2) entered the following text in the search bar: "permanent injunction" OR eBay; (3) selected "Order re: Injunction" in "Document Tags"; (4) selected "Patent" in "Case Types"; and (5) reviewed entries for contested injunction decisions issued between May 15, 2006 and December 31, 2013.

173. *See* FED. TRADE COMM'N, *supra* note 8, at 272–78. Five cases listed in the FTC's report were excluded for not satisfying the criteria for this study: Zen Designs Grp., Ltd. v. Clint, No. 08-CV-14309, 2009 WL 4050247 (E.D. Mich. Nov. 23, 2009) (default judgment entered against accused infringer); Acticon Techs. v. Heisei Elecs. Co., No. 06-CV-4316 (KMK), 2008 WL 356872 (S.D.N.Y. Feb. 5, 2008) (default judgment entered against accused infringer); Nichia Corp. v. Seoul Semiconductor, Ltd., No. 06–0162 MMC, 2008 WL 346416 (N.D. Cal. Feb. 7, 2008) (design patents); U.S. Philips Corp. v. KXD Tech., Inc., No. CV 05-8953 ER (PLAx), 2007 WL 4984150 (C.D. Cal. Sept. 7, 2007) (default judgment entered against accused infringer); and Telequip Corp. v. Change Exch., No. 5:01-CV-1748 (FJS/GJD), 2006 WL 2385425 (N.D. N.Y. Aug. 15, 2006) (default judgment entered against accused infringer).

174. Uncontested injunction decisions were excluded for two reasons. First, counting these injunctions would likely have skewed the grant rate higher. Second, because uncontested injunctions are typically granted with little or no discussion by the district court, they provide little illumination regarding *why* an injunction was granted.

175. Preliminary injunction decisions in patent cases apply a distinct four-part test because of the motion's procedural posture—namely, the accused infringer's liability has not yet been determined, so the patentee's likelihood of success must be considered as part of the court's analysis. *See* Trebro Mfg., Inc. v. Firefly Equip., LLC, 748 F.3d 1159, 1165 (Fed. Cir. 2014) ("A plaintiff seeking a preliminary injunction must establish that he is likely to succeed on the merits, that he is likely to suffer irreparable harm in the absence of preliminary relief, that the balance of equities tips in his favor, and that an injunction is in the public interest." (quoting Winter v. Nat. Res. Def. Council, Inc., 555 U.S. 7, 20 (2008))). In addition, grants of preliminary injunctions appear to be significantly less frequent than permanent injunctions. *See* Chien & Lemley, *supra* note 2, at 2 (noting that patentees can obtain a preliminary injunction only "rarely"). *But cf.* M. A. Cunningham, *Preliminary Injunctive Relief in Patent Litigation*, 35 IDEA J.L. & Tech. 213, 231 (1995) (finding that district courts granted preliminary injunctions in slightly over 61% of the time in district court cases between 1982 and 1993).

176. *See* 35 U.S.C. §§ 171–173 (2012) (statutory provisions governing design patents).

decisions on permanent injunctive relief were identified and included in the Decisions Dataset.[177] A list of these decisions is included in Appendix A.

Each injunction decision then was hand coded[178] for a variety of information using standardized coding instructions.[179] Coded information included the names of the litigants,[180] the district court that decided the injunction request,[181] whether the injunction was granted or denied,[182] and other basic information about the case and injunction decision.[183] The patent owner in each case was classified into one of eight different types of entities.[184]

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177. Two cases were counted as each having two separate decisions on permanent injunctive relief: Apple, Inc. v. Motorola, Inc., 869 F. Supp. 2d 901 (N.D. Ill. 2012) (district court denying permanent injunctions for both Motorola and Apple); and O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co., No. 2-04-CV-32 (TJW), 2007 WL 869576 (E.D. Tex. Mar. 21, 2007) (denying permanent injunction), *vacated*, 521 F. 3d 1351, *remanded to* No. 2:04-CV-00032-CE, 2010 WL 8753254 (E.D. Tex. Sept. 27, 2010) (denying permanent injunction again after remand from the Federal Circuit).

178. Several student research assistants conducted an initial draft of the coding. The author then personally reviewed the coding decisions for each case and made a final decision for all variables. The coding process took several hundred hours of time in the aggregate. *See* Allison et al., *supra* note 170, at 1773–74 (explaining that "[c]oding of outcomes, especially in patent cases, is notoriously difficult and time consuming"); *see also* Heise, *supra* note 157, at 829 ("Unfortunately, data gathering is frequently labor-intensive and time-consuming and, consequently, often quite expensive." (footnote omitted)).

179. In empirical research, written coding instructions are preferred so that all coders apply the same criteria for each coding decision. This helps promote consistency in coding and serves as "a check against looking, consciously or not, for confirmation of predetermined positions." Hall & Wright, *supra* note 166, at 81; *see also* Lee Epstein & Andrew Martin, *Coding Variables*, *in* 1 ENCYCLOPEDIA OF SOCIAL MEASUREMENT 321, 325 (Kimberly Kempf-Leonard ed., 2005) (explaining that "the overriding goal of a codebook is to minimize human judgment—to leave as little as possible to interpretation"). In addition, written coding instructions are desirable "because the scientific standard of replicability requires a written record of how categories were defined and applied." Hall & Wright, *supra* note 166, at 109. A copy of the author's written coding instructions are available upon request.

180. Variable names are listed in capital letters and brackets in the following footnotes. String variables were used for the name of the plaintiff [PLAINTIFF] and the defendant [DEFENDANT] in the case. If multiple plaintiffs or defendants existed, only the first-named party was used. The type of the patent owner—for instance, whether it was a PAE—was also classified as a separate variable, as explained in more detail below. *See infra* note 184.

181. The district court was initially recorded as a string variable [DISTRICT] using a three- or four-letter abbreviation consistent with PACER Case Locator. *See* U.S. Courts, *Individual Court Sites*, PACER, https://www.pacer.gov/psco/cgi-bin/links.pl (last visited Mar. 11, 2016). This string variable was then encoded into a separate, categorical (numeric) variable [DISTRICT_N] for use in statistical analysis.

182. This was coded as a binary variable [INJUNCTION] indicating whether a permanent injunction was granted for at least one claim of the patent(s)-in-suit.

183. These variables included the docket number for the case [DOCKET], a citation to the injunction decision in Westlaw or PACER [CITE], and the date of the injunction decision [DATE].

184. Each patent holder for this variable [PATENTEE] was coded into one of the following categories: "(1) University; (2) Individual Inventor; (3) Large Patent Aggregator; (4) Failed Operating or Start-up Company; (5) Patent Holding Company; (6) Operating Company; (7) IP Holding Company Owned by Operating Company; and (8) Technology Development Company." These classifications were adopted from a recent empirical study by several patent

The technological field of the asserted patent(s),[185] whether the patent(s)-in-suit claimed a business method,[186] and whether the case involved a claim of infringement by a pharmaceutical manufacturer under the Hatch–Waxman Act[187] were also captured. The district court's conclusions on each of the four *eBay* factors were coded as well.[188] Finally, the Decisions Dataset included other factors potentially related to decisions on injunctive relief, such as whether the litigants were found to be competitors,[189] whether the patent holder had licensed or offered to license the patent(s)-in-suit to others,[190] whether the district court found that the patented invention was a "small component" of the accused product,[191] and whether the infringer willfully infringed the patent(s)-in-suit.[192]

A second dataset consisting of the patents-in-suit at issue in these injunctions decisions (the "Patents Dataset") was also created to help determine if these patents' characteristics were correlated with the outcomes of these injunction decisions.[193] The Patents Dataset includes 392 separate U.S. patents.[194] In addition to the outcome on injunctive relief for each

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scholars on the types of patent holders in patent litigation. *See* Christopher A. Cotropia, Jay P. Kesan, and David L. Schwartz, *Unpacking Patent Assertion Entities (PAEs)*, 99 MINN. L. REV. 649, 667–70 (2014) (defining each category). The author used information from the complaints and other publicly available sources, such as the patentee's website, to make classification decisions for this variable. *Id.* at 667–68.

185. This variable [TECH] was broken down into 9 different technological categories: (1) Computer Software; (2) Electronics; (3) Electrical; (4) Mechanical, (5) Chemical; (6) Biotechnology, (7) Drugs; (8) Medical Devices, and (9) Other. These categories were modified from John R. Allison, Mark A. Lemley & Joshua Walker, *Extreme Value or Trolls on Top? The Characteristics of the Most-Litigated Patents*, 158 U. PA. L. REV. 1, 6–8 (2009).

186. This was coded as a binary variable [BUSMETHOD].

187. This was coded as a binary variable [ANDA]. *See* Drug Price Competition and Patent Term Restoration Act of 1984, Pub. L. No. 98-417, 98 Stat. 1585 (codified as amended at 21 U.S.C. § 355(j) (1984) and 35 U.S.C. § 271(e) (1984)) (commonly known as the Hatch–Waxman Act). For an overview of patent litigation under the Hatch–Waxman Act, see FED. JUDICIAL CTR., PATENT CASE MANAGEMENT JUDICIAL GUIDE 10-1 to 10-11 (Peter S. Menell et al. eds., 2009).

188. These were coded as binary variables: (1) irreparable harm [FACTOR1]; (2) inadequate remedy at law [FACTOR2]; (3) balance of hardships [FACTOR3]; and (4) the public interest would not be disserved by an injunction [FACTOR4].

189. This was coded as a binary variable [COMPETE]. Parties were classified as competitors if they competed in a product market at any time during the patent term. Licensing of the patent alone was considered insufficient to demonstrate competition. In addition, litigation involving generic pharmaceutical manufacturers who indicated an intent to compete with an original (brand name) drug manufacturer by filing an Amended New Drug Application ("ANDA") under the Hatch–Waxman Act were classified as competitors.

190. This was coded as a binary variable [LICENSE]. Exclusive licenses by the patent owner to a co-plaintiff were excluded.

191. This was coded as a binary variable [COMPONENT].

192. This was coded as a binary variable [WILLFUL].

193. *See supra* notes 160, 164 and accompanying text.

194. Four patents are included in the dataset twice (for a total of 396 entries) because they were either the subject of multiple patent lawsuits that resulted in a contested injunction decision or because they were the subject of more than one decision on injunctive relief in the same case.

patent, several variables regarding each patent-in-suit were hand coded. These variables include the total number of claims in the patent,[195] the number of prior art references cited by the patent,[196] the number of predecessor (parent) applications for the issued patent,[197] whether the original patentee was a small entity,[198] and the number of years between the patent's issuance and the injunction decision.[199] The National Bureau of Economic Research ("NBER") technology classification for each patent was included as well.[200] Finally, the number of subsequent citations by later-issued U.S. patents to each patent-in-suit (i.e., forward citations), which is a common proxy for patent value and quality,[201] was coded.[202]

C. *LIMITATIONS*

Before discussing the study's findings, it is important to note several potential limitations of the methodology employed.[203] First, patent litigation

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These patents are: U.S. Patent No. 5,790,512; U.S. Patent No. 5,972,401; U.S. Patent No. 6,259,615; and U.S. Patent No. 6,396,722.

195. This was coded as a numeric variable [CLAIMS].

196. This was coded as a numeric variable [PRIORART].

197. This was coded as a numeric variable [PARENT]. "Parent" applications included continuation and continuation-in-part applications. *See* 35 U.S.C. §§ 120, 361–376 (2012); *see id.* § 121 (PCT applications). It excluded other foreign patent application filings, provisional patent applications, and reissue/reexamination applications.

198. This was coded as a binary variable [SMALL]. A small entity is defined as an individual, small business concern, or nonprofit organization (including a university) who meet certain criteria. 37 C.F.R. § 1.27(a) (2010). Small entities are entitled to a 50% reduction in patent fees. 35 U.S.C. § 41(h) (2012); 37 C.F.R. § 1.27(b) (2010).

199. This was coded as a numeric variable [ISSUE2INJUNCTION].

200. This variable [TECH] coded for NBER's six primary technology categories: (1) Chemical (excluding Drugs); (2) Computer and Communications; (3) Drugs and Medical; (4) Electrical and Electronics; (5) Mechanical; and (6) Other. *See* Bronwyn H. Hall et al., *The NBER Patent Citations Data File: Lessons, Insights, and Methodological Tools* 13, 41–42 (Nat'l Bureau of Econ. Research, Working Paper No. 8498, 2001), http://papers.nber.org/papers/w8498.pdf.

201. *See generally* Bronwyn Hall et al., *Market Value and Patent Citations*, 36 RAND J. ECON. 16 (2005). *But see* David S. Abrams et al., *Patent Value and Citations: Creative Destruction or Strategic Disruption?* (Pa. Inst. for Econ. Research, Working Paper 13-065, 2013), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2351809 (questioning this assumption); Alan C. Marco, *The Dynamics of Patent Citations*, 94 ECON. LETTERS 290, 294 (2007) (finding an unobserved heterogeneity in the rate of patent citations because forward citations to a patent may beget more forward citations).

202. The number of forward citations to a patent by later-issued U.S. patents (as of July 2014) is included in the "Referenced By" portion of each patent's page on Google Patents. *See generally* Patents, GOOGLE.COM, https://www.google.com/?tbm=pts&gws_rd=ssl (last visited Mar. 11, 2015) (search "Patents" in the search field). This information was then captured in two separate numeric variables—one that included the total number of forward citations [FWDCITE], and a second that captured the average number of forward citations per year since the patent's issuance [FWDCITEPERYEAR]. The latter variable was included to address the problem of truncation due to unobserved future citation behavior.

203. *See* William M. Sage, *Judicial Opinions Involving Health Insurance Coverage: Trompe L'oeil or Window on the World?*, 31 IND. L. REV. 49, 61–68 (1998) (noting that "[e]mpirical studies of judicial decisions suffer from significant limitations," including sample size, time lag, selection

is extremely complex and frequently involves "numerous issues raised by the parties," such as claim construction, infringement (direct and indirect), various grounds for invalidity (including anticipation, obviousness, and patentable subject matter), other defenses (such as inequitable conduct, exhaustion, laches, and prosecution history estoppel), and remedies (including injunctive relief and damages).[204] Moreover, the underlying technology and the parties' strategic objectives can vary greatly as well.[205] As a result, it can be "difficult to make generalizations about patent litigation from the study of individual cases."[206]

Second, this study is based primarily on litigated court decisions, which are subject to selection effects. "[T]he selection effect refers to the proposition that the selection of tried cases is not a random sample of the mass of underlying cases."[207] This is because "[c]ases only go to trial when the parties substantially disagree on the predicted outcome."[208] Thus, when the applicable legal standard clearly favors one side or the other, parties tend to settle their disputes rather than incur the expense of litigation,[209] which can be considerable, particularly in patent litigation.[210] As a result, "the disputes selected for litigation . . . will constitute neither a random nor a representative sample . . . of all disputes."[211]

Here, the court decisions studied are not representative of all patent disputes, or even all patent infringement litigation, because they require that the patentee have both filed suit and then prevailed on liability (i.e., infringement and validity), which occurs in only about a quarter of all cases litigated to judgment.[212] The selection criteria also require that the winning

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bias, and unstated rationales, but "[d]espite these limitations, the study of judicial decisions has redeeming qualities"); David L. Schwartz, *Explaining the Demise of the Doctrine of Equivalents*, 26 BERKELEY TECH. L.J. 1157, 1187 (2011) ("All projects involving empirical studies of legal decisions have limitations . . . .").

