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Tailoring Remedies to Spur Innovation

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Tailoring Remedies to Spur Innovation

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TAILORING REMEDIES TO SPUR INNOVATION

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An emerging rule in the district courts—thus far endorsed by the United States Court of Appeals for the Federal Circuit—allows a victorious patent holder to receive a permanent injunction against an infringer if she is able to show that she has suffered a loss of market share due to the infringement. The larger the loss of market share the patent holder can prove, the more likely the court will issue an injunction. This “market share rule” is a response to the Supreme Court’s ruling in eBay Inc. v. MercExchange, L.L.C., exhorting lower courts to engage in equitable balancing before awarding permanent injunctions. The case followed a flare-up of concern over entities—sometimes termed “patent trolls”—that do not practice their patents but demand what some consider exorbitant licensing fees from those who would. These entities arguably introduce inefficiencies into the patent system that impede innovation, thereby affecting access. Although academics and practitioners hoped that eBay would address particular instances in which the availability of an injunction hinders innovation, market share is an imperfect indicator of innovative activity. Importantly, for the purpose of identifying entities that hinder innovation, market share is simultaneously over- and under-inclusive. The market share rule is over-inclusive because some of the business models that currently contribute the most to innovation lack market share. To protect these innovators, courts are contorting the emerging rule to grant permanent injunctions for innovative companies that lack market share. The market share rule is also under-inclusive because firms that possess high levels of market share have incentives not to bring innovation to market, and yet

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these incentives are not accounted for under the market share rule.

A better rule would allow courts to explicitly evaluate the effects of permanent injunctions on incentives to innovate and to provide access to that innovation under a public interest analysis. Although loss of market share should remain one measure of the need for injunctive relief, its influence should be tempered by a serious analysis of the public's interest in encouraging innovation on the one hand, and access on the other. This more balanced analysis will necessarily include information about market structure as well. A market share rule that incorporates a public interest analysis would allow courts to curtail remedies in situations likely to lead to holdups, while granting injunctions to entities with business models that rely on licensing fees to fund further research, thereby granting remedies tailored to the innovation and access goals that form the basis of the patent system.

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INTRODUCTION

In order to encourage innovation, patent law offers a time-limited right to exclude to inventors who disclose their inventions.¹ The

1. U.S. CONST. art. I, § 8, cl. 8 (“The Congress shall have Power . . . [t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries”); see Rebecca S. Eisenberg, *Patents and the Progress of Science: Exclusive Rights and Experimental Use*, 56 U. CHI. L. REV. 1017 (1989), as reprinted in MARTIN J. ADELMAN ET AL., CASES AND MATERIALS ON PATENT LAW 33–34 (1998) (explaining how the courts expect the right of exclusion to provide an incentive for individuals to invest in research and to disclose their new inventions, thereby benefiting the general public); David S. Olson, *Taking the Utilitarian Basis for Patent Law Seriously: The Case for Restricting Patentable Subject Matter*, 82 TEMP. L. REV. 181, 195–97 (2009) (analyzing how the patent system offers a solution to the public goods

disclosure-for-protection trade-off assumes that a patent holder will use this time to profit from producing or licensing the invention, thus rewarding her investment in research and development and benefiting the public by granting it access to the technology before the patent expires.² Remedies for infringement of this right may include money damages or equitable remedies, such as a permanent injunction against future infringement.³ The Supreme Court considered the proper analysis for determining whether to grant injunctions in patent cases in *eBay Inc. v. MercExchange, L.L.C.*⁴ This Article addresses whether *eBay* has positively influenced the law such that injunctions are being granted in ways that fit the constitutional purposes of the patent system, and in particular, the goal of encouraging innovation that will result in access to new technology by consumers or other innovators. These goals are generalized versions of the concerns that were increasingly voiced in the period before the Supreme Court's grant of certiorari.⁵ Specific concerns were focused on problems that can be described as "suspect patents," such as improvidently granted or overbroad patents,⁶ and "suspect entities,"

problem by granting inventors exclusive right to control their invention for twenty years).

2. See Dan L. Burk & Mark A. Lemley, *Policy Levers in Patent Law*, 89 VA. L. REV. 1575, 1580 (2003) (discussing how the exclusive rights granted to inventors is a limitation society is willing to accept in the name of greater innovation and social utility of inventions); John F. Duffy, *Rethinking the Prospect Theory of Patents*, 71 U. CHI. L. REV. 439, 439–40 (2004) (explaining how the protections offered to inventors create incentives or rewards for continued innovation by eliminating the fear that a product could be appropriated by a competitor); Maureen A. O'Rourke, *Toward a Doctrine of Fair Use in Patent Law*, 100 COLUM. L. REV. 1177, 1179 (2000) (elaborating how the assumption that patent laws lead to innovation is based on market incentives causing patentees to act efficiently by licensing their product, which allows for public exposure and further innovation).

3. See 35 U.S.C. § 283 (2006) ("The several courts having jurisdiction of cases under this title may grant injunctions in accordance with the principles of equity to prevent the violation of any right secured by patent, on such terms as the court deems reasonable.").

4. 547 U.S. 388, 78 U.S.P.Q.2d (BNA) 1577 (2006).

5. See, e.g., ADAM B. JAFFE & JOSH LERNER, *INNOVATION AND ITS DISCONTENTS: HOW OUR BROKEN PATENT SYSTEM IS ENDANGERING INNOVATION AND PROGRESS, AND WHAT TO DO ABOUT IT 2* (2004) (describing how the growing risks of being sued, and the royalties patent holders must pay to avoid such lawsuits, have become hurdles that further threaten innovation); Michelle Kessler, *Patent Lawsuits Hit Tech Titans*, USA TODAY, Feb. 12, 2006, http://www.usatoday.com/tech/news/2006-02-12-patent-lawsuits_x.htm (mentioning the increasing number of lawsuits large companies face from small inventors with broad patents); Bernard Stamler, *Battles of the Patents, Like David v. Goliath*, N.Y. TIMES, Feb. 21, 2006, <http://www.nytimes.com/2006/02/21/business/businessspecial2/21patent.html?r=1&oref=slogin&pagewanted=print> (quoting a patent lawyer who likened patent troll activity to "legalized extortion" but noting that it is not always clear which actor is like David and which like Goliath based on business size alone).

6. See JAFFE & LERNER, *supra* note 5, at 118–19 (discussing how *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368, 47 U.S.P.Q.2d (BNA)

such as companies that do not practice their patents but exist solely to hold up productive companies for exorbitant licensing fees.⁷ Problems with overbroad or improvidently granted patents were not central to the dispute in *eBay*, and have since been addressed more fully by *Bilski v. Kappos*⁸ and the recently enacted America Invents Act.⁹ The Court, however, faced the problem of suspect entities in *eBay*.¹⁰ An examination of the case law following *eBay* demonstrates that courts are indeed identifying certain situations in which incentives to innovate may be distorted by particular types of patent holders that do not practice their patents. Specifically, courts grant injunctions for patent infringement where the patent holder is a competitor with significant market share and deny injunctions to entities that cannot show market share.¹¹ These decisions are made within the framework of the traditional equitable test for injunctions, reiterated in *eBay*.¹² Market share is considered significant to

1596 (Fed. Cir. 1998), expanded patentability to include patents on business methods).

7. See *id.* at 111–15 (discussing the increased grant of permanent injunctions following the formation of the United States Court of Appeals for the Federal Circuit).

8. 130 S. Ct. 3218, 95 U.S.P.Q. (BNA) 1001 (2010). In 2006, it was assumed that the Court would address both problems through a pair of cases: *Laboratory Corp. of America Holdings v. Metabolite Laboratories, Inc. (LabCorp)*, 548 U.S. 124, 79 U.S.P.Q.2d (BNA) 1065 (2006) (per curiam), for suspect patents, and *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 78 U.S.P.Q.2d (BNA) 1577 (2006), for suspect entities. See, e.g., *Inventing the Future*, CHI. TRIB., Apr. 3, 2006, http://articles.chicagotribune.com/2006-04-03/news/0604030151_1_patent-system-patent-and-trademark-office-invention (discussing *eBay* and *LabCorp* as vehicles to address overbroad patents and “automatic injunctions” for “a company whose primary business is enforcing the patents it holds”). *LabCorp*, however, was dismissed as improvidently granted. 548 U.S. at 125, 79 U.S.P.Q.2d (BNA) at 1065.

9. See Leahy-Smith America Invents Act, Pub. L. No. 112-29, §§ 6, 18, 22, 125 Stat. 284, 306, 329, 336 (2011) (including more opportunities for public feedback during the application process, a new post-grant review system for patents directed toward business methods, and a provision allowing the U.S.P.T.O. to set its own fees, thus allowing for more examiners to be hired and the backlog of applications to be addressed).

10. *eBay*, 547 U.S. at 393, 78 U.S.P.Q.2d (BNA) at 1579 (criticizing the appellate court’s adoption of “certain expansive principles suggesting that injunctive relief could not issue in a broad swath of cases,” and particularly its holding that “a ‘plaintiff’s willingness to license its patents’ and ‘its lack of commercial activity in practicing the patents’ would be sufficient to establish that the patent holder would not suffer irreparable harm if an injunction did not issue” (citation omitted)). Notably, the majority opinion did not explicitly address the application of an equitable balancing test to NPEs, while both concurrences did. *Id.* at 394–95, 78 U.S.P.Q.2d (BNA) at 1580 (Roberts, C.J., concurring); *id.* at 395–97, 78 U.S.P.Q.2d (BNA) at 1580 (Kennedy, J., concurring).

11. See *infra* Part II.C (explaining the new standard courts use to evaluate whether to grant permanent injunctions).

12. See *eBay*, 547 U.S. at 391, 78 U.S.P.Q.2d (BNA) at 1579 (noting that the familiar principles of equity governing injunctions apply with “equal force” to patents).

determine the first two factors of that test—irreparable injury and inadequacy of monetary damages.¹³ The other factors, balancing of harm to the parties and the public interest, are generally recited *pro forma*, with an assumption that both favor granting an injunction to remedy patent infringement.¹⁴

Upon closer examination, however, problems with the emerging “market share rule” become apparent. If the ultimate goal of patent law is to produce the optimal level of innovation, and if *eBay* was meant to correct for instances in which incentives to innovate are skewed, the current test is incorrect in form and too narrow in practice. Concerns leading to *eBay* are properly cast as concerns about the ability of a patent holder to hold up licensing negotiations, thereby impacting potential licensees and the public by withholding access to the invention during the life of the patent. With this backdrop of innovation and access concerns, a focus on the factors of irreparable injury and inadequacy of money damages misses an opportunity to weigh access concerns under the public interest factor, where those concerns should be considered. In addition, distortions in incentives to innovate may indeed occur with entities that have small amounts of market share, but market share is ultimately a poor indicator of innovative potential. Market share is just as likely to tell a story about the stage of development of a company. Even when it describes the business model of a company, lack of market share is overbroad, including in its ambit innovative research companies and educational institutions. By privileging certain business structures, reliance on market share also hinders the emergence of other structures, such as firms that specialize in research and development, rather than production and marketing.¹⁵ Importantly, the essential assumption about the generally positive correlation between market share and innovative potential of a firm also breaks down under scrutiny. The correlation of market power and innovation has been examined by economists and antitrust

13. *E.g.*, *i4i Ltd. P’ship v. Microsoft Corp.*, 598 F.3d 831, 862, 93 U.S.P.Q.2d (BNA) 1943, 1966 (Fed. Cir. 2010) (affirming the district court’s injunction on these factors and citing market share as a key consideration).

14. *See Hybritech Inc. v. Abbott Labs.*, 849 F.2d 1446, 1447–48, 7 U.S.P.Q.2d (BNA) 1191, 1201 (Fed. Cir. 1988) (discussing the third and fourth factors briefly and weighing them in favor of granting an injunction).

15. This particular problem with a categorical rule was pointed out in *eBay*, too. 547 U.S. at 393, 78 U.S.P.Q.2d (BNA) at 1579 (citing, for example, academic researchers or inventors who prefer licensing their product rather than seeking funding for marketing, finding that “[s]uch patent holders may be able to satisfy the traditional four-factor test, and we see no basis for categorically denying them the opportunity to do so”). It is unclear how a categorical rule based on market share could be more acceptable than the categorical rule struck down in *eBay*.

scholars, whose literature suggests what courts have ignored: that high levels of market power¹⁶ are also likely to lead to inefficiencies.

A more effective test would be to return market share to a reasonable level of influence as a consideration under the first two factors of the equitable test and to adopt an analysis of market share (or power) under the public interest factor, which would allow for balancing the value of strong patent rights with the public interest in access to innovation.¹⁷

The Article proceeds as follows. In Part I, I introduce the purpose of the permanent injunction remedy in patent law and its place in the balance struck by the patent grant. In Part II, I review the literature surrounding *eBay* and the concern over patent “holdup” situations, particularly in the case of non-practicing entities (NPEs), the *eBay* case, and the concerns voiced in Justice Kennedy’s concurrence that appear to have strongly influenced district courts. I conclude that these concerns center on the idea that for certain patent holders, incentives are skewed and that rather than leading to optimal levels of innovation, they result in reduced access to emerging technologies for the public and for other innovators. I next examine how district courts have ruled on permanent injunctions following *eBay* and their focus on the proxy measure of market share to identify these patent holders. I find that, although the problem many hoped the Court would remedy concerned the public interest in access, courts generally grant injunctions by invoking the irreparable injury and inadequacy of money damages prongs of the four-factor test when a patent holder shows that it is a competitor with significant market share.

In Part III, I turn to an assessment of the emerging market share rule, arguing that by focusing on the identity of the patent holder rather than balancing the exclusivity grant against its access benefits, the market share rule is both under- and over-inclusive. However, this mis-focus is endemic to an analysis under the first two factors, which are centered on the patent holder and do not allow for balancing the incentive structure embodied in the patent system with the public interest in access to innovation.

The substance of the rule is of equal concern. After showing that the market share rule imperfectly fulfills the narrow purpose of

16. See *infra* Part III.C (discussing how market share and market power are often used interchangeably).

17. This suggestion finds support—albeit scant—in Justice Kennedy’s concurrence in *eBay*. 547 U.S. at 395–97, 78 U.S.P.Q.2d (BNA) at 1580–81 (Kennedy, J., concurring) (emphasizing the need to weigh all four factors before granting a remedy).

denying injunctions to NPEs, Part III analyzes the broader purpose behind the patent laws and the grant of a permanent injunction to show that the rule may not increase incentives to bring innovation to market. To this end, antitrust theory regarding the relationship between market structure and incentives to innovate is instructive. Antitrust looks at market power as an indicator of innovative potential. At worst, contradictory and convoluted evidence fails to support the idea that market power and innovative potential are correlated. At best, initially competing but ultimately complementary antitrust narratives indicate that innovative incentive may increase with market power to a certain degree, but then decrease again once a certain level of market power has been achieved. Regarding *eBay* concerns, the implications are that patent holdup and access concerns should not be limited to non-practicing or suspect entities, but should also be of concern for all companies with high levels of market power. Conversely, a suspect entity with little market power will have little ability to hold up competition. Under this analysis, market power as an indicator of potential access concerns emerges as a useful addition to market share as an indicator of injury to the patent holder when assessing the appropriateness of a permanent injunction.