204. Schwartz, *supra* note 203, at 1187.

205. *Id.*

206. *Id.*

207. Kevin M. Clermont & Theodore Eisenberg, *Trial by Jury or Judge: Transcending Empiricism*, 77 CORNELL L. REV. 1124, 1129 (1992) (alteration in original) (quoting Theodore Eisenberg, *Testing the Selection Effect: A New Theoretical Framework with Empirical Tests*, 19 J. LEGAL STUD. 337, 337 (1990)). For the seminal article on the "selection effect," see generally George L. Priest & Benjamin Klein, *The Selection of Disputes for Litigation*, 13 J. LEGAL STUD. 1 (1984). *But see* Theodore Eisenberg, *Testing the Selection Effect: A New Theoretical Framework with Empirical Tests*, 19 J. LEGAL STUD. 337, 339–40 (1990) (concluding that the refined Priest/Klein hypothesis "can be rejected as a description of all civil litigation" but that it may accurately describe products liability litigation).

208. Clermont & Eisenberg, *supra* note 207, at 1129.

209. *Id.*

210. The most recent edition of the *AIPLA Report of the Economic Survey* reports that median litigation costs exceed $5 million in patent infringement suits where more than $25 million is at stake. AM. INTELLECTUAL PROP. LAW ASS'N, AIPLA 2015 REPORT OF THE ECONOMIC SURVEY 37 (2015).

211. Priest & Klein, *supra* note 207, at 4.

212. *See* Allison et al., *supra* note 170, at 1787–88 & fig.5 (finding that patentees prevailed in only 26% of cases litigated to final judgment that were filed in 2008 and 2009).

patentee seek a permanent injunction[213] instead of monetary damages to compensate for future infringement, such as an ongoing royalty.[214] The selection effect is compounded by the asymmetric stakes of injunctive relief, which typically "harms the infringer more than it benefits the patentee."[215] These factors may result in underrepresentation of certain types of patent cases. For instance, injunction decisions involving PAEs appear to be underrepresented in the Decisions Dataset, as they are patentees in approximately 12% (25 of 218 cases) of permanent injunction decisions, but PAE litigation may represent as much as almost half of all patent cases filed.[216] Thus, selection effects may have a significant, although difficult to ascertain, impact on the cases studied.

Third, there are several limitations inherent in content analysis. For example, if the coding instructions are imprecise or include room for subjectivity, this could introduce errors and negatively impact reproducibility.[217] However, this concern can be mitigated by creating, pilot testing, and implementing clear written coding rules that all coders must follow, as was done in this study.[218] Another possible concern is that judicial opinions may exhibit circularity. Circularity occurs when the court's opinion incompletely or selectively describes the relevant facts to justify its outcome.[219] Thus, "the facts and reasons found in [the court's] opinion might or might not accurately describe the real world facts or the true nature of the judge's

213. *See* Gupta & Kesan, *supra* note 132, at 8 fig.2 (finding that the filing of permanent injunction motions in patent cases decreased from 3.3% of all cases in 2000 to 0.6% in 2012).

214. *See* Paice LLC v. Toyota Motor Corp., 504 F.3d 1293, 1314 (Fed. Cir. 2007) ("Under some circumstances, awarding an ongoing royalty for patent infringement in lieu of an injunction may be appropriate."). *See generally* Christopher B. Seaman, *Ongoing Royalties in Patent Cases After* eBay*: An Empirical Assessment and Proposed Framework*, 23 TEX. INTELL. PROP. L.J. 203 (2015) (reporting the results of an empirical study of ongoing royalty awards after *eBay*).

215. David L. Schwartz, *Pre*-Markman *Reversal Rates*, 43 LOY. L.A. L. REV. 1073, 1105 (2010).

216. *See* Cotropia et al., *supra* note 184, at 674 fig.1 (combining percentage of cases filed by Large Aggregators, Failed Operating Company/Start-up, Patent Holding Company, and Technology Development Company for 2012); *see also infra* note 243 and accompanying text. For instance, one recent study finds that operating companies prevail on the merits in patent litigation almost twice as often as non-practicing entities, thus suggesting that fewer PAEs would be in a position to seek an injunction. *See* John R. Allison, Mark A. Lemley & David Schwartz, *How Often Do Non-Practicing Entities Win Patent Suits?* BERKELEY TECH. L.J. (forthcoming) (Stanford Law & Econ. Olin Working Paper No. 485, at 42 tbl.6a), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2750128 (finding that operating companies won 30.6% of definitive patent rulings in cases filed in 2008 and 2009 compared to only 14.4% of NPEs, and this difference was statistically signficant).

217. *See* Rantanen, *supra* note 170, at 723–24.

218. *See* Hall & Wright, *supra* note 166, at 109–16; *see also supra* note 179 and accompanying text (explaining the importance of written coding rules).

219. Hall & Wright, *supra* note 166, at 95–96; *see also* Ann Juliano & Stewart J. Schwab, *The Sweep of Sexual Harassment Cases*, 86 CORNELL L. REV. 548, 559 (2001) ("The judicial opinion is the judge's story justifying the judgment. The cynical legal realist might say that the facts the judge chooses to relate are inherently selective and a biased subset of the actual facts of the case.").

decision-making process."[220] In addition, information about the court's reasoning may not be publicly available—for instance, if the opinion granting the injunction is under seal,[221] or if the court's reasoning for granting or denying an injunction is given orally in court and a transcript of the proceeding is inaccessible.[222]

Fourth, this study is limited to district court decisions; as a result, it does not consider the outcome of any appeal to the U.S. Court of Appeals for the Federal Circuit or the reasoning by that court for its decision.[223] Thus, if a decision on injunctive relief is vacated or reversed on appeal, this information is not included in the Decisions Dataset.[224] Finally, this study treats permanent injunction decisions as a binary variable (granted or denied) without considering the timing, duration, or scope of any injunction entered.[225]

V. RESULTS AND DISCUSSION

This Part first describes various findings from the Decisions Dataset and the Patents Dataset, respectively.[226] It then discusses some implications of these findings.

A. DECISIONS DATASET

1. Overall Grant Rate

The overall grant rate for contested permanent injunction requests following *eBay* was a principal issue investigated. As shown in Figure 1, below,

220. Hall & Wright, *supra* note 166, at 95; *see also* Rantanen, *supra* note 170, at 724 ("An opinion author might present a biased view of the facts or might not reveal his or her true reasoning.").

221. *See, e.g.*, Order, O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co., No. 2-04-CV-32 (TJW) (E.D. Tex. July 2, 2010), ECF No. 662 (sealed decision on injunctive relief). *See generally* Bernard Chao & Derigan Silver, *A Case Study in Patent Litigation Transparency*, 2014 J. DISPUTE RESOL. 83 (2014) (describing the problem of lack of transparency in patent litigation proceedings).

222. *See, e.g.*, Transcript of Hearing on Post-Trial Motions, Affinity Labs of Tex., LLC v. BMW N.A., LLC, No. 9:08-CV-00164 (E.D. Tex. Feb. 14, 2011), ECF No. 546 (injunction hearing transcript under seal); Transcript of Post-Trial Motion Hearing, Finisar Corp. v. DirectTV Group Inc., No. 1:05-CV-00264 (E.D. Tex. July 6, 2006), ECF Nos. 318, 334 (transcript of court hearing unavailable on PACER).

223. The author is collaborating with Professor Ryan T. Holte on an empirical study of Federal Circuit decisions on permanent injunctive relief following *eBay* for the cases contained in this dataset.

224. *See, e.g.*, Douglas Dynamics, LLC v. Buyers Prods. Co., 747 F. Supp. 2d 1063 (W.D. Wis. 2010) (denying permanent injunction), *rev'd and remanded to* 717 F.3d 1336, 1344–46 (Fed. Cir. 2013); Presidio Components Inc., v. Am. Tech. Ceramics Corp., 723 F. Supp. 2d 1284 (S.D. Cal. 2010) (denying permanent injunction), *vacated and remanded in relevant part to* 702 F.3d 1351 (Fed. Cir. 2012) (holding the district court clearly erred in concluding that no irreparable injury existed and remanding to district court); Robert Bosch, LLC v. Pylon Mfg. Corp., 748 F. Supp. 2d 383 (D. Del. 2010) (denying permanent injunction), *rev'd and remanded to* 659 F.3d 1142 (Fed. Cir. 2011).

225. *See* Golden, *supra* note 28, at 1405–09 (raising concerns about the scope of permanent injunctions in patent cases).

226. All data analysis was conducted using Stata/IC 14.0.

permanent injunctions were granted slightly less than three-quarters of the time (72.5%) during the time period studied (May, 2006 to December, 2013). This figure is consistent with previous empirical scholarship on the rate of permanent injunctions following *eBay*, which range between 72% and 75%.[227] However, it represents a decline from the state of play before *eBay*, when injunctions were granted to prevailing patentees in almost all cases.[228]

Figure 1. Permanent Injunction Grant Rate: May 2006 to December 2013

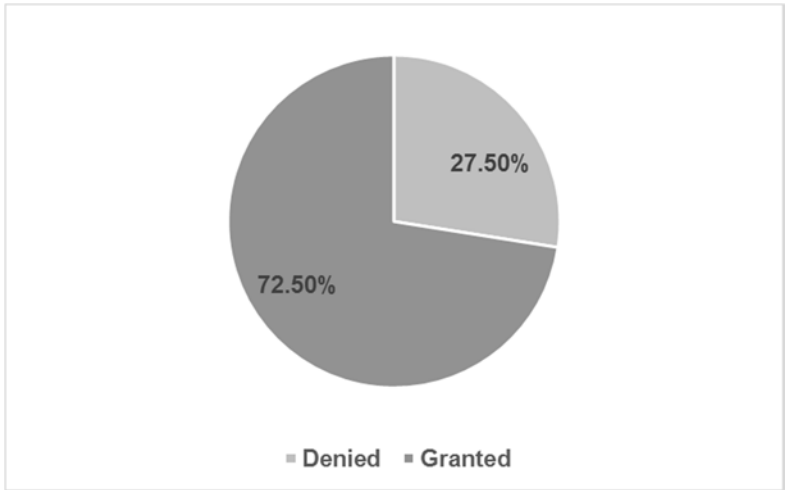
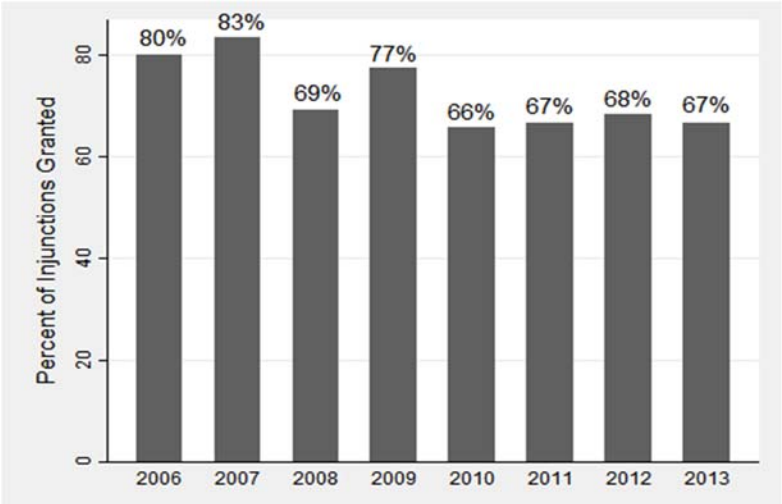


Figure 2 illustrates the injunction grant rate by year. Notably, injunctions were granted over 80% of the time in the 1.5 year period following *eBay* (2006–2007), but after that, injunctions were generally granted slightly less than 70% of the time (the exception is 2009, where 77% of contested injunction motions were granted).

227. *See* Chien & Lemley, *supra* note 2, at 9 (finding that permanent injunctions were "granted about 75%" of the time from July 2006 to August 2011); Grumbles III et al., *supra* note 130, at 26 (finding that permanent injunctions were "granted approximately 72% of" the time between May 2006 and May 2009); Gupta & Kesan, *supra* note 132, at 9 fig.3 (finding that permanent injunctions were granted about 80% of the time between May 2006 and December 2012); *see also* PATSTATS.ORG, *supra* note 133 (finding that permanent injunctions were granted 75% of the time between May 2006 and May 2013).

228. *See supra* notes 74–75 and accompanying text; *see also* Lim & Craven, *supra* note 135, at 798 ("Before *eBay*, courts granted patentees injunctions 95% of the time after finding infringement.").

Figure 2. Permanent Injunction Grant Rate by Year



In sum, the overall injunction grant rates suggest that Chief Justice Roberts's concurring opinion was accurate in contending that injunctive relief would continue to be granted to prevailing patentees "in the vast majority of patent cases."[229] However, as described in more detail below, injunctions are rarely granted in several types of patent disputes, suggesting that these cases have shifted to a liability rule following *eBay*.

2. Grant Rate by Patented Technology

A second issue is whether the injunction grant rate varies based on the field of patented technology. Patent litigation has long varied by industry, with electronics, computer software, pharmaceuticals, and medical devices among the most-litigated technologies.[230] Table 1 depicts the injunction grant rate by technological field.

229. eBay Inc. v. MercExchange, L.L.C., 547 U.S 388, 395 (2006) (Roberts, C.J., concurring).

230. *See* PRICEWATERHOUSECOOPERS LLP, 2014 PATENT LITIGATION STUDY 12 fig.7a (2014), http://www.pwc.com/en_US/us/forensic-services/publications/assets/2014-patent-litigation-study.pdf (listing consumer products as 17% of all patent cases, biotechnology and pharmaceuticals as 14% of all patent cases, computer hardware and electronics at 10% of all patent cases, medical devices as 9% of all patent cases, and software as 7% of all patent cases from 1995–2013).

Table 1. Injunction Grant Rate, by Technology

Technology	Grant Rate	*N*
Biotechnology	100%	4
Pharmaceuticals	92%	25
Other	87%	23
Electrical	83%	12
Chemistry	78%	9
Mechanical	75%	36
Electronics	67%	39
Medical Devices	65%	34
Software	53%	36

As illustrated above, permanent injunctions are almost always granted in cases where the patented technology at issue involves biotechnology (100%) or pharmaceuticals (92%).[231] In contrast, injunctions were granted only about two-thirds of the time for electronics (67%), and for medical devices (65%). Most notably, permanent injunctions were granted only slightly over half the time in cases involving computer software (53%)—a result that was statistically significant.[232]

3. Grant Rate by District

A third issue considered was whether permanent injunction grants varied by district. This is a salient consideration because patentees have significant leeway under the existing venue rules to choose the forum where they wish to litigate.[233] The existing literature suggests that the forum selected can play an

231. In the two pharmaceutical cases where an injunction was not issued, the district court found the patent(s)-in-suit's listing in the Orange Book and final judgment in the patentee's favor was sufficient to protect its right to exclude. *See* Order Denying Motion for Injunctive Relief, Valeant Int'l v. Watson Pharms., Inc., No. 1:10-CV-20526 (S.D. Fla. July 9, 2012), ECF No. 198; Alcon, Inc. v. Teva Pharm., USA, Inc., Civ. No. 06-234-SLR, 2010 WL 3081327 at *2–*3 (D. Del. Aug. 5, 2010).

232. $p = 0.004$ using Pearson's chi-square (χ^2). This result remained statistically significant at the $p < 0.05$ level after imposing a multiple testing penalty (Bonferroni adjustment) for the nine different technology categories.

233. *See* 28 U.S.C. § 1400(b) (2012) (providing that a "patent infringement [action] may be brought in the judicial district where the defendant resides, or where the defendant has committed acts of infringement and has a regular and established place of business"); *id.* § 1391(c)(2) (providing that for venue purposes, an entity is "deemed to reside . . . in any judicial district in which such defendant is subject to the court's personal jurisdiction with respect to the civil action in question"); *In re* TC Heartland LLC, __ F.3d __, 2016 WL 1709433 (Fed. Cir. Apr. 29, 2016) (reaffirming that the patent venue statute, 28 U.S.C. § 1400, incorporated the definition of corporate residence in the general venue statute, 28 U.S.C. § 1391(c)); Kimberly A.

important role in the ultimate outcome of the litigation.[234] Table 2 depicts the injunction grant rates for all districts with at least ten decisions during the relevant time period, with the national average for purposes of comparison.

Table 2. Injunction Grant Rate by District (Minimum of 10 Decisions)

District Court	**Grant Rate**	***N***
District of New Jersey	92%	13
District of Massachusetts	82%	11
Central District of California	73%	11
National Average	72.5%	
Eastern District of Texas	61%	36
Northern District of California	60%	10
District of Delaware	50%	26

Injunction grant rates are far from uniform, ranging from over 90% in the District of New Jersey (92%) to a low of 50% in the District in Delaware. Notably, two districts that are preferred forums for patent assertion entities (PAEs)—the Eastern District of Texas and the District of Delaware[235]—have injunction grant rates that fall below the national average, with the District of Delaware's difference from the national average being statistically

Moore, *Forum Shopping in Patent Cases: Does Geographic Choice Affect Innovation?*, 79 N.C. L. REV. 889, 889–90 (2001) ("[T]he patent jurisdiction and venue statutes allow plaintiffs to bring their patent suits in virtually any district in the country."); *see also* Richard C. Wydick, *Venue in Actions for Patent Infringement*, 25 STAN. L. REV. 551, 551 (1973) ("All too often, patent infringement suits begin with a battle over where the war is to be fought."). Pending legislation in Congress, if adopted, would significantly limit patentees' choice of venue. *See infra* note 356 and accompanying text.

234. *See* Moore, *supra* note 233, at 917–19 & tbl.8 (finding a "significant difference in outcome (patent holder win rate)" among the top ten patent districts); Matthew Sag, *IP Litigation in U.S. District Courts: 1994 to 2014*, 101 IOWA L. REV. 1065, 1104 (2016) (explaining that "the Eastern District of Texas and the District of Delaware have consciously adopted norms, practices, and procedures" that make these forums "better for patent plaintiffs and worse for patent defendants"). *See generally* Mark A. Lemley, *Where to File Your Patent Case*, 38 AIPLA Q.J. 401 (2010).

235. *See* Daniel Klerman & Greg Reilly, *Forum Selling*, 89 S. CAL. L. REV. 241, 268 (2016) ("Notably, the Eastern District of Texas is especially popular with patent assertion entities . . . ."); Yan Leychkis, *Of Fire Ants and Claim Construction: An Empirical Study of the Meteoric Rise of the Eastern District of Texas as a Preeminent Forum for Patent Litigation*, 9 YALE J.L. & TECH. 193, 214 (2007) (finding that patent trolls "have shown a clear preference for the Eastern District [of Texas] over other venues"); Mark Liang, *The Aftermath of* TS Tech*: The End of Forum Shopping in Patent Litigation and Implications for Non-Practicing Entities*, 19 TEX. INTELL. PROP. L.J. 29, 42–43 tbl.1 (2010) (listing the Eastern District of Texas as the top forum for infringement suits by non-practicing entities); Fabio E. Marino & Teri H.P. Nguyen, *Has Delaware Become the "New" Eastern District of Texas? The Unforeseen Consequences of the AIA*, 30 SANTA CLARA HIGH TECH. L.J. 527, 529–30 (2014) ("Recent survey data on new patent suit filings suggests that [non-practicing entities] have found a new 'forum of choice' in the District of Delaware. . . .").

significant.[236] Conversely, the District of New Jersey has a large proportion of pharmaceutical litigation, which may help explain its high injunction grant rate.[237]

4. Grant Rate by PAE Status

Fourth, this study attempted to determine whether injunction grant rates varied based on the identity of the patentee. The past decade has seen a significant increase in patent holders who do not manufacture products, but instead attempt to monetize their patent portfolio through litigation and licensing.[238] These actors, commonly referred to as PAEs, have been highly controversial; some scholars have argued that PAEs are costly and harmful to innovation and the broader economy,[239] while others contend that at least some PAEs play a valuable role by helping compensate small inventors and companies for their innovations.[240] This debate is currently playing out in numerous arenas, most notably in Congress where legislation to curb so-called "patent trolls" is being considered.[241]

This study classified each patent holder into one of eight categories based on a classification system developed in a recent empirical study by Christopher Cotropia, Jay Kesan, and David Schwartz regarding the role of PAEs in the patent system.[242] It then aggregated several of these categories

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236. $p = 0.006$ using Pearson's chi-square (χ^2). This result remained statistically significant at the $p < 0.05$ level after imposing a multiple testing penalty (Bonferroni adjustment) for the six top districts being studied.

237. *See* Eric H. Weisblatt & Claire Frezza, *Who to Sue and Where in ANDA Litigation: Personal Jurisdiction Post-*Daimler, 69 FOOD & DRUG L.J. 351, 351 (2014) (noting that pharmaceutical patent holders in Abbreviated New Drug Application (ANDA) litigation often sue in the District of New Jersey).

238. *See* eBay Inc. v. MercExchange, L.L.C., 547 U.S. 388, 396 (2006) (Kennedy, J., concurring) ("An industry has developed in which firms use patents not as a basis for producing and selling goods but, instead, primarily for obtaining licensing fees."); Cotropia et al., *supra* note 184, at 649–50.

239. *See* Bessen & Meurer, *supra* note 8, at 389 (estimating the "direct, accrued costs of NPE patent assertions totaled $29 billion in 2011"); Sannu K. Shrestha, *Trolls or Market-Makers? An Empirical Analysis of Nonpracticing Entities*, 110 COLUM. L. REV. 114, 129 (2010) (noting that NPEs "may reduce social welfare" or "have an efficiency-reducing effect").

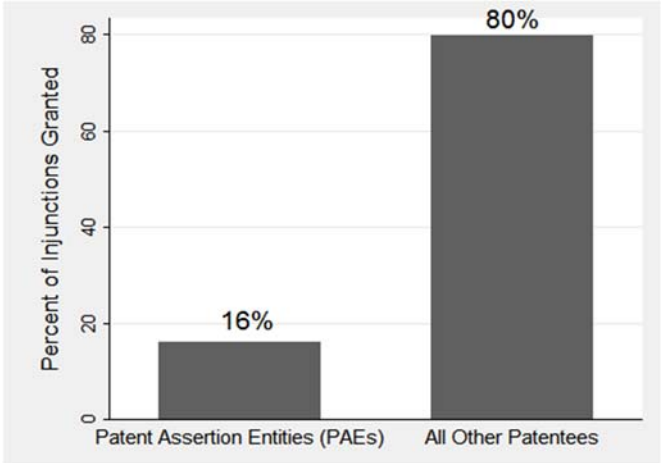
240. *See, e.g.*, FED. TRADE COMM'N, *supra* note 8, at 9 ("Some argue that PAEs encourage innovation by compensating inventors . . . ."); Peter N. Detkin, *Leveling the Patent Playing Field*, 6 J. MARSHALL REV. INTELL. PROP. L. 636, 636 (2007) ("Small companies and individuals have few good options for licensing their patents or developing their inventions without interference from infringers."); James F. McDonough III, Comment, *The Myth of the Patent Troll: An Alternative View of the Function of Patent Dealers in an Idea Economy*, 56 EMORY L.J. 189, 190 (2006) (contending that PAEs "actually benefit society" by "act[ing] as a market intermediary in the patent market . . . provid[ing] liquidity, market clearing, and increased efficiency to the patent markets"). *But see* Robert P. Merges, *The Trouble with Trolls: Innovation, Rent-Seeking, and Patent Law Reform*, 24 BERKELEY TECH. L.J. 1583, 1588 (2009) (questioning arguments that allege that all PAEs are beneficial to economic activity).

241. *See, e.g.*, Innovation Act, H.R. 9, 114th Cong. (2015); PATENT Act, S. 1137, 114th Cong. (2015).

242. *See* Cotropia et al., *supra* note 184, at 654, 660–71; *see also supra* note 184 (listing the

into a single PAE category for data analysis.[243] Figure 3 shows the injunction grant rates for PAEs compared to all other patentees.

Figure 3. Injunction Grant Rate by PAE Status



As illustrated above, PAEs rarely obtained a permanent injunction after prevailing on liability (16%; 4 of 25 cases),[244] while other patentees are successful in obtaining injunctions in the vast majority of cases (80%; 154 of 193 cases). This difference in grant rates was highly statistically significant,

eight categories).

243. This was coded as a binary variable [PAE]. The following categories from Cotropia et al., *supra* note 184, were classified as PAEs for purposes of data analysis: Large Patent Aggregator; Failed Operating or Start-Up Company; Patent Holding Company; and Technology Development Company. Universities were excluded from the PAE category because their primary business is the creation of knowledge and education of students, not the assertion of patents. *See* FED. TRADE COMM'N, *supra* note 8, at 8 n.5 ("Taken literally, the term NPE encompasses patent owners that primarily seek to develop and transfer technology, such as universities . . . . Patent assertion entities do not include this latter group."); *see also* Mark A. Lemley, *Are Universities Patent Trolls?*, 18 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 611, 612 (2008) ("Universities are non-practicing entities. They share some characteristics with trolls, at least if the term is broadly defined, but they are not trolls."). Individual inventors were also excluded from the PAE category because at least some individual inventors actually make and/or sell a product that practices the patented technology or attempt to do so. *See* Christopher A. Cotropia, *The Individual Inventor Motif in the Age of the Patent Troll*, 12 YALE J.L. & TECH. 52, 63–64 (2009) (contending that some individual inventors "are legitimately patent trolls" but that "a significant number [are] certainly not"). Even if both of these categories of patentees were classified as PAEs, the difference would remain highly statistically significant ($p < 0.001$).

244. 25 district court cases in the Decisions Dataset were found to involve PAEs. PAEs were granted injunctions in only 4 of these 25 cases. *See, e.g.*, i4i Ltd. P'ship v. Microsoft Corp., 670 F. Supp. 2d 568 (E.D. Tex. 2009); 800 Adept, Inc. v. Murex Sec., Ltd., 505 F. Supp. 2d 1327 (M.D. Fla. 2007); Commonwealth Sci. & Indus. Research Organisation v. Buffalo Tech. Inc., 492 F. Supp. 2d 600 (E.D. Tex. 2007); Reporter's Transcript of Hearing on Post-Trial Motions, Anascape, Ltd. v. Microsoft Corp., No. 9:06-cv-00158 (E.D. Tex. July 18, 2008), ECF No. 395.

suggesting that it was not due to chance alone.[245] This finding appears to lend weight to the view expressed in Justice Kennedy's concurrence that district courts should be reluctant to grant injunctions when the patentee is using the patent "not as a basis for producing and selling goods but, instead, primarily for obtaining licensing fees."[246] It also is consistent with prior studies finding that PAEs are rarely granted injunctions.[247]

Even in the rare cases where a PAE was granted an injunction, the patentee was generally a failing or failed operating company that had previously sought to commercialize the patent and thus was only a non-practicing entity at the time of the injunction decision.[248] For instance, in *800 Adept, Inc. v. Murex Securities*, the district court found that the patentee and the defendants were "competitors in the market for telephone call routing services,"[249] although at the time of the injunction the patentee—who faced significant financial challenges—only had a "small share of that market"[250] and was simultaneously engaged in a widespread patent litigation campaign against numerous competitors and end users (mainly former customers) of the patented technology.[251] The district court concluded that the defendants' attempts to reduce the patentee's market share supported a finding of irreparable harm.[252] Similarly, in *Anascape, Ltd. v. Microsoft Corp.*, the district court found irreparable harm and granted an injunction because although the patentee did not presently offer a product that practiced the patented technology (an analog stick for a video game system controller), it had been denied what the district court called "the opportunity to go forward"—in other words, the ability to introduce its own competing controller—due to

245. $p < 0.001$ using Pearson's chi-square (χ^2).

246. eBay Inc. v. MercExchange, L.L.C., 547 U.S. 388, 396 (2006) (Kennedy, J. concurring).

247. *See* Chien & Lemley, *supra* note 2, at 10 fig.1 (finding that PAEs were granted injunctions in 26% of all decisions, including only 7% of cases where the injunction request was contested by the infringer); *see also* Shrestha, *supra* note 239, at 134–35 (noting the "post-*eBay* trend" that "[d]istrict courts in an increasing number of cases have refused to issue injunctions when the patent owner did not practice the invention").

248. *See* Cotropia et al., *supra* note 184, at 657 (defining "Failed Operating Companies" as firms that "either manufactured products or seriously attempted to break into the market. For some reason, these entities failed at selling or developing products or services. They retained their original patents, and later seek to enforce them.").

249. *800 Adept, Inc.*, 505 F. Supp. 2d at 1337.

250. *Id.* at 1338.

251. For example, in 2007, 800 Adept sued nearly two dozen defendants for patent infringement in the Eastern District of Texas. *See, e.g.*, Complaint for Patent Infringement, 800 Adept, Inc. v. Enterprise Rent-A-Car Co., No. 5:07-CV-00057 (E.D. Tex. filed Apr. 10, 2007); Complaint for Patent Infringement, 800 Adept, Inc. v. AT&T Mobility, LLC, No. 5:07-CV-00023 (E.D. Tex. filed Feb. 6, 2007).

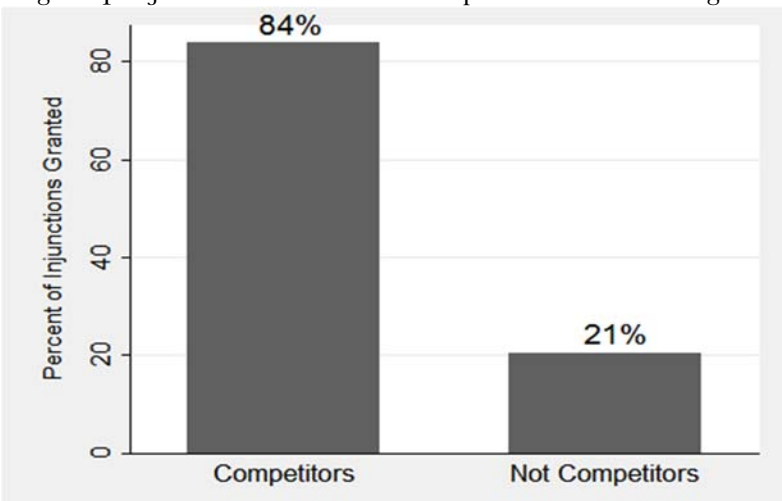
252. *800 Adept, Inc.*, 505 F. Supp. 2d at 1337. The injunction was later vacated on appeal by the Federal Circuit because the defendants' services were found to not infringe under the correct claim construction. 800 Adept, Inc. v. Murex Sec., Ltd., 539 F.3d 1354, 1367 (Fed. Cir. 2008).

defendant's infringement.[253] And in *i4i Limited Partnership v. Microsoft Corp.*, the district court found that Microsoft's inclusion of the patented custom XML technology into Microsoft Word created irreparable harm because it "would not only directly compete with [the patentee]'s products, but render them obsolete within the market."[254] At the time of the injunction, however, the patentee's primary business appeared to be patent litigation.[255] These cases suggest that a patentee who has attempted to commercialize its invention—even if that effort was ultimately unsuccessful—has a better chance than other PAEs of demonstrating irreparable harm, which is a critical part of the *eBay* analysis.