In Part IV, I examine the public interest prong of the four-factor test and find that this inquiry properly allows weighing of the general interest in strong patent rights with the public's interest in access to innovation. I then discuss a pair of cases in which injunctions were denied and suggest that the courts employed contorted logic to reach their conclusions. A straightforward consideration of market share under a more robust public interest analysis would have resulted in the same conclusion, without the contortions. Thus, the question arises why the public interest prong has not been used to deny permanent injunctions where there is too little or too much market power. An examination of the *eBay* decision's legal progenitor, *Continental Paper Bag Co. v. Eastern Paper Bag Co.*,¹⁸ demonstrates the influence of the notion that competitors are more deserving of permanent injunctions than non-competitors, while an analysis of the public interest prong of the four-factor test is almost absent. Nonetheless, I argue that the public interest prong, not the first two prongs of *eBay*, can properly account for situations in which the strength of the patent right should be lessened to fix skewed

18. 210 U.S. 405 (1908).

incentives that deny the public and other innovators access to innovation.

I. PATENT LAW AND PERMANENT INJUNCTIONS

The Constitution ensures the promotion of progress by granting inventors exclusive but time-limited rights over their discoveries.¹⁹ The right granted by a patent is the “right to exclude others from making, using, offering for sale, or selling the invention.”²⁰ The patent grant incentivizes innovation by rewarding those who invent something useful, and it provides knowledge of the innovation to the public by dictating that the invention be disclosed and returning the invention to the public domain when the patent expires.²¹ The disadvantage of the patent grant is that public access to the invention is diminished in various ways: (1) a monopoly rent can be extracted because of the lack of competition, and thus fewer people may be willing or able to purchase the invention; (2) other inventions that build on the patented invention may be delayed or not occur, thus depriving both putative future innovators of the ability to innovate and the public of access to a future innovation; and (3) the patent holder may choose not to bring the invention to market at all. The patent grant is, therefore, a balance of access interests.

The patent system thus provides incentives to innovate in the form of granting a time-limited monopoly, characterized by a right to exclude.²² The appropriate remedy for infringement of the patent right typically has been deemed the permanent injunction, an equitable remedy left to the discretion of the courts.²³ The justification for granting a permanent injunction as opposed to other remedies, such as a reasonable royalty award,²⁴ follows the traditional

19. U.S. CONST. art. I, § 8, cl. 8.

20. 35 U.S.C. § 154(a)(1) (2006).

21. See *Pfaff v. Wells Elecs., Inc.*, 525 U.S. 55, 63, 48 U.S.P.Q.2d (BNA) 1641, 1645 (1998) (“[T]he patent system represents a carefully crafted bargain that encourages both the creation and the public disclosure of new and useful advances in technology, in return for an exclusive monopoly for a limited period of time.”); WILLIAM M. LANDES & RICHARD A. POSNER, *THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW* 12–16 (2003) (utilizing “the tragedy of the commons” to demonstrate the need for individual property rights in order to encourage innovation).

22. See 35 U.S.C. § 283 (2006) (stating that the courts have jurisdiction to grant injunctions to prevent patent violations).

23. See *Cont'l Paper Bag Co.*, 210 U.S. at 430 (explaining that the most effective means of enforcing patent rights is to prevent their infringement); John M. Golden, Commentary, “Patent Trolls” and Patent Remedies, 85 TEX. L. REV. 2111, 2120 (2007) (discussing how courts at the turn of the twentieth century routinely granted injunctions for infringed patents).

24. For an argument that federal courts lack authority to grant prospective relief

reasoning of property versus liability rules, assuming that for rights over inventions whose values are unknown, a property rule is most appropriate.²⁵

As in other areas of law, however, the courts first look to four factors when determining whether the equitable remedy of a permanent injunction is warranted: (1) whether denial of the injunction would lead to irreparable injury for the patent holder, (2) whether money damages are inadequate compensation, (3) whether a balance of the hardships to the parties favors either outcome, and (4) whether the public interest favors entry of an injunction.²⁶ The applicability of the four-factor test to grants of permanent injunctions for patent infringement was upheld by the Supreme Court in *eBay*.²⁷

However, the *eBay* Court was focused on particular situations in which property rules typically fail, addressed in the two concurrences.²⁸ These situations involve what can be described as either suspect patents or suspect entities and the concern that holdup is more likely to occur where a patent is overbroad or improvidently granted or where a patent holder has no economic incentive to limit her demands to the worth of the patented invention.²⁹ The second of these concerns, suspect entities, generally has focused on patent holders who neither produce the patented invention nor license it at what is considered a reasonable cost to others.³⁰ Concern about these situations provides the backdrop to the Court's decision.

Before the Supreme Court decided *eBay*, permanent injunctions were routinely granted following a finding of infringement. The operating assumption was that in rare cases, the public interest in

in such forms, see generally H. Tomás Gómez-Arostegui, *Prospective Compensation in Lieu of a Final Injunction in Patent and Copyright Cases*, 78 *FORDHAM L. REV.* 1661 (2010) (comprehensively discussing and dismissing legal and equitable remedies at common law in addition to statutory remedies as bases for a grant of prospective remedies for patent infringement). For a summary of cases in which such ongoing royalties were awarded, see *id.* at 1672–74.

25. See Michael A. Carrier, *Cabining Intellectual Property Through a Property Paradigm*, 54 *DUKE L.J.* 1, 4, 52–54 (2004) (noting the propertization of intellectual property law but hailing limits that the property framework imports).

26. *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 391, 78 U.S.P.Q.2d (BNA) 1577, 1578 (2006).

27. *Id.* at 394, 78 U.S.P.Q.2d (BNA) at 1580.

28. *Id.* at 394–95, 78 U.S.P.Q.2d (BNA) at 1580 (Roberts, C.J., concurring); *id.* at 395–97, 78 U.S.P.Q.2d (BNA) at 1580–81 (Kennedy, J., concurring).

29. See *id.* at 395–97, 78 U.S.P.Q.2d (BNA) at 1580–81 (Kennedy, J., concurring) (noting that issuance of overbroad patents may affect how courts approach the four-factor test).

30. Such entities are sometimes called “patent trolls,” or, where judgment is withheld, “non-practicing entities.” A useful and generally accepted working definition for an NPE is an entity that neither competes with infringers nor exclusively licenses to someone who does. Golden, *supra* note 23, at 2112, 2114.

access to a particular innovation is strong enough that these access interests trump the right to exclude.³¹ In situations that implicated public health, for example, permanent injunctions were occasionally denied.³² Generally, however, a refusal to grant a permanent injunction did not diminish the right to exclude.³³ Courts understood that strong remedies resulted in strong incentives to innovate, and thus the public interest prong of the four-factor test was typically considered to favor granting injunctions.³⁴

II. CONCERNS ABOUT SKEWED INCENTIVES, THE *EBAY* DECISION, AND ITS PROGENY: A RULE EMERGES

A. *The Path to eBay*

The furor over NPEs and their skewed incentives grew in the years leading up to the *eBay* decision. Analysis of these concerns has not abated following the decision, although it has come to include criticism of the scope of the problem,³⁵ the existence of a problem,³⁶ and the ability of courts to effectively implement a solution.³⁷ NPEs entered public consciousness in earnest during the litigation

31. *MercExchange, L.L.C. v. eBay Inc.*, 401 F.3d 1323, 1338–39, 74 U.S.P.Q.2d (BNA) 1225, 1238 (Fed. Cir. 2005), *vacated*, 547 U.S. 388, 78 U.S.P.Q.2d (BNA) 1577 (2006).