5. Grant Rate and Competition Between Litigants

Whether the litigants were competitors is another relevant consideration identified in the literature.[256] This issue was studied as well. The different grant rates for competitors and non-competitors are depicted in Figure 4.

Figure 4. Injunction Grant Rates: Competition Between Litigants



Again, there was a large disparity in injunction grant rates between these two categories of patentees. Patent holders who competed with an infringer were granted a permanent injunction in the overwhelming majority of cases (84%; 150 of 179 cases), while patentees who were not market competitors

253. Reporter's Transcript of Hearing on Post-Trial Motions, *supra* note 244, at 124–25.

254. i4i Ltd. P'ship v. Microsoft Corp., 670 F. Supp. 2d 568, 599 (E.D. Tex. 2009).

255. For example, i4i Limited Partnership's website is almost exclusively devoted to its litigation with Microsoft, which culminated in a $240 million award that was affirmed on appeal. *See i4i v. Microsoft*, I4I, http://www.i4ilp.com (last visited Mar. 12, 2016); *see also* i4i Ltd. P'ship v. Microsoft Corp., 598 F.3d 831 (Fed. Cir. 2010), *aff'd*, 131 S. Ct. 2238 (2011).

256. *See supra* notes 139–44, 189 and accompanying text.

rarely succeeded in obtaining injunctive relief (21%; 8 of 39 cases).[257] This difference was statistically significant as well.[258] Thus, as one district court explained, "*eBay* has changed little where a prevailing plaintiff seeks an injunction to keep an infringing competitor out of the market."[259]

Medical device manufacturers represented one notable group of competitors who were commonly denied injunctions post-*eBay*, as nearly a third of medical device firms who sued a competitor were denied an injunction (31%; 10 of 32 cases). In many of these cases, the district court found that the patentee failed to satisfy one or both of the final two *eBay* factors, balance of hardships and public interest.[260] In other words, although these patentees usually could demonstrate irreparable harm, the district court nonetheless denied an injunction because removing the infringing product from the market might adversely affect patients' health and safety.[261]

In several other cases involving competitors, the district court declined to grant an injunction because the patented technology was only a "small component" of the infringing product, thus following the reasoning of Justice Kennedy's concurrence that injunctions in such cases might result in holdup.[262] And one case denied an injunction between competitors because

257. For district court opinions in the Decisions Dataset, 179 were found to involve competitors, while 39 cases did not involve competitors.

258. $p < 0.001$ using Pearson's chi-square (χ^2). This difference remains statistically significant if Hatch–Waxman (pharmaceutical) litigation is excluded.

259. Amgen, Inc. v. F. Hoffman–La Roche Ltd., 581 F. Supp. 2d 160, 210 (D. Mass. 2008), *aff'd in part, vacated in part, and remanded by* 580 F.3d 1340 (Fed. Cir. 2009).

260. *See, e.g.*, Smith & Nephew, Inc. v. Interlace Med., Inc., 955 F. Supp. 2d 69, 79–80 (D. Mass. 2013) (holding that "the balance of hardships weighs against a permanent injunction" because it would cause the loss of over $250 million in investment and over 150 employees would lose their jobs and that "the public interest weighs against granting a permanent injunction" because "at least some doctors and their patients will suffer a negative impact if [the infringer] is enjoined from selling its medical device"); Conceptus, Inc. v. Hologic, Inc., No. C 09-02280 WHA, 2012 WL 44064, at *3 (N.D. Cal. Jan. 9, 2012) (denying an injunction because the infringer demonstrated "substantial hardship . . . would occur if a permanent injunction is imposed" and "[t]he public interest would undoubtedly be harmed by an injunction" because it "would leave only one product" on the market and thus "would have eliminated an important alternative for patients"); Respironics, Inc. v. Invacare Corp., No. 04-0336, 2008 WL 111983, at *6 (W.D. Pa. Jan. 8, 2008) (holding that the patentee failed to show that either "the balance of hardships" or "the public interest" weighed in favor of granting an injunction).

261. *See, e.g.*, Tyco Healthcare Grp. LP v. Ethicon Endo-Surgery, Inc., 936 F. Supp. 2d 30, 86 (D. Conn. 2013) (holding that granting an injunction was contrary to the public interest because it "would pull many devices that are presently used in surgery off the market"); Johnson & Johnson Vision Care, Inc. v. CIBA Vision Corp., 712 F. Supp. 2d 1285, 1292 (M.D. Fla. 2010) (concluding that "an injunction will create consequential medical, practical and economic issues" for users' of defendants' product, and "[t]he deleterious effects of the injunction on the general public would simply be too great to permit"); Bard Peripheral Vascular, Inc. v. W.L. Gore & Assocs., Inc., No. CV-03-0597-PHX-MHM, 2009 WL 920300, at *9 (D. Ariz. Mar. 31, 2009) ("Given . . . the important role that [the defendant's] products play in aiding vascular surgeons who perform life-saving medical treatments, sound public policy does not favor removing [them] from the market.").

262. *See* Douglas Dynamics, LLC v. Buyers Prods. Co., 717 F. 3d 1336 (Fed. Cir. 2013);

the patented technology was not causally connected to the alleged irreparable harm, which has been referred to by some courts as the "causal nexus" requirement.[263]

6. Irreparable Harm Findings

This study also sought to determine the basis for the district courts' conclusion regarding irreparable harm, which is the first factor of the *eBay* test. Prior to *eBay*, prevailing patentees were presumed to suffer irreparable harm,[264] and this presumption was rarely rebutted.[265] After the Supreme Court's decision, however, patentees must demonstrate irreparable harm before an injunction can issue.[266] As a result, the issue of what harm qualifies as "irreparable" has taken on new significance since *eBay*.

In most cases where an injunction issued, the district court made an explicit finding regarding the harm(s) that it found irreparable.[267] Figure 5 depicts the percentage of cases where one of the following types of irreparable harm was found: (1) loss of market share (including lost customers and lost sales) due to infringement;[268] (2) price erosion for the patentee's product or services that practiced the patent;[269] (3) loss of goodwill or damage to the patentee's brand or reputation;[270] (4) loss of future business opportunities;[271] (5) the infringer's potential inability to pay a monetary judgment;[272] and (6) any other type of irreparable harm that does not fall into one of the previous five categories.[273]

Apple, Inc. v. Motorola, Inc., 869 F. Supp. 2d 901 (N.D. Ill. 2012); Humanscale Corp. v CompX Int'l Inc., No. 3:09-CV-86, 2010 WL 3222411 (E.D. Va. Aug. 16, 2010).

263. *See* Apple, Inc. v. Samsung Elecs. Co., 909 F. Supp. 2d 1147, 1153–57 (N.D. Cal. 2012), *aff'd in part, vacated in part by* 735 F.3d 1352, 1359–68 (Fed. Cir. 2013). Injunctions were also denied in several other decisions after the time period of this study based on lack of evidence of a "causal nexus." *See* Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc., No. C 09-5235 MMC, 2015 WL 604582, at *4 (N.D. Cal. Feb. 12, 2015); Riverbed Tech., Inc. v. Silver Peak Sys., Inc., No. 11–484–RGA, 2014 WL 4695765, at *12 (D. Del. Sept. 12, 2014).

264. *See* Smith Int'l, Inc. v. Hughes Tool Co., 718 F.2d 1573, 1581 (Fed. Cir. 1983) ("[W]here validity and continuing infringement have been clearly established, as in this case, immediate irreparable harm is presumed." (citations omitted)).

265. One situation where this presumption could be rebutted was when the infringing party voluntarily terminated the allegedly infringing activities with no reasonable prospect of resumption. *See* Polymer Techs., Inc. v. Bridwell, 103 F.3d 970, 974 (Fed. Cir. 1996) (affirming the denial of injunctive relief when the accused infringer "has or will soon cease the allegedly infringing activities").

266. *See supra* note 117 and accompanying text.

267. Injunctions issued in 158 decisions in the dataset. Of these, 112 decisions (71%) included an express finding regarding the type(s) of irreparable harm.

268. This was coded as a binary variable [MKTSHARE].

269. This was coded as a binary variable [PRICE].

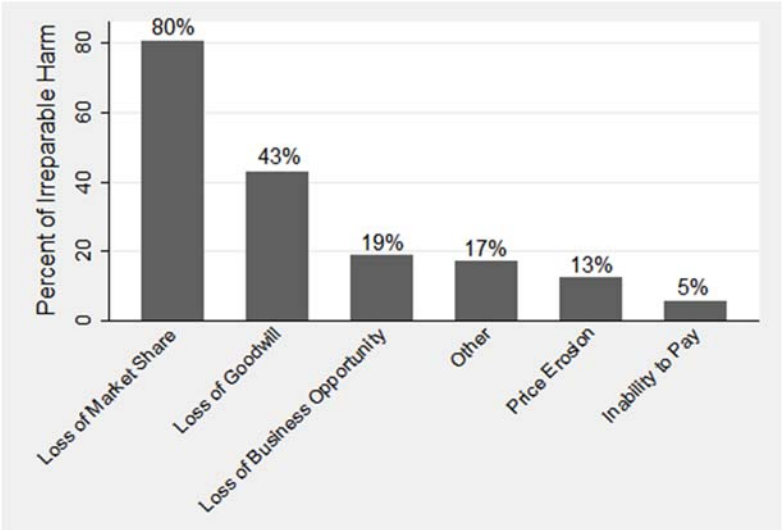
270. This was coded as a binary variable [GOODWILL].

271. This was coded as a binary variable [FUTUREBUS].

272. This was coded as a binary variable [INABILITY].

273. This was coded as a binary variable [OTHER]. A narrative description of the nature of

Figure 5. Types of Irreparable Harm Found



As illustrated in the farthest left column in Figure 5, the most common reason by far for finding irreparable harm was loss of market share (80%). This is perhaps unsurprising in light of district courts' willingness to grant an injunction when the parties are competitors.[274] When a competitor infringes by introducing a new product with the patented feature, the infringer will likely capture some of the patentee's market share. This is especially true since the infringer, unlike the patentee, can often charge a lower price and still turn a profit, as it does not have to recoup the cost of developing the patented technology.[275] Similarly, price erosion (13%) and loss of future business opportunities (19%) are competition-related harms.

Another significant source of irreparable harm was loss of goodwill or reputation (43%) due to the infringement. This type of loss may be irreparable because goodwill is "often difficult to quantify" and thus may be difficult or impossible to compensate with money damages.[276] A less common basis for finding irreparable harm is the infringer's potential inability to pay damages (5%), which typically occurs when a sizable monetary judgment would render the infringer insolvent.[277] Finally, other types of irreparable

the irreparable harm was also included [COMMENTS_HARM].

274. *See supra* Figure 4.

275. *See, e.g.*, Douglas Dynamics, LLC v. Buyers Prods. Co., 717 F.3d 1336, 1344–46 (Fed. Cir. 2013) (infringing product gained 5% market share because the infringer was "competing in the marketplace using [plaintiff's] patented technology" and was able to "undercut[ ] prices").

276. *Id.* at 1344; *see also* MicroAire Surgical Instruments, LLC v. Arthrex, Inc., 726 F. Supp. 2d 604, 635 (W.D. Va. 2010) ("The loss of goodwill is a well-recognized basis for finding irreparable harm. . . .").

277. *See* Coloplast A/S v. Generic Med. Devices, Inc., No. C10–227BHS, 2012 WL 3262756, at *2

harm due to the infringer's conduct—such as loss of qualified employees,[278] diversion of funds from research and development opportunities,[279] loss of revenue from other licensees,[280] and impairment of a patent's market value[281]—were infrequently found as well (17%).

7. Other *eBay* Factors

This study also revealed a very strong relationship between the first and second *eBay* factors—irreparable harm and absence of an adequate remedy at law. Scholars have previously noted these two factors often collapse into a single inquiry.[282] Indeed, the district court in *eBay* recognized in its decision denying injunctive relief after remand from the Supreme Court that the adequate remedy at law factor "inevitably overlaps" with the irreparable harm requirement.[283]

The data collected for this study reveal that in 136 decisions where the district court made an express finding that irreparable harm would occur absent an injunction (the first *eBay* factor), it also found in all but one of these cases that there was no adequate remedy of law as well (the second *eBay* factor).[284] Similarly, in the 42 cases in the dataset where the district court found no irreparable injury, it also found that an adequate remedy at law existed in all but one case.[285]

(W.D. Wash. Aug. 9, 2012) (finding that irreparable harm exists because, *inter alia*, the infringer "will be unable to satisfy any judgment entered against it"); Symbol Techs., Inc. v. Janam Techs., LLC, 729 F. Supp. 2d 646, 665 (D. Del. 2010) ("In some instances, a defendant's inability to satisfy a money judgment has been deemed sufficient to establish irreparable injury." (citations omitted)).

278. *See* Research Found. of State Univ. of N.Y. v. Mylan Pharm., Inc., Nos. 09-184-LPS, 10-892-LPS, 2012 WL 1901267, at * 2 (D. Del. May 25, 2012).

279. *See* ePlus, Inc. v. Lawson Software, Inc., No. 3:09CV620, 2011 WL 2119410, at * 12 (E.D. Va. May 23, 2011).

280. *See* Smith & Nephew, Inc. v. Arthrex, Inc., 629 F. Supp. 2d 1176, 1181 (D. Or. 2008).

281. *See* Joyal Prods., Inc. v. Johnson Elec. N. Am., Inc., No. 04–5172 (JAP), 2009 WL 512156, at *11 (D. N.J. Feb. 27, 2009).

282. *See* Gergen et al., *supra* note 4, at 209 (noting that *eBay*'s "requirements of (1) irreparable injury and (2) inadequacy of legal remedies are redundant as these are, traditionally speaking, one and the same"); Jeremy Mulder, Note, *The Aftermath of* eBay*: Predicting When District Courts Will Grant Permanent Injunctions in Patent Cases*, 22 BERKELEY TECH. L.J. 67, 80 (2007) ("Courts collapse the first two factors [of the *eBay* test], apparently viewing irreparable harm, if an injunction is not granted, and inadequate remedy at law, in the form of damages, as opposite sides of the same coin.").

283. *MercExchange III*, 500 F. Supp. 2d 556, 582 (E.D. Va. 2007).

284. The lone exception is *Conceptus, Inc. v. Hologic, Inc.* where the district court found irreparable harm because the infringer took market share away from the patentee in a two-supplier market, thus causing loss of customers and potential customers, but it also found that the patentee had an adequate remedy at law because "it will be reasonable and practical to estimate the extent of damages." Conceptus, Inc. v. Hologic, Inc., No. C 09-02280 WHA, 2012 WL 44064 at *2–3 (N.D. Cal. Jan. 9, 2012) (quoting ECF No. 131 at 10).

285. *See* Accentra Inc. v. Staples, Inc., 851 F. Supp. 2d 1205, 1238 (C.D. Cal. 2011) (finding that the infringer did not challenge patentee's showing that its legal remedies are inadequate, but the district court concluded the patentee had failed to show irreparable harm and denied an injunction).