32. *See, e.g.*, *City of Milwaukee v. Activated Sludge, Inc.*, 69 F.2d 577, 593, 21 U.S.P.Q. (BNA) 69, 85 (7th Cir. 1934) (declining to enter a permanent injunction against the city after a finding of infringement because enjoining use of the sewage treatment method would pollute the waters of Lake Michigan and endanger the health of the surrounding communities).

33. *MercExchange, L.L.C.*, 401 F.3d at 1338, 74 U.S.P.Q.2d (BNA) at 1238–39.

34. *See Hybritech Inc. v. Abbott Labs.*, 849 F.2d 1446, 1458, 7 U.S.P.Q.2d (BNA) 1191, 1201 (Fed. Cir. 1988) (noting that district courts should focus the public interest analysis on whether preliminary relief would harm an existing critical public interest, rather than solely protecting rights secured by valid patents); *E.I. du Pont de Nemours & Co. v. Polaroid Graphics Imaging, Inc.*, 706 F. Supp. 1135, 1146, 10 U.S.P.Q.2d (BNA) 1579, 1588 (D. Del. 1989) (explaining that without the exclusionary nature of patents, innovation would come to a halt, ultimately harming the greater public), *aff'd*, 887 F.2d 1095 (Fed. Cir. 1989).

35. *See, e.g.*, Damien Geradin et al., *The Complements Problem Within Standard Setting: Assessing the Evidence on Royalty Stacking*, 14 B.U. J. SCI. & TECH. L. 144, 145 (2008) (contending that royalty stacking is not common enough or costly enough to warrant policy changes, as such changes are likely counterproductive); *see also* Golden, *supra* note 23, at 2145–47 (criticizing research and literature on excessive compensation for patent royalties, finding it is not representative and grossly exaggerated).

36. Einer Elhauge, *Do Patent Holdup and Royalty Stacking Lead to Systematically Excessive Royalties?*, 4 J. COMPETITION L. & ECON. 535, 541–42 (2008) (arguing that they do not).

37. Golden, *supra* note 23, at 2114 n.16 (dismissing arguments that the threat of permanent injunctions causes patent holders to negotiate excessive royalties and arguing that the same technique of using the leverage of a monopoly is common in other industries).

surrounding BlackBerry technology.³⁸ Research In Motion, the makers of BlackBerry wireless e-mail devices, settled an infringement lawsuit with the patent-holding company NTP for \$612.5 million to avoid the entry of a permanent injunction.³⁹ The popularity of the devices, and the threat that millions of consumers would no longer be able to use them, grabbed public attention.⁴⁰

The case also demonstrated both of the bogeymen consistently referenced in criticism of strong property rights for patents: suspect patents and suspect entities. The patents at issue covered software, the validity of which has been questioned,⁴¹ and were criticized as improperly granted and excessively broad.⁴² Moreover, the public had a strong interest in access to the infringing device, whereas the patent holder did not use the patented technology, but rather made money by licensing that technology. The availability of permanent injunctions thus became a concern in situations that involved either

38. See Megan L. Wiggins, *Patent Reform and Damages Apportionment: Addressing the Concerns of Industry-Scale Users of the U.S. Patent System Without Legislatively Mandating a "Specific Contribution over the Prior Art,"* 40 SETON HALL L. REV. 273, 289 (2010) (noting that increased public scrutiny of patent trolls was associated with the landmark case of *NTP, Inc. v. Research In Motion, Ltd.*, 397 F. Supp. 2d 785, 76 U.S.P.Q. (BNA) 1857 (E.D. Va. 2005)).

39. *NTP*, 397 F. Supp. 2d at 785–89, 76 U.S.P.Q.2d (BNA) at 1860–61 (denying RIM's motion to stay decision); see also Rob Kelley, *BlackBerry Maker, NTP Ink \$612 Million Settlement*, CNN MONEY (Mar. 3, 2006, 7:29 PM), http://money.cnn.com/2006/03/03/technology/rimm_ntp/ (describing the settlement agreement).

40. See Kelley, *supra* note 39 (reporting that the lawsuit threatened to shut down e-mail service for three million users).

41. Recently, however, in *Bilski v. Kappos*, 130 S. Ct. 3218, 95 U.S.P.Q.2d (BNA) 1001 (2010), the Supreme Court reaffirmed that software was indeed patentable in accordance with *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368, 47 U.S.P.Q.2d (BNA) 1596 (Fed. Cir. 1998). *Bilski*, 130 S. Ct. at 3227, 95 U.S.P.Q.2d (BNA) at 1007 (noting that the machine-or-transformation test may not be helpful for software); see also Jeanne C. Fromer, *The Compatibility of Patent Law and the Internet*, 78 FORDHAM L. REV. 2783, 2792–94 (2010) (arguing that software should be patentable).

42. Ian Austen & Lisa Guernsey, *A Payday for Patents 'R' Us; Huge BlackBerry Settlement Is Grist for Holding Company*, N.Y. TIMES, May 2, 2005, <http://query.nytimes.com/gst/fullpage.html?res=9B00EFD61E31F931A35756C0A9639C8B63&pagewanted=all>. Indeed, the patents asserted against RIM were simultaneously challenged at the U.S.P.T.O. in a reexamination procedure, as were various patents NTP asserted against other mobile telephone companies. The Board of Patent Appeals and Interferences affirmed the invalidation of at least portions of NTP's reexamined patents. Ex parte NTP, Inc., No. 2008-4603, 2009 WL 5449437 (B.P.A.I. Dec. 22, 2009); Ex parte NTP, Inc., No. 2008-1116, 2009 WL 4694996 (B.P.A.I. Dec. 3, 2009); Ex parte NTP, Inc., No. 2008-4587, 2009 WL 4695029 (B.P.A.I. Nov. 27, 2009); Ex parte NTP, Inc., No. 2008-4606, 2009 WL 3837021 (B.P.A.I. Nov. 10, 2009); Ex parte NTP, Inc., No. 2008-4602, 2009 WL 3837020 (B.P.A.I. Nov. 10, 2009); Ex parte NTP, Inc., No. 2008-4601, 2009 WL 3837019 (B.P.A.I. Nov. 10, 2009); Ex parte NTP, Inc., No. 2008-4594, 2009 WL 3793380 (B.P.A.I. Nov. 10, 2009). The Court of Appeals for the Federal Circuit, deciding an appeal for each of these cases, recently reversed in part and vacated in part. *In re NTP, Inc.*, 654 F.3d 1279, 1305 (Fed. Cir. 2011).

suspect patents or suspect entities because both were considered to present a higher likelihood of being misused—that is, asserted in a way that expands the intended scope of the patent.⁴³

Some of this sudden and particular concern can be traced to emerging technology sectors. Near the end of the twentieth century, new technologies and business models were emerging.⁴⁴ The burgeoning information technology field presented the possibility for holdup as a result of its complex, multipart semi-conductor chips.⁴⁵ New business models included companies that, rather than practicing the technology themselves, made a business of buying patents from start-ups or others and aggressively enforcing their exclusive rights in order to extract high licensing fees.⁴⁶ Complex inventions are particularly susceptible to holdup by such NPEs that have nothing to lose by refusing to license—except for the licensing fees—and do not anticipate a need for reciprocity from other companies in case of their own future infringement.⁴⁷ These conditions encourage

43. Although the concerns leading up to and addressed in *eBay* try to remedy an overly broad assertion of patent scope, refusal to practice or license a patent does not fall into the formal category of “patent misuse,” a traditional defense to a claim of patent infringement. Under that defense, a patent will not be enforced when a patentee has sought to extend the patent grant beyond its scope, such as by tying sales of a secondary product to those of a primary patented product or entering into a contract to extend patent protection beyond its term. Analysis often runs along antitrust doctrine, although elements of misuse stem from the public policy of the patent system alone. HERBERT HOVENKAMP ET AL., *IP AND ANTITRUST: AN ANALYSIS OF ANTITRUST PRINCIPLES APPLIED TO INTELLECTUAL PROPERTY LAW* § 3.2a, at 3-3 to 3-5 (Supp. 2009) (discussing *Motion Picture Patents Co. v. Universal Film Manufacturing Co.*, 243 U.S. 502 (1917)). However, § 271(d) of the patent statute explicitly states that refusal to license a patent or use the technology embodied therein does not constitute misuse, unless the patentee has significant market power. 35 U.S.C. § 271(d) (2006). Thus, even though patent misuse may have independent policy bases in antitrust law, current analysis of nonuse of a patent does not allow for a finding of misuse if there is not also an element of monopolization of the market.

44. New technologies include business methods used in financial markets. Another expanding technology was software, which because of its short lead time and the speed of innovation, arguably does not even benefit from the patent system. See, e.g., Pamela Samuelson, *Benson Revisited: The Case Against Patent Protection for Algorithms and Other Computer Program-Related Inventions*, 39 EMORY L.J. 1025, 1028–30 (1990) (debating the patentability of newly emerging computer programs and algorithms).

45. See Carol M. Nielsen & Michael R. Samardzija, *Compulsory Patent Licensing: Is It a Viable Solution in the United States?*, 13 MICH. TELECOMM. & TECH. L. REV. 509, 510–11 (2007) (explaining how new technology is particularly susceptible to holdup due to “patent thicket,” where hundreds of patents are needed for a single product, yet they all overlap and block one another).

46. Robin M. Davis, Note, *Failed Attempts to Dwarf the Patent Trolls: Permanent Injunctions in Patent Infringement Cases Under the Proposed Patent Reform Act of 2005 and eBay v. MercExchange*, 17 CORNELL J.L. & PUB. POL’Y 431, 437–38 (2008) (focusing on companies whose sole purpose is to purchase patented technology from bankrupt companies for a low price and then threaten companies in that specific technology area with a lawsuit to extract expensive royalties).

47. See Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEX.

extraction of licensing fees that include value added by other components of the final product and thus exceed the value of the patent. As a result, rather than reveling in their own strong property rights in patents, large businesses sounded the alarm on “patent trolls.”⁴⁸ One concern was that, particularly in industries where products are typically covered by multiple patents, a single patent holder could extract licensing fees that reflect the value of the entire product and that are thus well beyond the value of a single patent to the end product.⁴⁹

NPEs may also be problematic because the transaction costs they impose may have no payoff in the currency of patent law. For example, an alleged infringer may have independently invented and produced its goods, deriving no benefit of disclosure from the patent that is asserted against it. Another inefficiency may occur when an inventor files for numerous continuations or continuations-in-part at the patent office and is thereby able to capture subject matter of competitor products. The strategy of pursuing such patents, called “submarine patents,” results in the competitor manufacturer assuming the risk of bringing the product to market, while the patent holder reaps the rewards.⁵⁰ In all of these cases, innovation is

L. REV. 1991, 2015 (2007) (explaining that the risk of holdup is high for complex inventions where there is no reciprocal risk of litigation and that NPEs bring a significant portion of infringement suits in industries subject to royalty stacking).

48. Then-Assistant General Counsel for Intel, Peter Detkin, is credited with coining the term “patent troll” in 1999 to refer to “somebody who tries to make a lot of money off a patent that they are not practicing and have no intention of practicing and in most cases never practiced.” Daniel J. McFeely, Comment, *An Argument for Restricting the Patent Rights of Those Who Misuse the U.S. Patent System to Earn Money Through Litigation*, 40 ARIZ. ST. L.J. 289, 294 (2008) (quoting Lisa Lerer, *Mind Games*, IP LAW & BUSINESS, May 2006, at 5) (internal quotation marks omitted). *But see* Golden, *supra* note 23, at 2114 (noting the shifting definition of a “patent troll” depending on the purposes of the speaker).

49. A different suggestion for identifying holdup situations requires determining whether “the patented component contributes only a small portion of the value of the end product; the infringement is inadvertent; the cost of designing around ex post . . . exceeds the cost of designing around ex ante; and the probability of detection is high.” Thomas F. Cotter, *Patent Holdup, Patent Remedies, and Antitrust Responses*, 34 J. CORP. L. 1151, 1181 (2009) (citing Vincenzo Denicoló et al., *Revisiting Injunctive Relief: Interpreting eBay in High-Tech Industries with Non-Practicing Patent Holders*, 4 J. COMPETITION L. & ECON. 571, 582 (2008)).

50. *See, e.g.*, Carrier, *supra* note 25, at 111–12 (considering ways to prevent “submarine patenting,” including prosecution laches, which precludes unreasonable delay in prosecuting the patent); Mark A. Lemley & Kimberly A. Moore, *Ending Abuse of Patent Continuations*, 84 B.U. L. REV. 63, 79 (2004) (detailing the manner in which patent holders take certain industries by surprise by intentionally delaying the issuance of their patent as the value of the technology increases, thereby capitalizing on the unsuspecting company’s desperation to preserve its investments when claiming infringement). Although some of these patents still exist, the problem has been mitigated with a patent term that no longer runs from the date of issuance, but rather from the date of filing of the earliest, related patent. *See* 35 U.S.C. § 154(a)(2)

occurring in spite of, rather than because of, the specific patent at issue.⁵¹ Such situations are troubling because they present inefficiencies that are not accounted for in the traditional balance struck by the patent system, imposing costs that are arguably higher than Congress intended. The easy availability of a permanent injunction, critics argue, allows exploitation of such inefficiency.⁵²

Concerns about suspect entities have been voiced by industry,⁵³ government,⁵⁴ and academics alike.⁵⁵ Mark Lemley and Carl Shapiro analyzed patent holdup situations, concluding that the threat of a permanent injunction led to systematically high royalty rates in licensing agreements, thus hindering innovation.⁵⁶ The leverage for these market distortions, according to Lemley and Shapiro, “comes from the ability of a patent owner to capture value that has nothing to do with its invention.”⁵⁷ Critics were also concerned with innovations in technology sectors such as information technology, biotechnology, or medical research, in which multiple patents were likely to cover any eventual product, with a corresponding increased likelihood of patent holdup.⁵⁸

(2006) (“Subject to the payment of fees under this title, such grant shall be for a term beginning on the date on which the patent issues and ending 20 years from the date on which the application for the patent was filed . . .”).

51. Of course, a product accused of infringement may well be covered by other patents, owned by the alleged infringer, in addition to the NPE’s patent.

52. See Davis, *supra* note 46, at 433–34 (considering how injunctions often place NPEs in enhanced bargaining positions and allow them to extract large settlements).

53. See, e.g., Brief of American Innovators’ Alliance as *Amicus Curiae* in Support of Petitioners at 25–30, *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 78 U.S.P.Q.2d (BNA) 1577 (2006) (No. 05-130); Brief of *Amicus Curiae* Yahoo! Inc. in Support of Petitioner at 5–14, *eBay*, 547 U.S. 388, 78 U.S.P.Q.2d (BNA) 1577 (No. 05-130); Brief of International Business Machines Corp. as *Amici Curiae* in Support of Neither Party at 16–18, *eBay*, 547 U.S. 388, 78 U.S.P.Q.2d (BNA) 1577 (No. 05-130).