In addition, in cases where the district court denied an injunction, it also commonly found that the third and fourth *eBay* factors—the balance of hardships and the public interest—weighed against injunctive relief. Specifically, of the 60 cases in the dataset where an injunction was denied, the district court found that the balance of hardships weighed against an injunction half of the time (50%; 30 cases), and that the public interest weighed against an injunction slightly over half of the time (52%; 31 cases).[286]

8. Regression Analysis

Finally, this study sought to evaluate the potential impact of several additional factors on injunction decisions following *eBay* using multiple regression analysis. Factors included in this analysis were whether the patent holder licensed or offered to license the patent(s)-in-suit,[287] whether the patent(s)-in-suit claimed a business method,[288] and whether the patent(s)-in-suit covered a "small component" of an infringing product,[289] all of which were anticipated to be negatively correlated with an injunction. In contrast, a finding of willful infringement was anticipated to be positively correlated with injunctive relief.[290] The previously discussed factors of patentee type (i.e., PAE status) and competition between the litigants were anticipated to be statistically significant as well.

Three different regression models were created to assess the impact of these factors. The first model (Model #1) included only the factors described above. The second model (Model #2) controlled for field of technology.[291] The third model (Model #3) controlled for both field of technology and the six district courts with the most injunction decisions.[292] A statistical test called logistic (logit) regression[293] was used to assess the relationship between these

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The remaining district court decisions did not make an express finding on both *eBay* factors.

286. Not all decisions made an express finding on all four *eBay* factors. Cases where a district court failed to expressly state that these factors weighed against an injunction or was otherwise silent regarding them are not included in this tally.

287. *See supra* notes 145–47 and accompanying text.

288. *See supra* note 114 and accompanying text.

289. *See supra* notes 148–49 and accompanying text.

290. *See supra* notes 150–53 and accompanying text.

291. It is particularly important to control for technology when evaluating the significance of patentee type, as PAEs commonly assert software and computer-related patents in litigation. In contrast, PAEs rarely assert patents in the chemical and pharmaceutical fields. *See* Michael Risch, *Patent Troll Myths*, 42 SETON HALL L. REV. 457, 477–78 (2012). Biotechnology [BIOTECH] was omitted from Models #2 and #3 because it has a perfect predictive rate on injunction decisions (i.e., injunctions were granted in all 4 cases in the dataset involving biotechnology patents).

292. *See supra* Table 2.

293. Logistic (logit) regression is "an estimation technique . . . commonly used by legal scholars and others to analyze judicial decisions. . . . Like other regression models, logit analyses simultaneously measure the individual relationships between several independent variables and a single dependent variable." David B. Spence & Paula Murray, *The Law, Economics, and Politics of Federal Preemption Jurisprudence: A Quantitative Analysis*, 87 CALIF. L. REV. 1125, 1179, 1200 (1999).

factors and the court's ultimate decision on injunctive relief. The results in Table 3 report the odds ratio—which is a measure of the strength of association between the independent variable and the dependent variable (here, whether an injunction was granted)—for each factor, with standard errors in parentheses.[294] One or more asterisks indicate statistical significance for an independent variable.[295] The pseudo-R^2 value reported in the final row (in italics) is a measure of the predictive power of the independent variables included in each model.[296]

Table 3. Logistic Regression Models: Permanent Injunction Decisions

Variable[297]	**Odds Ratio**		
	Model #1	**Model #2**	**Model #3**
PAE	.28 (.22)	.18 (.16)	.12* (.12)
COMPETE	13.49*** (8.04)	18.65*** (12.40)	27.68*** (20.2)
LICENSE	1.64 (.74)	1.66 (.80)	2.28 (1.23)
BUSMETHOD	.60 (.42)	.36 (.31)	.41 (.41)

294. Odds ratios of greater than 1 indicate that the variable has a positive association with entry of a permanent injunction, while odds ratios of less than 1 indicate the variable has a negative relationship with entry of a permanent injunction. The amount by which the odds ratio is more or less than 1 reveals the magnitude of the association between the independent variable and the injunction decision. All odds ratios are reported to two decimal places. For a useful primer on odds ratios in logistic regression, see UCLA Institute for Digital Research and Education, *FAQ: How Do I Interpret Odds Ratios in Logistic Regression?*, http://www.ats.ucla.edu/stat/mult_pkg/faq/general/odds_ratio.htm (last visited Mar. 12, 2016).

295. For all results, * indicates $p < 0.05$, ** indicates $p < 0.01$, and *** indicates $p < 0.001$.

296. Pseudo R^2 values range between 0 and 1, with higher values indicating better model fit. *See* UCLA Institute for Digital Research and Education, *FAQ: What are Pseudo R-squareds?*, http://www.ats.ucla.edu/stat/mult_pkg/faq/general/Psuedo_RSquareds.htm (last visited Mar. 12, 2016).

297. From top to bottom in this column, the first six variables [PAE, COMPETE, LICENSE, BUSMETHOD, COMPONENT, and WILLFUL] have been previously described. *See supra* notes 184, 186, 189–92. The next seven variables [SOFTWARE, ELECTRONICS, ELECTRICAL, MECHANICAL, CHEMISTRY, DRUGS, and MEDICALDEVICE] involve the field of technology for the patent(s)-in-suit. *See supra* note 185. The final six variables correspond to the top six district courts for injunction decisions: Central District of California [CDCAL]; Northern District of California [NDCAL]; District of Delaware [DDEL]; District of Massachusetts [DMASS]; District of New Jersey [DNJ]; and Eastern District of Texas [EDTEX]. *See supra* Table 2.

COMPONENT	.06** (.05)	.04** (.04)	.02*** (.02)
WILLFUL	1.89 (.83)	1.76 (.84)	1.46 (.76)
SOFTWARE	-	.65 (.63)	.37 (.41)
ELECTRONICS	-	.92 (.93)	.60 (.66)
ELECTRICAL	-	2.91 (4.52)	1.88 (3.11)
MECHANICAL	-	.29 (.28)	.20 (.22)
CHEMISTRY	-	.28 (.36)	.17 (.23)
DRUGS	-	.84 (.97)	1.18 (1.55)
MEDICALDEVICE	-	.13* (.12)	.06* (.07)
CDCAL	-	-	.69 (.77)
NDCAL	-	-	.61 (.60)
DDEL	-	-	.07*** (.05)
DMASS	-	-	1.03 (.97)
DNJ	-	-	1.39 (1.94)
EDTEX	-	-	1.76 (1.33)

Pseudo R^2	.31	.37	.45

Not surprisingly, whether the patentee and infringer were competitors is the single most significant factor related to injunctive relief in all three models. This variable is highly statistically significant,[298] and its predictive power increases as control variables are added.[299] Whether the patentee was a PAE is also statistically significant in the expected direction (i.e., fewer permanent injunctions were granted to PAEs) in the final model, which has the highest degree of predictive power.[300] However, the models probably tend to underestimate the strength of the relationship between PAE status and injunctive relief, as there is a high degree of collinearity between the PAE and COMPETE variables[301]—by definition, a PAE cannot currently compete in a product market against an infringer.[302]

In addition, whether a patent claims a "small component" of an infringing product is statistically significant for injunctive relief.[303] When a patent is found to cover a small component, district courts rarely grant an injunction, as reflected by the low odds ratio for this variable.[304] Thus, it appears that district courts are heeding Justice Kennedy's advice to avoid injunctive relief "[w]hen the patented invention is but a small component of the product the [infringer] seek[s] to produce."[305]

However, several other factors identified in the existing literature as relevant to the injunction calculus appear not to be statistically significant and/or do not have the anticipated impact. For instance, a patentee's willingness to license the patent(s)-in-suit is actually *positively* correlated with injunctive relief after controlling for all other factors, although this finding is

298. $p < 0.001$ in all three models.

299. The odds ratio for COMPETE increased from 13.49 in Model #1 to 27.68 in Model #3. Similarly, the 95% confidence interval (not reported in Table 3) for the variable increased from 4.20–43.38 in Model #1 to 6.62–115.68 in Model #3.

300. $p = 0.035$ in Model #3.

301. $p < 0.001$ using Pearson's chi-square (χ^2) test.

302. In two cases, PAEs were found to have competed in the past with the infringer. *See* i4i Ltd. P'ship v. Microsoft Corp., 670 F. Supp. 2d 568, 599 (E.D. Tex. 2009) (finding that there was evidence of direct competition between patentee and defendant within the custom XML marketplace, but at the time of decision patentee's primary business appeared to be patent licensing and litigation); 800 Adept, Inc. v. Murex Sec., Ltd., 505 F. Supp. 2d 1327, 1337 (M.D. Fla. 2007) (finding that "800 Adept and the Murex–Targus Parties are competitors in the market for telephone call routing services"). Both patentees appeared to be engaged primarily in patent litigation by filing multiple lawsuits in the Eastern District of Texas against at least twenty other defendants.

303. $p < 0.01$ in Models #1 and #2, and $p < 0.001$ in Model #3.

304. District courts only granted injunctions 14% of the time (2 of 14 cases) where the district court found that the patent covered a "small component."

305. eBay Inc. v. MercExchange, L.L.C., 547 U.S. 388, 396 (2006) (Kennedy, J., concurring).

not statistically significant.[306] Similarly, a finding of willful infringement does not have a statistically significant correlation with permanent injunction decisions.[307] Perhaps most notably, business method patents do not have a statistically significant relationship with injunction denials,[308] despite Justice Kennedy's concurring opinion expressing skepticism about the quality of such patents.[309]

Two other variables have a statistically significant relationship with injunction decisions in the second and third models. First, injunctions are granted at a significantly lower rate in cases involving medical device technology, even after controlling for the litigants' status as competitors.[310] This higher-than-anticipated injunction denial rate may be at least partly due to the final *eBay* factor; several district court decisions have declined to award injunctive relief on the basis that it would disserve the public interest to restrict doctors' and patients' access to the infringing devices.[311] Second, one forum—the District of Delaware—was found to have a statistically significant negative correlation with injunctive relief.[312] This may be related to the fact that Delaware is currently a preferred forum for PAE litigants, who rarely obtain injunctive relief.[313]

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306. $p = 0.125$ in Model #3. Overall, patentees who have engaged in licensing efforts are slightly less likely to obtain a permanent injunction (64% of the time) than patentees who are not (77% of the time).

307. $p = 0.470$ in Model #3. Overall, patentees have a slightly higher injunction grant rate against willful infringers (77% of the time) than against non-willful infringers (70%).

308. $p = 0.375$ in Model #3. Prevailing patentees in business method cases win injunctions slightly over half the time (53%), compared to almost three-quarters of the time in all other cases (74%), but the small number of decisions involving business method patents ($N = 17$) renders this difference statistically insignificant.

309. *eBay*, 547 U.S. at 397 (Kennedy, J., concurring).

310. $p = 0.011$ in Model #3.

311. *See, e.g.*, Tyco Healthcare Grp. LP v. Ethicon Endo–Surgery, Inc., 936 F. Supp. 2d 30, 86 (D. Conn. 2013) (finding it "an important consideration that a permanent injunction would pull many devices that are presently used in surgery off the market"); Conceptus, Inc. v. Hologic, Inc., No. C 09-02280 WHA, 2012 WL 44064, at *4 (N.D. Cal. Jan. 9, 2012) (finding that "the public benefit of having two products with different qualities in the transcervical hysteroscopic sterilization market militates strongly against an injunction"); Johnson & Johnson Vision Care, Inc. v. CIBA Vision Corp., 712 F. Supp. 2d 1285, 1292–93 (M.D. Fla. 2010) (concluding "that the public interest would be disserved if an injunction were to be entered" because "millions of innocent contact lens wearers will suffer real adverse consequences if sale of [the infringing contact lenses] is enjoined"); Bard Peripheral Vascular, Inc. v. W.L. Gore & Assocs. Inc., No. CV-03-0597-PHX-MHM, 2009 WL 920300, at *5–6 (D. Ariz. Mar. 31, 2009) (finding the public interest "weigh[s] heavily against imposing an injunction" because of "the public health consequences of enjoining Gore from producing or selling its infringing products"); Reporter's Transcript of Proceedings at 7, Medtronic Sofamor Danek USA v. Nuvasive, Inc., No. 08-CV-01512 (S.D. Cal. Jan. 26, 2012), ECF No. 461 ("[I]t appears to the Court that the potential risk to patient health and safety is too great to justify enjoining NuVasive from continuing to sell its infringing products.").

312. $p < 0.001$ in Model #3.

313. *See supra* notes 234–35 and accompanying text.

B. PATENTS DATASET

Multiple regression analysis also was performed on numerous variables in the Patents Dataset to assess whether they had a statistically significant relationship with injunctive relief. For example, prior studies have found that patents with more claims,[314] higher citations to prior art,[315] more related predecessor (parent) applications,[316] and greater citations by subsequently-issued patents (i.e., forward citations)[317] are more likely to be asserted in litigation and thus more likely to be considered valuable by their owners.[318] Similarly, the length of time a patent is in prosecution has been correlated in past studies with increased patent value.[319] As a result, these variables were anticipated to be positively correlated with injunctive relief, on the theory that infringement of a valuable patent is more likely to result in irreparable harm.

In contrast, several other variables were anticipated to be negatively correlated with an injunction. For instance, prior studies have found that small entity status is negatively correlated with patent value,[320] and small entities are less likely to prevail in patent litigation.[321] Moreover, since one asserted justification for PAEs is that they assist small inventors in monetizing their innovation, patents obtained by small entities may be more likely to be acquired and asserted by PAEs,[322] which rarely obtain injunctions. Similarly, patents closer to expiration are less likely to be valuable than newly-acquired patents,[323] and so the time period between the patent's issuance and the

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314. *See* Allison et al., *supra* note 160, at 451–53 (finding "that litigated patents include significantly more claims than [non-litigated] patents," and suggesting "that a larger number of claims suggests the owners knew at the time of prosecution that these patents would turn out to be important"); Chien, *supra* note 160, at 326 fig.6, 329 app. A (finding a statistically significant relationship between the number of claims and whether a patent is litigated).

315. *See* Allison et al., *supra* note 160, at 453 (finding that "[l]itigated patents . . . also cite significantly more prior art than [non-litigated] patents").

316. *See id.* at 457 ("Litigated patents also tended to be part of 'families' of issued patents.").

317. *See id.* at 455 ("Patents that end up being litigated are much more likely to be cited as prior art by other issued U.S. patents than are non-litigated patents. . . . Indeed, the number of citations received has a particularly strong association with litigation."); *see also supra* note 201.

318. *See* James Bessen, *The Value of U.S. Patents by Owner and Patent Characteristics*, 37 RES. POL'Y 932, 939 (2008) ("A litigated patent is, all else equal, nearly six times more valuable"); *see also* Allison et al., *supra* note 160, at 437 (assuming "that litigated patents are at least a subset of the most valuable patents . . . .").

319. *See* Allison et al., *supra* note 160, at 459 ("Litigated patents also spent significantly longer in prosecution than issued patents.").

320. *See* Bessen, *supra* note 318, at 937 (finding that "patents owned by small entities are dramatically less valuable than patents owned by large entities").

321. *See* John R. Allison et al., *Patent Quality and Settlement Among Repeat Patent Litigants*, 99 GEO. L.J. 677, 690 (2011) (finding that "large patent plaintiffs are significantly more likely than small ones to win" in patent litigation).

322. *See* Shrestha, *supra* note 239, at 127–28.

323. *See* Allison et al., *supra* note 160, at 460 ("Litigation is more likely to occur when patents are young . . . . Given the connection between litigation and value, it follows that the potential value of a patent is known early on; it is rare for a patent to become valuable and be litigated late in its life.")

injunction decision was expected to be negatively correlated with injunction grants.