54. U.S. DEP’T OF JUSTICE & FED. TRADE COMM’N, ANTITRUST ENFORCEMENT AND INTELLECTUAL PROPERTY RIGHTS: PROMOTING INNOVATION AND COMPETITION 33–56 (2007), available at www.usdoj.gov/atr/public/hearings/ip/222655.pdf.

55. E.g., Lemley & Shapiro, *supra* note 47, at 1992–94; Mark A. Lemley & Philip J. Weiser, *Should Property or Liability Rules Govern Information?*, 85 TEX. L. REV. 783, 786–88 (2007); Mark A. Lemley, *Ten Things to Do About Patent Holdup of Standards (and One Not to)*, 48 B.C. L. REV. 149, 151–55 (2007); Carl Shapiro, *Injunctions, Hold-Up, and Patent Royalties*, 1–5 (Aug. 2010) (unpublished paper), available at <http://faculty.haas.berkeley.edu/shapiro/royalties.pdf>. Much has been written specifically about holdup problems in the context of standard-setting organizations. See, e.g., Jonathan L. Rubin, *Patents, Antitrust, and Rivalry in Standard-Setting*, 38 RUTGERS L.J. 509, 536 (2007) (challenging violations of standard setting as inefficient and wasteful); Robert A. Skitol, *Concerted Buying Power: Its Potential for Addressing the Patent Holdup Problem in Standard Setting*, 72 ANTITRUST L.J. 727, 729–33 (2005) (insisting that standard-setting organizations should encourage more disclosure and take greater strides to prevent patent holdup).

56. Lemley & Shapiro, *supra* note 47, at 2009.

57. *Id.* at 2010.

58. Michael A. Heller & Rebecca S. Eisenberg, *Can Patents Deter Innovation? The Anticommons in Biomedical Research*, 480 SCI. 698, 698–700 (1998) (arguing that

Critics became particularly concerned with the idea that NPEs had skewed incentives to license, enabling them to extract a higher value from patents than their patents warranted.⁵⁹ This inefficiency negatively affected the ability of actual innovators to bring new products to market.⁶⁰ The problematic scenarios under discussion at the time the Court decided *eBay* can be characterized as access problems. The balance struck by the patent grant rests on the assumption that the public will benefit from the disclosure of the invention and from the invention's entry into the market.⁶¹ For example, NPEs do not bring products to market by definition, thus preventing consumers from accessing products. In addition, because NPEs have skewed incentives to hold out for higher licensing fees than their patents are worth,⁶² it is less likely that another company will bring the invention to market. If the product is commercialized despite the higher licensing fees, those fees will be passed on to consumers, making the product sell above the price point some are willing or able to pay.⁶³ Overbroad or improvidently granted patents likewise add a cost to any product they appear to cover, thus raising any consequent market cost and resulting, again, in less public access.⁶⁴ Patents that cover one component of a complex product and that are used to extract unduly high rents affect both access by

biomedical research is approaching a privatization model).

59. Lemley & Shapiro, *supra* note 47, at 1992–93 (reiterating how NPEs are empowered by the threat of injunction, as they can demand excessive royalties from desperate infringers).

60. *Id.* at 1993 (declaring that the excessive royalties charged by NPEs create a tax on products using the technology, making an obstacle to further innovation).

61. See Jeanne C. Fromer, *Patent Disclosure*, 94 IOWA L. REV. 539, 547–50 (2009) (discussing the importance of the disclosure function to patent law).

62. Lemley & Shapiro, *supra* note 47, at 1992–93 (citing the power that NPEs have during negotiations as the reason they can hold out).

63. FED. TRADE COMM'N, TO PROMOTE INNOVATION: THE PROPER BALANCE OF COMPETITION AND PATENT LAW AND POLICY 38–41 (2003) (explaining that higher royalties paid means higher prices for consumers, which results in low product use and deadweight on the market).

64. In general, overbroad or improvidently granted patents, or “suspect patents,” are most easily addressed by invalidation or narrowing of patents based on the statutory criteria for patentability, such as novelty, 35 U.S.C. § 102 (2006), non-obviousness, *id.* § 103, and written description and enablement, *id.* § 112. Lemley and Shapiro addressed the problem of weak patents with suspect validity. Lemley & Shapiro, *supra* note 47, at 2038. In these cases, they explain, accused infringers may settle for more than the value of the patent, given the uncertainty of whether it will be held invalid. *Id.* They suggest that allowing a stay for a design-around will also help in such cases, as accused infringers can wait out litigation, knowing they will have time to redesign their products if and when the patent is held valid, while paying only a reasonable royalty. *Id.* at 2039–40. Like others, however, they ultimately think that the main effort to control suspect patents should come from minimizing the grant of weak patents and allowing for increased post-grant opposition. *Id.* at 2044.

the entity trying to manufacture the complex invention and, subsequently, public access to the finished invention. Lemley and Shapiro analyzed the problem in terms of economic incentives, but their ultimate concern was spurring socially desirable investments in innovation.⁶⁵ By voicing the basis for their economic analysis, Lemley and Shapiro emphasize that these concerns are fundamentally about supporting the optimum level of innovation so that the innovation may be secured to “promote the Progress of Science and useful Arts.”⁶⁶

Proposed solutions, for the most part, focused on the adequacy of money damages and irreparable injury factors of the four-factor equitable test, to the near exclusion of the remaining factors: balancing the hardships to the parties and weighing the public interest. Thus, these proposed solutions rest on the assumption that application of the first two factors can be tailored to the patentee to produce incentives for an optimal level of innovation. For example, one of the amicus briefs filed with the Supreme Court in *eBay* voiced concerns regarding NPEs and holdups for complex inventions and suggested that a more robust analysis of the adequacy of money damages would allow courts to deny injunctions to entities that “seek only to license their invention at a reasonable royalty.”⁶⁷ A strong assumption in this entire strain of thought is that there is no risk of holdup where a patentee or its exclusive assignee or licensee competes significantly in the market.⁶⁸

B. *The eBay Decision*

The path of the *eBay* case from the district court to the Supreme Court has been well-documented.⁶⁹ Following a jury verdict of willful

65. Mark A. Lemley & Carl Shapiro, Reply, *Patent Holdup and Royalty Stacking*, 85 TEX. L. REV. 2163, 2164 (2007) (“If we made any error, it was in assuming that readers would understand that holdup is recognized as a form of market failure that leads to inefficiency, primarily by discouraging what would otherwise be socially desirable investments.”).

66. U.S. CONST. art. I, § 8, cl. 8; see also Michael W. Carroll, *Patent Injunctions and the Problem of Uniformity Cost*, 13 Mich. Telecomm. Tech. L. Rev. 421, 428 (2007) (suggesting that one possible reading of the grant of certiorari in *eBay* was that the Court should determine how the standard for injunctive relief under the Patent Act would affect innovation.).

67. Brief *Amici Curiae* of 52 Intellectual Property Professors in Support of Petitioners at 7, *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 78 U.S.P.Q.2d (BNA) 1577 (2006) (No. 05-130).

68. Lemley & Shapiro, *supra* note 47, at 2036.

69. See James M. Fischer, *The “Right” to Injunctive Relief for Patent Infringement*, 24 SANTA CLARA COMPUTER & HIGH TECH. L.J. 1, 4–10 (2007) (outlining Justice Thomas’s majority opinion in *eBay* and each of the concurrences); *infra* notes 86–87 (citing to post-*eBay* scholarship and cases that demonstrate courts’ emphasis on direct

infringement against eBay, the district court determined that patent holder MercExchange was not entitled to a permanent injunction.⁷⁰ The court stated that there was a presumption of irreparable injury that was rebutted by MercExchange's willingness to license its technology, lack of commercial activity, and statements to the media about its litigation strategy.⁷¹

The Federal Circuit reversed the district court's holding, concluding that the facts of the case were not "sufficiently exceptional to justify the denial of a permanent injunction."⁷² As to irreparable injury and the adequacy of money damages, the court stated that enforcement of the right to exclude through grant of an injunction was "not reserved for patentees who intend to practice their patents, as opposed to those who choose to license."⁷³ In so holding, the court also noted that "in rare instances," courts exercised their discretion to deny injunctive relief "in order to protect the public interest," such as declining to enter an injunction when there was a need to use patented technology to protect public health.⁷⁴

The Supreme Court unanimously reversed the Federal Circuit, holding that there was no "general rule that courts will issue permanent injunctions against patent infringement absent exceptional circumstances."⁷⁵ The Court further held that the district court had wrongly applied the equitable test by adopting "expansive

competition and market share in determining the irreparable injury and inadequacy of money damages prongs of the equitable test).

70. *MercExchange, L.L.C. v. eBay, Inc.*, 275 F. Supp. 2d 695, 715 (E.D. Va. 2003), *aff'd in part, rev'd in part*, 401 F.3d 1323, 74 U.S.P.Q.2d (BNA) 1225 (Fed. Cir. 2005), *vacated*, 547 U.S. 388, 78 U.S.P.Q.2d (BNA) 1577 (2006).

71. *Id.* at 712. The court cited the public interest in granting strong patents, but concluded that the questionable nature of business method patents and the value in having business methods practiced both weighed in favor of denying the injunction. *Id.* at 713–14.

72. *MercExchange, L.L.C. v. eBay, Inc.*, 401 F.3d 1323, 1339, 74 U.S.P.Q.2d (BNA) 1225, 1237 (Fed. Cir. 2005), *vacated*, 547 U.S. 388, 78 U.S.P.Q.2d (BNA) 1577 (2006).

73. *Id.*, 74 U.S.P.Q.2d (BNA) at 1238.

74. *Id.* at 1338, 74 U.S.P.Q.2d (BNA) at 1237 (quoting *Rite-Hite Corp. v. Kelley, Inc.*, 56 F.3d 1538, 1547, 35 U.S.P.Q.2d (BNA) 1065, 1071 (Fed. Cir. 1995)) (internal quotation marks omitted) (citing *Roche Prods., Inc. v. Bolar Pharm. Co.*, 733 F.2d 858, 865–66, 221 U.S.P.Q. (BNA) 937, 942 (Fed. Cir. 1984) ("[S]tandards of the public interest, not the requirements of private litigation, measure the propriety and need for injunctive relief . . .")). The Federal Circuit also noted that concern over the nature of the patent—namely, that business method patents are *per se* suspect—did not constitute sufficient reason to deny injunctive relief. *Id.* at 1339, 74 U.S.P.Q.2d (BNA) at 1237–38.

75. *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 390–96, 78 U.S.P.Q.2d (BNA) 1577, 1578 (2006) (quoting *MercExchange*, 401 F.3d at 1339, 74 U.S.P.Q.2d (BNA) at 1238) (internal quotation marks omitted).

principles suggesting that injunctive relief could not issue in a broad swath of cases.⁷⁶ The district court had incorrectly concluded that a patent holder's willingness to license its patents and its "lack of commercial activity in practicing the patents" established a lack of irreparable injury.⁷⁷ These "broad classifications," the Court warned, would result in the denial of injunctive relief to entities such as universities or self-made inventors who preferred to license their materials.⁷⁸

Both concurrences emphasized that weight should be given to relevant precedent. Chief Justice Roberts, joined by Justices Scalia and Ginsburg, emphasized that the equitable test was not being performed on a clean slate and that protection of the right to exclude often implicated the equitable remedy of an injunction, "implicat[ing] the first two factors of the traditional four-factor test."⁷⁹ While noting that history might indeed be instructive, Justice Kennedy's concurrence, joined by Justices Stevens, Souter, and Breyer, stated that new situations might call for new analysis, specifically pointing to the rise of suits by NPEs in addition to business method patents.⁸⁰ As a result, Justice Kennedy appeared to be charging lower courts with giving weight to the identity of the patentees (i.e., practicing versus non-practicing entities) and the type of patent at issue (i.e., business method and otherwise suspect patents versus more "legitimate" patents) in evaluating the appropriateness of a permanent injunction.⁸¹ The *eBay* Court clearly expresses a concern over NPEs and their effect on other entities' level of innovation.

Although Justice Kennedy's concurrence specifically mentioned suspect patents and suspect entities as being less deserving of injunctions, the context was not entirely confined to the first two prongs of the equitable test—irreparable injury and the adequacy of money damages. Justice Kennedy wrote that in cases in which patents are owned by suspect entities, "legal damages may well be sufficient to compensate for the infringement and an injunction *may not serve the public interest*."⁸² Although Justice Kennedy identifies money damages

76. *Id.* at 393, 78 U.S.P.Q.2d (BNA) at 1579.

77. *Id.*, 78 U.S.P.Q.2d (BNA) at 1579 (internal quotation marks omitted).

78. *Id.*, 78 U.S.P.Q.2d (BNA) at 1579.

79. *Id.* at 395, 78 U.S.P.Q.2d (BNA) at 1580 (Roberts, C.J., concurring).

80. *Id.* at 396, 78 U.S.P.Q.2d (BNA) at 1580–81 (Kennedy, J., concurring).

81. *Id.*, 78 U.S.P.Q.2d (BNA) at 1581 (stating that there were new considerations for courts, such as "the nature of the patent being enforced and the economic function of the patent holder").

82. *Id.* at 396–97, 78 U.S.P.Q.2d (BNA) at 1581 (emphasis added).

as a primary indicator, he also specifically identifies the public interest as an important factor in deciding whether an injunction is appropriate.⁸³ By focusing only on whether an injunction is the appropriate remedy for an NPE, courts and scholars have missed the opportunity to evaluate the appropriateness of an injunction under the public interest prong of the equitable test.

As detailed in the following section, however, this invitation to take a second look at the public interest prong of the four-factor test has not been taken up by the lower courts. As a result, the first two factors have been twisted to include an analysis that could be done less tortuously via the fourth factor.

C. eBay's Progeny: The Market Share Rule

In the wake of *eBay*, the Federal Circuit has affirmed district court decisions that have granted injunctions for competitors who show a loss of market share as a result of infringement.⁸⁴ It has also affirmed court decisions that have denied permanent injunctions in cases where an infringer has contested the patentee's right on the basis that the parties are not competitors.⁸⁵ These factors are almost entirely analyzed under the irreparable injury and adequacy of money damages prongs of the equitable test. The general rule emerging in the courts is that irreparable injury and the inadequacy of money damages may be proved when the plaintiff is a direct market competitor⁸⁶ that practices in the area of its invention,⁸⁷ and

83. *Id.*, 78 U.S.P.Q.2d (BNA) at 1581.

84. *E.g.*, *i4i Ltd. P'ship v. Microsoft Corp.*, 598 F.3d 831, 862, 93 U.S.P.Q.2d (BNA) 1943, 1968 (Fed. Cir. 2010), *aff'd*, 131 S. Ct. 2238, 98 U.S.P.Q.2d (BNA) 1857 (2011).