A regression model incorporating these variables was created. In addition, the NBER technology categories[324] for each patent-in-suit were added as controls,[325] with one modification—the "Drugs and Medical" category was divided into two separate categories because of the differences in injunction rates observed in the Decisions Dataset.[326] The odds ratios, standard errors, statistical significance, and pseudo R^2 are reported in Table 4.

Table 4. Logistic Regression: Patent Characteristics

Variable	**Odds Ratio**
CLAIMS	.998 (.004)
PRIORART	.998 (.002)
PARENT	.982 (.058)
FWDCITEPERYEAR	.997 (.018)
PROSECUTIONYEAR	1.032 (.060)
SMALL	1.591 (.509)
ISSUE2INJUNCTION	.965 (.027)
Pseudo R^2	*.071*

In sum, none of the measured patent characteristics had a statistically significant relationship with injunction outcomes. This was surprising in light

324. *See supra* note 200 and accompanying text.

325. Each of these technology categories was included in the regression model as dummy variables. The odds ratios and standard errors for these variables are omitted from Table 4, but they are included in the reported pseudo R^2 statistic for goodness-of-fit.

326. *See supra* Table 1 (showing permanent injunction grant rate is 92% for drugs and 65% for medical devices).

of the existing literature, which suggested these characteristics could have predictive value.[327] Indeed, the only variable in this model that had a statistically significant relationship was one of the control variables, the NBER technology category of Computers and Communications, which was negatively correlated with injunctive relief.[328]

C. IMPLICATIONS

This study's findings have several implications for both participants and policy makers in the patent system. First, district courts have applied *eBay* in a manner that awards permanent injunctions to operating companies who compete with the infringer in the vast majority of cases, while simultaneously denying them to most PAEs and non-competitors.[329] This result holds even after controlling for other potentially confounding factors, such as the field of patented technology and courts where PAEs commonly file infringement claims.[330] In particular, the first factor of the *eBay* test appears to be the main stumbling block for PAEs and other non-competing entities, as they rarely can demonstrate the type of competition-related harm that qualifies as an irreparable injury under existing precedent.[331]

Denying injunctive relief to PAEs may be normatively desirable in many cases, such as patentees who engage in rent-seeking behavior by exploiting the high transaction costs of patent litigation to extract nuisance-value settlements without any corresponding public benefit.[332] *eBay*'s four-factor test apparently has helped mitigate holdup by such patentees,[333] even if PAE litigation remains widespread.[334]

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327. *See supra* note 160. *But cf.* Allison et al., *supra* note 170, at 1798–99 (finding that "the observable characteristics of the patents[-in-suit] don't seem to have much, if any, bearing on the outcome of the cases involving those patents").

328. Odds ratio 0.448, standard error 0.169, $p = 0.033$.

329. *See supra* notes 243–44 and accompanying text; *see also* Golden, *Patent Trolls*, *supra* note 4, at 2113–14 (asserting that "district courts' post-*eBay* practice may be in some tension with the Supreme Court's warning against the 'categorical denial of injunctive relief' to broad classes of patent holders"); Sandrik, *supra* note 4, at 97 ("Case law in the last five years has established a near categorical rule that [non-practicing entities] cannot obtain injunctive relief.").

330. *See supra* note 301 and accompanying text.

331. *See supra* Figure 5.

332. *See* Mark A. Lemley & A. Douglas Melamed, *Missing the Forest for the Trolls*, 113 COLUM. L. REV. 2117, 2126 (2013) (referring to "bottom-feeder trolls" as patent owners that "rely on the high cost of patent litigation" to induce alleged infringers to enter into "quick, low-value settlements").

333. *See* Chien & Lemley, *supra* note 2, at 2 ("By requiring federal courts to consider the equities of a particular case before granting an injunction, *eBay* solved much of the patent system's holdup problem."); Robert P. Merges, *Foundations and Principles Redux: A Reply to Professor Blankfein-Tabachnick*, 101 CALIF. L. REV. 1361, 1373 (2013) (same).

334. *See* Colleen V. Chien, *Patent Trolls by the Numbers* (Santa Clara Univ. Legal Studies, Research Paper No. 08-13, 2013), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2233041 (finding that PAEs initiated 62% of all patent litigation filed in 2012 based on data provided by RPX); *cf.* Cotropia et al., *supra* note 184, at 676 fig.2 (finding that operating companies represented 68.9% of unique patentees in patent cases filed in 2012).

However, the near-categorical denial of injunctive relief to non-practicing entities seemingly conflicts with the Supreme Court's admonition in *eBay* that lower courts should avoid "categorical rule[s]" prohibiting injunctive relief "in a broad swath of cases," including when the patentee does not commercially practice its patents.[335] As the Court's unanimous opinion explained, such "broad classifications" are not permitted by "traditional equitable principles."[336] Furthermore, the routine denial of injunctive relief to non-practicing entities is in tension with the Court's century-old holding in *Continental Paper Bag*—which was cited in *eBay*[337]—that a patentee's failure to practice the patented invention does not, standing alone, preclude equitable relief.[338]

The imposition of a liability rule for most non-practicing patentees may adversely affect entities that engage in innovation and utilize a business model that relies heavily on the right to exclude others, such as startups that have developed a new technology but have not yet brought a product to market.[339] For many startups, the process of commercializing an invention is costly and complex, with uncertain prospects for success.[340] Empirical researchers have found that many startup companies seek patents to secure rights to their inventions, particularly in the biotechnology and medical device industries,[341]

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335. eBay Inc. v. MercExchange, L.L.C., 547 U.S. 388, 393 (2006); *see also* Sandrik, *supra* note 4, at 111 (contending that "[t]he denial of injunctive relief . . . to patentees that practice their technology but do not compete in the same market as their infringers . . . is in conflict with the Supreme Courts warning against the 'categorical denial of injunctive relief'" (citations omitted)).

336. *eBay*, 547 U.S. at 393.

337. *See id.* ("The [district] court's categorical rule is also in tension with [*Continental Paper Bag*], which rejected the contention that a court of equity has no jurisdiction to grant injunctive relief to a patent holder who has unreasonably declined to use the patent." (citation omitted)).

338. *See supra* notes 60–68 and accompanying text; *see also* Holte, *Misinterpretation of* eBay, *supra* note 4, at 727 (noting "the Supreme Court affirmed the *Continental Paper Bag* case" in *eBay*).

339. *See* Andrew Beckerman-Rodau, *The Supreme Court Engages in Judicial Activism in Interpreting the Patent Law in* eBay, Inc. v. MercExchange, L.L.C., 10 TUL. J. TECH. & INTELL. PROP. 165, 198 (2007) ("Nonpracticing entities can be small enterprises that have developed innovative technology but have been unable to generate the necessary capital or marketing expertise to compete successfully [in] the marketplace."); *see also* Stuart J.H. Graham, Robert P. Merges, Pam Samuelson & Ted Sichelman, *High Technology Entrepreneurs and the Patent System: Results of the 2008 Berkeley Patent Survey*, 24 BERKELEY TECH. L.J. 1255, 1297 (2009) (finding that among surveyed startups who apply for patent protection, "the most important reason for patenting is to prevent others from copying the startup's products and services").

340. *See* F. Scott Kieff, *Property Rights and Property Rules for Commercializing Inventions*, 85 MINN. L. REV. 697, 707–08 (2001) (explaining the activities associated with commercializing an invention, including developing a commercial embodiment, raising capital, securing production facilities and labor, creating distribution channels, and informing potential consumers about the product's availability and benefits); Ted Sichelman, *Commercializing Patents*, 62 STAN. L. REV. 341, 343 (2010) ("[T]he inventor must undertake costly and risky development and testing to transform the invention into a commercially viable product.").

341. *See* Graham et al., *supra* note 339, at 1277 tbl. 1 (showing that 39% of all surveyed startups, and 75% of biotechnology and 76% of medical device startups, hold U.S. patents or patent applications).

and the vast majority of startups that successfully secure venture capital financing have applied for patent protection.[342] The effective loss of the right to exclude post-*eBay* may hinder these firms' ability to subsequently commercialize their inventions.[343]

In addition, a liability rule may decrease the value of patents owned by PAEs and other non-practicing entities. By removing the threat of a permanent injunction, and thus the ability to potentially force infringing products off the market, *eBay* has "decrease[d] the incentives for potential licensees to seek a license rather than practice patents without permission."[344] The loss of the right to exclude erodes the patentee's bargaining power and consequently may result in lower licensing rates.[345] Indeed, this second-order effect is likely to have a much wider impact than injunction denials in litigation, as only a small fraction of patents are ever litigated, while many more are licensed.[346]

Third, district courts exhibit a technology-specific bias in applying the facially-neutral four-factor test in *eBay*. This phenomenon is not uncommon

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342. *See id.* (showing that 82% of surveyed venture-backed companies either have at least one U.S. patent or have applied for a U.S. patent, and that venture-backed firms hold an average of 18.7 U.S. patents and patent applications); David H. Hsu & Rosemarie H. Ziedonis, *Resources as Dual Sources of Advantage: Implications for Valuing Entrepreneurial-Firm Patents*, 34 STRATEGIC MGMT. J. 761, 762 (2013) (finding "that successful patent filings are . . . influential determinants of financing outcomes for new ventures" for semiconductor startups); *see also* Beckerman-Rodau, *supra* note 338, at 199 ("Strong patent rights provide an incentive for enterprises, such as venture capitalists, to provide capital to smaller enterprises . . . ."); Samuel Kortum & Josh Lerner, *Assessing the Contribution of Venture Capital to Innovation*, 31 RAND J. ECON. 674, 674–75 (2000) (finding that "venture capital is associated with a substantial increase in patenting" and suggesting several models to explain this relationship); Celia Lerman, Patent Strategies of Technology Startups: An Empirical Study 26-27 (May 25, 2015) (unpublished manuscript), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2610433 (finding in empirical study of startups listed in CruchBase that "patents have a positive effect on funding" from investors and that "the number of patents matters").

343. *See* Golden, *Patent Trolls*, *supra* note 4, at 2117 ("By discouraging innovation, and the ownership of rights in innovation, by independent inventors, universities, technology start-ups, research-oriented spin-offs, and patent holding companies, a categorically discriminatory market for patent rights may slow, rather than promote, progress."); Kieff, *supra* note 340, at 703 ("[T]he treatment of patents as property rights is necessary to facilitate investment in the complex, costly, and risky commercialization activities required to turn nascent inventions into new goods and services."); *see also* Ted Sichelman & Stuart J.H. Graham, *Patenting by Entrepreneurs: An Empirical Study*, 17 MICH. TELECOMM. & TECH. L. REV. 111, 112 (2010) (explaining that "patents provide substantial *ex post* incentives to commercialize inventions").

344. Ellis et al., *supra* note 4, at 459; *see also* Tang, *supra* note 135, at 250 (contending that "[s]ince eBay drastically reduced the threat of permanent injunctions over large corporations' core products or services, these corporations now have even less financial incentive to license from non-practicing patent owners").

345. Ellis et al., *supra* note 4, at 460.

346. *See, e.g.*, Mark A. Lemley, Essay, *Rational Ignorance at the Patent Office*, 95 NW. U. L. REV. 1495, 1507 (2001) (asserting that "only about 1.5% of patents are litigated at all," but estimating that "the total number of patents litigated or licensed for a royalty (as opposed to a cross-license) is on the order of [5%] of issued patents").

in patent law. As Dan Burk and Mark Lemley have explained, although "patent law is technology-neutral in theory, it is technology-specific in application."[347] In particular, Burk and Lemley point to how federal courts apply various doctrines, such as nonobviousness, enablement, written description, and best mode, differently in fields like biotechnology and computer software.[348] Injunctive relief appears to be another doctrine that fits this description. In particular, it appears that industries which depend on strong patent rights to encourage innovation—most notably biotechnology and pharmaceuticals[349]—are the most likely to obtain injunctive relief.[350] Notably, these industries also have extremely high research and development costs, running into the hundreds of millions of dollars in some cases.[351] In contrast, injunctions are granted at lower rates for industries where patent protection is viewed as less vital, such as computer software.[352]

Finally, differences in injunction rates by district open the possibility to forum shopping by litigants who are concerned about their prospects for injunctive relief.[353] For example, although PAEs rarely receive injunctions, three of the four decisions where they were able to do so were from the Eastern District of Texas,[354] which is a favored venue of non-practicing entities.[355] This finding may weigh in favor of adopting venue-limiting

347. Dan L. Burk & Mark A. Lemley, *Is Patent Law Technology-Specific?*, 17 BERKELEY TECH. L.J. 1155, 1156 (2002).

348. *Id.*; *see also* DAN L. BURK & MARK A. LEMLEY, THE PATENT CRISIS AND HOW THE COURTS CAN SOLVE IT 59–62 (2009) (advancing a similar argument).

349. *See* BURK & LEMLEY, *supra* note 348, at 50 (discussing prior empirical work finding "that patents play a major role in supporting innovation in only a few industries, most notably in chemistry and pharmaceuticals"); Graham et al., *supra* note 339, at 1278 (finding that "biotechnology and medical device companies are much more likely to hold patents and applications than are software and Internet firms"); *see also* Edwin Mansfield, *Patents and Innovation: An Empirical Study*, 32 MGMT. SCI. 173, 175 tbl.1 (1986) (finding in a cross-section survey of firms that 65% percent of pharmaceutical innovations would not have been introduced without patent protection).

350. *See supra* Table 3 (finding pharmaceutical and biotechnology patents received injunctions over 90% of the time).

351. *See* Joseph A. DiMasi et al., *The Price of Innovation: New Estimates of Drug Development Costs*, 22 J. HEALTH ECON. 151, 166–67, 167 fig.2 (2003) (finding that the total cost per FDA approved new drug exceeds $800 million); *see also* JOSEPH A. DIMASI, TUFTS CTR. FOR THE STUDY OF DRUG DEV., INNOVATION IN THE PHARMACEUTICAL INDUSTRY: NEW ESTIMATES OF R&D COSTS (2014), http://csdd.tufts.edu/files/uploads/Tufts_CSDD_briefing_on_RD_cost_study_-_Nov_18,_2014..pdf (finding in updated study that estimated average pre-tax industry costs per new prescription drug approval exceeds $2.5 billion).

352. *See* Graham et al., *supra* note 339, at 1278 (finding that most startup software firms hold no patents).

353. *See supra* Table 2 (describing differential grant rates by district).

354. *See, e.g.*, i4i Ltd. P'ship v. Microsoft Corp., 670 F. Supp. 2d 568, 608 (E.D. Tex. 2009); Final Judgment and Permanent Injunction, Anascape Ltd. v. Nintendo of Am., Inc., No. 9:06-CV-158 (E.D. Tex. July 23, 2008), ECF No. 384; Commonwealth Sci. & Indus. Research Organisation v. Buffalo Tech. Inc., 492 F. Supp. 2d 600, 607–08 (E.D. Tex. 2007).

355. *See supra* note 235.

provisions for patent cases in district courts, as currently proposed in some versions of patent reform legislation.[356]

VI. CONCLUSION

The Supreme Court decision in *eBay* has ushered in a new era in patent remedies by creating a bifurcated system of property rules and liability rules for different categories of patentees. Little has changed for prevailing patentees who compete in a product market against an infringer, as they still obtain permanent injunctions in the vast majority of cases. In contrast, PAEs are generally subject to a liability rule because they rarely can obtain an injunction at the trial court level. This dichotomy may have a negative impact on certain types of non-practicing entities by effectively eliminating their right to exclude others from practicing the patented technology. Moreover, it appears to conflict with the Court's own conclusion in *eBay* that such a "categorical rule" is inappropriate in determining entitlement to equitable relief.

356. *See* Venue Equity and Non-Uniformity Elimination (VENUE) Act of 2016, S. 2733, 114th Cong. § 2(a) (proposed amendment to 35 U.S.C. § 1400(b)); Amendment in the Nature of a Substitute to H.R. 9, 114th Cong. § 281B(g) (2015) (proposed amendment to 35 U.S.C. § 1400(b)), https://www.congress.gov/bill/114th-congress/house-bill/9/text.

Appendix A:
List of Injunction Decisions

Plaintiff	Defendant	Court	Docket	Cite	Date
Briese Lichttechnik Verttriebs GmbH	Langton	NYSD	1:09-CV-09890	ECF No. 477	12-18-2013
XpertUniverse, Inc.	Cisco Sys., Inc.	DED	1:09-CV-00157	2013 WL 6118447	11-20-2013
TransPerfect Global, Inc.	MotionPoint Corp.	CAND	4:10-CV-02590	ECF No. 468	11-15-2013
Global Traffic Techs., LLC	Emtrac Sys, Inc.	MND	0:10-CV-04110	2013 WL 5964454	11-08-2013
Bristol-Myers Squibb Co.	Mylan Pharms., Inc.	DED	1:09-CV-00651	ECF Nos. 242, 243	11-05-2013
CardSoft, Inc.	VeriFone Holdings, Inc.	TXED	2:08-CV-00098	2013 WL 5862762	10-30-2013
WBIP, LLC	Kohler Co.	MAD	1:11-CV-10374	ECF No. 257	08-12-2013
Stryker Corp.	Zimmer Inc.	MIWD	1:10-CV-01223	2013 WL 6231533	08-07-2013
Smith & Nephew, Inc.	Interlace Med., Inc.	MAD	1:10-CV-10951	955 F. Supp. 2d 69	06-27-2013
WesternGeco L.L.C.	ION Geophysical Corp.	TXSD	4:09-CV-01827	953 F. Supp. 2d 731	06-19-2013
Halo Elecs., Inc.	Pulse Elecs., Inc.	NVD	2:07-CV-00331	2013 WL 3043668	06-17-2013
Alps South, LLC	The Ohio Willow Wood Co.	FLMD	8:08-CV-01893	ECF No. 418	05-09-2013
Allergan, Inc.	Apotex Inc. et al.	NCMD	1:10-CV-00681	2013 WL 1750757	04-23-2013
Unicom Monitoring, LLC	Cencom, Inc.	NJD	3:06-CV-01166	2013 WL 1704300	04-19-2013
In re Armodafinil Patent Litigation ('722 Patent Litigation)		DED	1:10-MD-02200	939 F. Supp. 2d 456	03-30-2013
Tyco Healthcare Group LP	Ethicon Endo-Surgery Inc.	CTD	3:10-CV-00060	936 F. Supp. 2d 30	03-28-2013

VirnetX Inc.	Apple Inc.	TXED	6:10-CV-00417	925 F. Supp. 2d 816	02-26-2013
Brocade Commc'ns Sys. Inc.	A10 Networks, Inc.	CAND	5:10-CV-03428	2013 WL 140039	01-10-2013
Apple, Inc.	Samsung Elecs. Co., Ltd.	CAND	5:11-CV-01846	909 F. Supp. 2d 1147	12-17-2012
E2Interactive, Inc.	Blackhawk Network, LLC	WIWD	3:09-CV-00629	ECF No. 536	12-06-2012
Graphic Packaging Intern., Inc.	C.W. Zumbiel Co.	FLMD	3:10-CV-00891	2012 WL 3536983	08-15-2012
Coloplast A/S	Generic Med. Devices, Inc.	WAWD	2:10-CV-00227	2012 WL 3262756	08-09-2012
Carl Zeiss Vision Int'l GmbH	Signet Armorlite, Inc.	CASD	3:07-CV-00894	ECF No. 1561	08-06-2012
Teva Pharms. USA	Sandoz, Inc.	NYSD	1:08-CV-07611	ECF No. 338	07-24-2012
Integrated Tech. Corp.	Rudolph Techs., Inc.	AZD	2:06-CV-02182	ECF No. 546	07-23-2012
Pfizer Inc.	Teva Pharms. U.S.A., Inc.	DED	1:09-CV-00307	882 F. Supp. 2d 643	07-19-2012
Gen. Elec. Co.	Mitsubishi Heavy Indus. Ltd.	TXND	3:10-CV-00276	ECF No. 640	07-09-2012
Valeant Int'l	Watson Pharms., Inc.	FLSD	1:10-CV-20526	ECF No. 198	07-09-2012
Fractus, S.A.	Samsung Elecs. Co.	TXED	6:09-CV-00203	876 F. Supp. 2d 802	06-28-2012
Apple, Inc.	Motorola, Inc.	ILND	1:11-CV-08540	869 F. Supp. 2d 901	06-22-2012
Motorola, Inc.	Apple, Inc.	ILND	1:11-CV-08540	869 F. Supp. 2d 901	06-22-2012
St. Jude Med. Inc.	Access Closure Inc.	ARWD	4:08-CV-04101	ECF No. 359	06-04-2012
Research Found. of State Univ. of NY	Mylan Pharm.	NJD	1:09-CV-00184	2012 WL 1901267	05-25-2012
Schering Corp.	Mylan Pharm.	NJD	2:09-CV-06383	ECF No. 455	05-17-2012

Layne Christensen Co.	Bro-Tech Corp. d/b/a The Purolite Co.	KSD	2:09-CV-02381	871 F. Supp. 2d 1104	05-16-2012
Hospira, Inc.	Sandoz Int'l GmbH	NJD	3:09-CV-04591	2012 WL 1587688	05-04-2012
Meadwestvaco Corp.	Rexam PLC	VAED	1:10-CV-00511	ECF No. 597	04-12-2012
Broadcom Corp.	Emulex Corp.	CACD	8:09-CV-01058	ECF No. 1090	03-16-2012
Medtronic Sofamor Danek USA, Inc.,	Nuvasive, Inc.	CASD	3:08-CV-01512	ECF Nos. 460, 461	01-26-2012
Conceptus, Inc.	Hologic, Inc.	CAND	3:09-CV-02280	2012 WL 44064	01-09-2012
Accentra, Inc.	Staples, Inc.	CACD	2:07-CV-05862	851 F. Supp. 2d 1205	12-19-2011
Eli Lilly and Company	Actavis	NJD	2:07-CV-03770	ECF No. 748	12-06-2011
ActiveVideo Networks, Inc.	Verizon Communications, Inc.	VAED	2:10-CV-00248	827 F. Supp. 2d 641	11-23-2011
Hurricane Shooters, LLC	EMI Yoshi Inc.	FLMD	8:10-CV-00762	ECF No.. 144	11-18-2011
The Paw Wash LLC	Paw Plunger LLC	MOWD	4:08-CV-00113	ECF No. 44	11-15-2011
Sanofi-Aventis Deutschland GmbH	Glenmark Pharms., Inc. USA	NJD	2:07-CV-05855	821 F. Supp. 2d 681	09-30-2011
Versata Software Inc.	SAP Am., Inc.	TXED	2:07-CV-00153	2011 WL 4017944	09-09-2011
Lighting Ballast Control LLC	Philips Elecs. N. Am. Corp.	TXND	7:09-CV-00029	814 F. Supp. 2d 665	08-26-2011
Belden Tech. Inc.	Superior Essex Communications LP	DED	1:08-CV-00063	802 F. Supp. 2d 555	08-12-2011
Peach State Labs, Inc.	Envtl. Mfg. Solutions, LLC	FLMD	6:09-CV-00395	ECF No. 276	08-12-2011
Pozen Inc.	Par Pharma. Inc.	TXED	6:08-CV-00437	800 F. Supp. 2d 789	08-05-2011
Inventio AG	Otis Elevator Co.	NYSD	1:06-CV-05377	2011 WL 3480946	08-04-2011

Midtronics Inc.	Aurora Performance	ILND	1:06-CV-03917	800 F. Supp. 2d 970; ECF No. 196	08-03-2011
Soitec	MEMC Elec. Materials, Inc.	DED	1:08-CV-00292	2011 WL 2748725	07-13-2011
LG Elecs. USA Inc.	Whirlpool Corp.	DED	1:08-CV-00234	798 F. Supp. 2d 541	07-01-2011
Metso Minerals Inc.	Powerscreen Int'l Distrib. Ltd.	NYED	2:06-CV-01446	788 F. Supp. 2d 71	05-26-2011
ePlus, Inc.	Lawson Software, Inc.	VAED	3:09-CV-00620	2011 WL 2119410	05-23-2011
3D Sys., Inc.	Envisiontec, Inc.	MIED	2:05-CV-74891	ECF Nos. 307, 309	04-25-2011
B. Braun Melsungen AG	Terumo Corp.	DED	1:09-CV-00347	778 F. Supp. 2d 506	04-21-2011
WhitServe LLC	Computer Packages, Inc.	CTD	3:06-CV-01935	ECF No. 481	03-30-2011
Douglas Dynamics, LLC	Buyers Prods. Co.	WIWD	3:09-CV-00261	ECF No. 530	02-28-2011
Harris Corp.	Fed. Express Corp.	FLMD	6:07-CV-01819	ECF No. 302; 2011 WL 3627379	02-28-2011
Affinity Labs of Texas LLC	BMW N. Am., LLC	TXED	9:08-CV-00164	ECF No. 551	01-26-2011
K-Tec	Vita-Mix	UTD	2:06-CV-00108	765 F. Supp. 2d 1304	01-26-2011
Ernie Ball Inc.	Earvana	CACD	5:06-CV-00384	2011 WL 201816	01-21-2011
Brigham and Women's Hospital, Inc.	Teva Pharms.	DED	1:08-CV-00464	ECF No. 262	01-07-2011
Bendix Comm. Veh. Sys. Inc.	Haldex Brake Prods. Corp.	OHND	1:09-CV-00176	2011 WL 14372	01-03-2011
Otsuka Pharm.	Sandoz, Inc.	NJD	3:07-CV-01000	2010 WL 4596324	11-15-2010
Robert Bosch, LLC	Pylon Mfg. Co.	DED	1:08-CV-00542	748 F. Supp. 2d 383	11-03-2010
Stone Strong, LLC	Delzotto Prods. of Fla., Inc.	FLMD	5:08-CV-00503	2010 WL 4259371	10-25-2010
Streck, Inc.	Research & Diagnostic Sys., Inc.	NED	8:06-CV-00458	ECF No. 386	09-30-2010

O2 Micro Int'l Ltd.	Beyond Innovation Tech. Co.	TXED	2:04-CV-00032	2010 WL 8753254; ECF No. 424	09-27-2010
Input/Output, Inc. (ION)	Sercel, Inc.	TXED	5:06-CV-00236	2010 WL 3911378	09-16-2010
Marine Polymer Techs., Inc.	HemCon Inc.	NHD	1:06-CV-00100	ECF No. 439	09-16-2010
ReedHycalog UK, Ltd.	Diamond Innovations Inc.	TXED	6:08-CV-00325	2010 WL 3238312	08-12-2010
ClearValue, Inc.	Pearl River Polymers, Inc.	TXED	6:06-CV-00197	735 F. Supp. 2d 560	08-12-2010
Soverain Software LLC	Newegg, Inc.	TXED	6:07-CV-00511	836 F. Supp. 2d 462	08-11-2010
Retractable Techs., Inc.	Occupational & Med. Innovations, Ltd. (OMI)	TXED	6:08-CV-00120	2010 WL 3199624	08-11-2010
Alcon, Inc.	Teva Pharms. USA, Inc.	DED	1:06-CV-00234	2010 WL 3081327	08-05-2010
In re Alfuzosin Hydrochloride Patent Litig.		DED	1:08-MD-01941	ECF No. 176	08-03-2010
Dow Chem. Corp.	Nova Chems. Corp.	DED	1:05-CV-00737	2010 WL 3083023	07-30-2010
Custom Designs of Nashville Inc.	Alsa Corp.	TNMD	3:08-CV-00665	727 F. Supp. 2d 719	07-27-2010
Cordance Corp.	Amazon.com, Inc.	DED	1:06-CV-00491	730 F. Supp. 2d 333	07-22-2010
Woods	Deangelo Marine Exhaust, Inc.	FLSD	9:08-CV-81569	ECF No. 260	06-30-2010
Mitsubushi Chem. Corp.	Barr Laboratories	NYSD	1:07-CV-11614	ECF No. 118	06-30-2010
LaserDynamics Inc.	Quanta Computer, Inc.	TXED	2:06-CV-00348	2010 WL 2574059	06-22-2010
Smith & Nephew Inc.	Arthrex, Inc.	TXED	2:07-CV-00335	2010 WL 2522428	06-18-2010
Richter	Supa Tech.	NVD	2:08-CV-00005	ECF No. 145	05-28-2010
Retractable Techs., Inc.	Becton, Dickinson & Co.	TXED	2:07-CV-00250	2010 WL 9034911	05-19-2010

Tyco Healthcare Group LP et al	Applied Medical Resources Group	TXED	9:09-CV-00176	ECF No. 138	05-17-2010
Parker-Hannifin Corp.	Wix Filtration Corp.	OHND	1:07-CV-01374	ECF No. 236	05-03-2010
Humanscale Corp.	CompX Int'l Inc.	VAED	3:09-CV-00086	2010 WL 1779963	04-29-2010
Johnson & Johnson Vision Care	CIBA Vision Corp.	FLMD	3:05-CV-00135	712 F. Supp. 2d 1285	04-27-2010
Ricoh Co.	Quanta Computer Inc.	WIWD	3:06-CV-00462	2010 WL 1607908	04-19-2010
Presidio Components	Amer. Tech. Ceramics	CASD	3:08-CV-00335	723 F. Supp. 2d 1284	04-13-2010
Judkins	HT Window Fashions Corp.	PAWD	2:07-CV-00251	704 F. Supp. 2d 470	03-31-2010
Eli Lilly & Co.	Sicor Pharms, Inc.	INSD	1:06-CV-00238	705 F. Supp. 2d 971	03-31-2010
Arlington Indus. Inc.	Bridgeport Fittings, Inc.	PAMD	3:01-CV-00485	2010 WL 817519	03-09-2010
Mytee Prods., Inc.	Harris Research, Inc.	CASD	3:06-CV-01854	ECF No. 277	01-20-2010
Emcore Corp.	Optium Corp.	PAWD	2:07-CV-00326	2010 WL 235126	01-15-2010
Innovention Toys, LLC	MGA Entm't, Inc.	LAED	2:07-CV-06510	ECF No. 220	01-13-2010
I-Flow Corp.	Apex Med. Tech., Inc	CASD	3:07-CV-01200	2010 WL 141402	01-08-2010
IGT	Bally Gaming Int'l Inc.	DED	1:06-CV-00282	675 F. Supp. 2d 487	12-22-2009
Creative Internet Advertising Corp.	Yahoo Inc.	TXED	6:07-CV-00354	674 F. Supp. 2d 847	12-09-2009
Japan Cash Machine Co.	MEI, Inc.	NVD	2:05-CV-01433	ECF No. 374	11-03-2009
Cummins-Allison Corp	SBM Co., Ltd.	TXED	9:07-CV-00196	ECF Nos. 219, 221	10-30-2009
Monsanto Co.	Bowman	INSD	2:07-CV-00283	686 F. Supp. 2d 834	09-30-2009
The Western Union Co.	Moneygram International	TXWD	1:07-CV-00372	2009 WL 8660103	09-30-2009

Eli Lilly & Co.	Teva Pharms. USA, Inc.	INSD	1:06-CV-01017	657 F. Supp. 2d 967	09-23-2009
Flexiteek Ams., Inc.	PlasTEAK, Inc.	FLSD	0:08-CV-60996	2009 WL 2957310	09-15-2009
Spectralytics Inc.	Cordis Corp.	MND	0:05-CV-01464	650 F. Supp. 2d 900	09-04-2009
Unigene Labs., Inc.	Apotex Inc. et al.	NYSD	1:06-CV-05571	2009 WL 2762706	08-31-2009
August Tech. Corp.	Camtek Ltd.	MND	0:05-CV-01396	ECF No. 547	08-28-2009
Merck Sharp & Dohme Pharm. SRL	Teva Pharm. USA, Inc.	NJD	3:07-CV-01596	2009 WL 3153316	08-19-2009
Finjan Software Ltd.	Secure Computing Corp.	DED	1:06-CV-00369	2009 WL 2524495	08-17-2009
i4i LP	Microsoft Corp.	TXED	6:07-CV-00113	670 F. Supp. 2d 568	08-11-2009
Daiichi Sankyo Co., Ltd.	Mylan Pharms.	NJD	2:06-CV-03462	ECF No. 143	08-06-2009
Medtronic Sofamor Danek USA, Inc.,	Globus Med., Inc.	PAED	2:06-CV-04248	637 F. Supp. 2d 290	07-17-2009
iLight Techs., Inc.	Fallon Luminous Prods. Corp.	TNMD	2:06-CV-00025	ECF No. 314	07-02-2009
Transamerica Life Ins. Co.	Lincoln Nat'l Life Ins. Co.	IAND	1:06-CV-00110	625 F. Supp. 2d 702	06-08-2009
Haemonetics Corp.	Baxter Healthcare Corp.	MAD	1:05-CV-12572	ECF No. 328	06-01-2009
Hypoxico Inc.	Colorado Altitude Training	NYSD	1:02-CV-06191	630 F. Supp. 2d 319	05-29-2009
Koninklijke Philips Elecs. NV	Power Media CD Tek, Inc.	CACD	2:07-CV-04788	ECF No. 176	05-21-2009
Mass Eng'd Design	Ergotron, Inc.	TXED	2:06-CV-00272	633 F. Supp. 2d 361	04-17-2009
Bard Peripheral Vascular	W.L. Gore & Assocs., Inc.	AZD	2:03-CV-00597	2009 WL 920300	03-31-2009
Kowalski	Mommy Gina Tuna Resources	HID	1:06-CV-00182	2009 WL 856006	03-30-2009

Joyal Prods., Inc.	Johnson Elec. N. Am., Inc.	NJD	3:04-CV-05172	2009 WL 512156	02-27-2009
Hynix Semiconductor, Inc.	Rambus Inc.	CAND	5:00-CV-20905	609 F. Supp. 2d 951	02-23-2009
Global Traffic Techs. LLC	Tomar Elecs., Inc.	MND	0:05-CV-00756	ECF No. 374	01-23-2009
U.S. Philips Corp.	Iwasaki Elec. Co	NYSD	1:03-CV-00172	607 F. Supp. 2d 470	01-13-2009
Ariba Inc.	Emptoris Inc.	TXED	9:07-CV-00090	ECF No. 329	01-07-2009
Telcordia Techs., Inc.	Cisco Sys., Inc.	DED	1:04-CV-00876	592 F. Supp. 2d 727	01-06-2009
Funai Elec. Co., Ltd.	Daewoo Elecs. Corp.	CAND	3:04-CV-01830	593 F. Supp. 2d 1088	01-05-2009
Sensormatic Elec. Corp.	The Tag Co.	FLSD	9:06-CV-81105	632 F. Supp. 2d 1147	12-19-2008
Vertical Doors Inc.	J.T. Bonn Inc.	CACD	8:05-CV-00905	ECF No. 468	12-15-2008
Power Integrations, Inc.	Fairchild Semiconductor Intern.	DED	1:04-CV-01371	2008 WL 5210843	12-12-2008
Smith & Nephew Inc.	Arthrex Inc.	ORD	3:04-CV-00029	629 F. Supp. 2d 1176	12-03-2008
American Calcar Inc.	American Honda Motor Co.	CASD	3:06-CV-02433	ECF No. 548	11-18-2008
Callaway Golf Co.	Acushnet Co.	DED	1:06-CV-00091	585 F. Supp. 2d 600	11-10-2008
Cam Guard Sys., Inc.	Smart Sys. Techs, Inc.	CACD	8:07-CV-01051	ECF No. 226	11-10-2008
Becton Dickinson Co.	Tyco Healthcare	DED	1:02-CV-01694	2008 WL 4745882	10-31-2008
Extreme Networks, Inc.	Enterasys Networks, Inc.	WIWD	3:07-CV-00229	2008 WL 4756498	10-29-2008
Advanced Cardiovascular Sys., Inc.	Medtronic Vascular, Inc.	DED	1:98-CV-00080	579 F. Supp. 2d 554	09-26-2008
Gemtron Corp.	Saint-Gobain Corp.	MIWD	1:04-CV-00387	ECF No. 831	09-23-2008

Pressure Prods. Med. Supplies Inc.	Quan Emerteq Corp.	TXED	9:06-CV-00121	ECF Nos. 247, 248	08-20-2008
TruePosition, Inc.	Andrew Corp.	DED	1:05-CV-00747	568 F. Supp. 2d 500	07-31-2008
Emory Univ.	Nova Biogentics	GAND	1:06-CV-00141	2008 WL 2945476	07-25-2008
Anascape, Ltd.	Nintendo of Am.	TXED	9:06-CV-00158	ECF Nos. 384, 395	07-23-2008
Grantley Patent Holding, Ltd.	Clear Channel Communications, Inc.	TXED	9:06-CV-00259	ECF Nos. 244, 245	06-10-2008
Trading Tech. Int'l	eSpeed	ILND	1:04-CV-05312	2008 WL 4531371	05-22-2008
Kowalski	Ocean Duke Corp.	HID	1:04-CV-00055	ECF No. 270	04-30-2008
Power-One, Inc.	Artesyn Techs., Inc. (Emerson)	TXED	2:05-CV-00463	2008 WL 1746636	04-11-2008
Fresenius USA, Inc.	Baxter Int'l Inc.	CAND	4:03-CV-01431	2008 WL 928496	04-04-2008
Chase Med., L.P.	CHF Techs., Inc.	TXND	3:04-CV-02570	ECF No. 311	04-02-2008
Ecolab, Inc.	FMC Corp.	MND	0:05-CV-00831	ECF No. 529	04-02-2008
Orion IP, LLC	Mercedes-Benz USA	TXED	6:05-CV-00322	2008 WL 8856865	03-28-2008
Avid Identification Sys.	Philips Elecs. N. Am. Corp.	TXED	2:04-CV-00183	2008 WL 819962	03-25-2008
Blackboard Inc.	Desire2Learn Inc.	TXED	9:06-CV-00155	ECF No. 363	03-11-2008
Amgen	F. Hoffman-LaRoche Ltd.	MAD	1:05-CV-12237	ECF No. 1675; 581 F. Supp. 2d 160	02-28-2008
Cygnus Telecommunications Tech., LLC	WorldPort Communications	CAND	5:02-CV-00144	2008 WL 506182	02-22-2008
ResQNet.com, Inc.	Lansa, Inc.	NYSD	1:01-CV-03578	533 F. Supp. 2d 397	02-01-2008
Respironics, Inc.	Invacare Corp.	PAWD	2:04-CV-00336	2008 WL 111983	01-07-2008
Broadcom Corp.	Qualcomm, Inc.	CACD	8:05-CV-00467	ECF No. 996	12-31-2007

DePuy Spine, Inc.	Medtronic Sofamor Danek, Inc.	MAD	1:01-CV-10165	ECF Nos. 581, 585	12-21-2007
Celerity, Inc.	Ultra Clean Holding Inc.	CAND	3:05-CV-04374	ECF No. 551	11-30-2007
Acumed, LLC	Stryker Corp.	ORD	3:04-CV-00513	2007 WL 4180682	11-20-2007
Martek Biosciences Corp.	Nutrinova, Inc.	DED	1:03-CV-00896	520 F. Supp. 2d 537	10-30-2007
Sundance, Inc.	DeMonte Fabricating Ltd.	MIED	2:02-CV-73543	2007 WL 3053662	10-19-2007
Koninklijke Philips Elecs. NV	Int'l Disc Mfrs.	CACD	2:06-CV-02468	ECF No. 302	10-10-2007
Baden Sports, Inc.	Kabushiki Kaisha Molten	WAWD	2:06-CV-00210	2007 WL 2790777	09-25-2007
Telecomm. Sys, Inc.	Mobile 365, Inc.	EDVA	3:06-CV-00485	ECF No. 224	09-04-2007
Allan Block Corp.	E. Dillon & Co.	MND	0:04-CV-03511	509 F. Supp. 2d 795	08-20-2007
Johns Hopkins Univ.	Datascope Corp.	MDD	1:05-CV-00759	513 F. Supp. 2d 578	08-09-2007
Muniauction, Inc.	Thomson Corp.	PAWD	2:01-CV-01003	502 F. Supp. 2d 477	07-31-2007
MercExchange, LLC	eBay, Inc.	VAED	2:01-CV-00736	500 F. Supp. 2d 556	07-27-2007
Diomed, Inc.	Angiodynamics, Inc.	MAD	1:04-CV-10019	ECF No. 287	07-02-2007
Sanofi-Synthelabo	Apotex, Inc.	NYSD	1:02-CV-02255	492 F. Supp. 2d 353	06-19-2007
Commonwealth Sci. & Indus. Res. Org. (CSIRO)	Buffalo Tech. (USA), Inc.	TXED	6:06-CV-00324	492 F. Supp. 2d 600	06-15-2007
Brooktrout, Inc.	Eicon Networks Corp.	TXED	2:03-CV-00059	2007 WL 1730112	06-14-2007
Heuft Systemtechnik GmbH	Indus. Dynamics Co.	CACD	2:05-CV-06299	ECF No. 314	06-08-2007

Lexion Med Inc.	Northgate Techs. Inc.	ILND	1:04-CV-05705	ECF No. 236	05-29-2007
Informatica Corp.	Business Objects Data Integration, Inc.	CAND	3:02-CV-03378	ECF No. 694	05-16-2007
Proveris Scientific Corp.	Innovasystems, Inc.	MAD	1:05-CV-12424	ECF No. 150	05-11-2007
MGM Well Servs., Inc.	Mega Lift Sys., LLC	TXSD	4:05-CV-01634	505 F. Supp. 2d 359	04-25-2007
800 Adept, Inc.	Murex Securities, Ltd.	FLMD	6:02-CV-01354	505 F. Supp. 2d 1327	04-12-2007
Praxair, Inc.	ATMI, Inc.	DED	1:03-CV-01158	479 F. Supp. 2d 440	03-27-2007
O2 Micro Int'l, Ltd.	Beyond Innovation Tech. Co., Ltd.	TXED	2:04-CV-00032	2007 WL 869576	03-21-2007
Ortho-McNeil Pharm., Inc.	Mylan Labs Inc.	NJD	2:04-CV-01689	2007 WL 869545	03-20-2007
Amado	Microsoft Corp.	CACD	8:03-CV-00242	ECF No. 661	03-13-2007
Verizon Servs. Corp.	Vonage Holdings Corp.	VAED	1:06-CV-00682	ECF No. 549	03-08-2007
Atlanta Attachment Co.	Leggett & Platt, Inc.	GAND	1:05-CV-01071	2007 WL 5011980	02-23-2007
Momentus Golf, Inc.	Swingrite Golf Corp.	IASD	4:02-CV-40252	ECF No. 224	02-16-2007
Novozymes A/S	Genencor Int'l, Inc.	DED	1:05-CV-00160	474 F. Supp. 2d 592	02-16-2007
Genlyte Thomas Group LLC	Arch. Lighting Group	MAD	1:05-CV-10945	ECF No. 80	02-05-2007
MPT, Inc.	Marathon Labels, Inc.	OHND	1:04-CV-02357	505 F. Supp. 2d 401	01-19-2007
Exergen Corp.	CVS Corp.	MAD	1:01-CV-11306	ECF No. 256	01-12-2007
Innogenetics, N.V.	Abbott Labs.	WIWD	3:05-CV-00575	578 F. Supp. 2d 1079; 2007 WL 5431017	01-12-2007
IMX, Inc.	LendingTree, Inc.	DED	1:03-CV-01067	469 F. Supp. 2d 203	01-10-2007
Transocean Offshore	GlobalSantaFe Corp.	TXSD	4:03-CV-02910	2006 WL 3813778	12-27-2006

Deepwater Drilling, Inc.					
Visto Corp.	Seven Networks, Inc.	TXED	2:03-CV-00333	2006 WL 3741891	12-19-2006
Cybersettle, Inc.	Nat'l Arbitration Forum, Inc.	NJD	3:04-CV-04744	ECF No. 73; 2006 WL 3256824	12-18-2006
Black & Decker Inc.	Robert Bosch Tool Corp.	ILND	1:04-CV-07955	2006 WL 3446144	11-20-2006
Color Kinetics, Inc.	Super Vision Int'l, Inc.	MAD	1:02-CV-11137	ECF No. 266	11-08-2006
Omegaflex, Inc.	Parker Hannifin Corp.	MAD	3:02-CV-30022	ECF No. 142	10-19-2006
Janssen Pharm.	Dr. Reddy's Laboratories	NJD	2:03-CV-06185	ECF No. 92	10-13-2006
Rosco, Inc.	Mirror Lite Co.	NYED	1:96-CV-05658	2006 WL 2844400	09-29-2006
Smith & Nephew, Inc.	Synthes (U.S.A.)	TNWD	2:02-CV-02873	466 F. Supp. 2d 978	09-28-2006
3M Innovative Properties Co.	Avery Dennison Corp.	MND	0:01-CV-01781	2006 WL 2735499	09-25-2006
Int'l Rectifier	IXYS Corp.	CACD	2:00-CV-06756	ECF Nos. 689, 690	09-14-2006
Voda	Cordis Corp.	OKWD	5:03-CV-01512	2006 WL 2570614	09-05-2006
Finisar Corp.	DirecTV Group Inc.	TXED	1:05-CV-00264	2006 WL 2037617	09-01-2006
Pods, Inc.	Porta Stor, Inc.	FLMD	8:04-CV-02101	ECF No. 209	08-25-2006
Litecubes, LLC	Northern Light Prods., Inc.	MOED	4:04-CV-00485	2006 WL 5700252	08-25-2006
TiVo	Echostar (Dish Network)	TXED	2:04-CV-00001	446 F. Supp. 2d 664	08-17-2006
Paice LLC	Toyota Motor Corp.	TXED	2:04-CV-00211	2006 WL 2385139	08-16-2006
Brinton	Loggans	TNMD	3:04-CV-00177	ECF Nos. 153, 154, 160	08-06-2006
Wald	Mudhopper Oilfield Servs., Inc.	OKWD	5:04-CV-01693	2006 WL 2128851	07-27-2006

z4	Microsoft Corp.	TXED	6:06-CV-00142	434 F. Supp. 2d 437	06-14-2006