85. *See Paice LLC v. Toyota Motor Corp.*, 504 F.3d 1293, 1315, 85 U.S.P.Q.2d (BNA) 1001, 1017 (Fed. Cir. 2007) (affirming the district court's denial of a permanent injunction); *see also Ill. Tool Works, Inc. v. Grip-Pak, Inc.*, 906 F.2d 679, 684, 15 U.S.P.Q.2d (BNA) 1307, 1311 (Fed. Cir. 1990) (same).

86. *See, e.g.*, 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, 654 (2007) (collecting and analyzing post-*eBay* cases and finding direct competition to be "the most significant predictor of whether a permanent injunction will be granted"); *see also* Bernard H. Chao, *After eBay, Inc. v. MercExchange: The Changing Landscape for Patent Remedies*, 9 MINN. J.L. SCI. & TECH. 543, 549-55 (2008) (discussing courts' reliance on direct competition as a means for determining the appropriateness of an injunction); Benjamin Petersen, *Injunctive Relief in the Post-eBay World*, 23 BERKELEY TECH. L.J. 193, 196-98 (2008) (examining post-*eBay* decisions and finding that courts "place a heavy emphasis" on whether the parties are in "direct competition").

87. *See* 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, 310-22 (2007) (collecting post-*eBay* cases and finding that injunctions were granted where the patent holder could show commercialization within the area of invention of the patent).

the patent holder can show a loss of market share—particularly in nascent markets.⁸⁸ The results in these cases, for the most part, respond to concerns of the pre-*eBay* availability of injunctions to NPEs: injunctions are denied to non-competitors who have no market share, presumably because they neither produce nor market the patented product.⁸⁹ For example, on remand after the Supreme Court's decision, the district court in *eBay* noted MercExchange's inability to demonstrate lost market share in finding that there was no irreparable injury and that money damages would be adequate.⁹⁰

The emerging rule goes further, however. Instead of simply using the lost market share as an indicator of irreparable injury and inadequacy of money damages, courts correlate the size of the market share and the resulting entitlement to an injunction. For example, the district court found irreparable injury and inadequacy of monetary damages for direct market competitors in *Muniauction, Inc.*

88. *TruePosition Inc. v. Andrew Corp.*, 568 F. Supp. 2d 500, 532–34 (D. Del. 2008) (granting injunction where there were only two competitors in the market and the infringer had taken away “the recognition of being a technology innovator and the first global supplier of the patented technology, and an unquantifiable amount of business opportunities flowing therefrom”); *TiVo Inc. v. EchoStar Commc’ns Corp.*, 446 F. Supp. 2d 664, 669–71 (E.D. Tex. 2006) (granting a permanent injunction where parties were direct competitors and “[p]laintiff [was] losing market share at a critical time in the market’s development”), *aff’d in part, rev’d in part*, 516 F.3d 1290, 85 U.S.P.Q.2d (BNA) 1801 (Fed. Cir. 2008); *see also Callaway Golf Co. v. Acushnet Co.*, 585 F. Supp. 2d 600, 619, 621 (D. Del. 2008) (discussing the role of competition when considering a permanent injunction), *aff’d in part, rev’d in part*, 576 F.3d 1331, 91 U.S.P.Q.2d (BNA) 1705 (Fed. Cir. 2009); *Trading Techs. Int’l, Inc. v. eSpeed, Inc.*, No. 04 C 5312, 2008 WL 4531371, at *2–3 (N.D. Ill. May 22, 2008) (noting patent holder’s trial testimony that “distribution to its customer base, or its market share, is one of its most important assets” in finding irreparable injury and granting permanent injunction), *aff’d*, 595 F.3d 1340, 93 U.S.P.Q.2d (BNA) 1805 (Fed. Cir. 2010); *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, No. 2-04-CV-32 (TJW), 2007 WL 869576, at *3 (E.D. Tex. Mar. 21 2007) (granting an injunction where parties are direct competitors), *vacated on other grounds*, 521 F.3d 1351, 86 U.S.P.Q.2d (BNA) 1304 (Fed. Cir. 2008); Petersen, *supra* note 86, at 198 (“To measure the level of competition between the parties, courts often considered the loss of market share by the patent holder.”).

89. *See Praxair, Inc. v. ATMI, Inc.*, 479 F. Supp. 2d 440, 444 (D. Del. 2007) (denying a permanent injunction because plaintiff could not show loss of market share); *z4 Techs., Inc. v. Microsoft Corp.*, 434 F. Supp. 2d 437, 440, 81 U.S.P.Q.2d (BNA) 1737, 1739 (E.D. Tex. 2006) (same).

90. *MercExchange, L.L.C. v. eBay, Inc.*, 500 F. Supp. 2d 556, 590 83 U.S.P.Q.2d (BNA) 1688, 1713 (E.D. Va. 2007); *see also Commonwealth Scientific & Indus. Research Org. v. Buffalo Tech. Inc.*, 492 F. Supp. 2d 600, 607–08 (E.D. Tex. 2007) (granting a permanent injunction following a finding of irreparable harm); *Paice LLC v. Toyota Motor Corp.*, No. 2:04-CV-211-DF, 2006 WL 2385139, at *4–5 (E.D. Tex. Aug. 16, 2006) (denying injunction and noting that there is no market share to be lost in finding no irreparable injury), *aff’d in part, vacated in part*, 504 F.3d 1293, 85 U.S.P.Q.2d (BNA) 1001 (Fed. Cir. 2007); *z4 Techs.*, 434 F. Supp. 2d at 440, 81 U.S.P.Q.2d (BNA) at 1739 (finding no irreparable injury where patentee would not “suffer lost profits, the loss of brand name recognition or the loss of market share” due to infringement).

v. Thomson Corp.,⁹¹ stating that “[p]laintiff and defendants are direct competitors in a two-supplier market. If plaintiff cannot prevent its only competitor’s continued infringement of its patent, the patent is of little value.”⁹² The court emphasized that the plaintiff’s lost sales to the defendants caused additional harm, such as loss of market share and harm to the plaintiff’s reputation as an innovator.⁹³ Similarly, in *Johns Hopkins University v. Datascope Corp.*,⁹⁴ the court granted a permanent injunction where the infringing product was the patent holder’s only competition because “its sale reduces the [patent holder’s] market share.”⁹⁵ In contrast, another court denied an injunction in a situation with only one additional market participant, finding that the third actor in the market made it unclear that the infringing sales took market share from the patentee.⁹⁶

Examining market share has allowed courts to issue injunctions for

91. 502 F. Supp. 2d 477 (W.D. Pa. 2007), *rev’d in part, vacated in part*, 532 F.3d 1318, 87 U.S.P.Q.2d (BNA) 1350 (Fed. Cir. 2008).

92. *Id.* at 482 (finding some of the patent claims obvious and others not infringed).

93. *Id.*; *see also TruePosition Inc.*, 568 F. Supp. 2d at 532 (finding irreparable injury stemming from denial of “the recognition of being a technology innovator and the first global supplier of the patented technology, and an unquantifiable amount of business opportunities flowing therefrom”); *Novozymes A/S v. Genencor Int’l, Inc.*, 474 F. Supp. 2d 592, 612–13 (D. Del. 2007) (granting a permanent injunction where patent holder exclusively licensed patents to U.S. subsidiaries and infringement was by a direct competitor); *MPT, Inc. v. Marathon Labels, Inc.*, 505 F. Supp. 2d 401, 420–21 (N.D. Ohio 2007) (granting injunction after finding that “MPT invented a method, actively created a market, and established a strong market position and customer goodwill” and that “[u]surping this market by inducing or contributing to infringement will irreparably harm MPT”) *aff’d in part, rev’d in part*, 258 F. App’x 318 (Fed. Cir. 2007). *But see Praxair, Inc.*, 479 F. Supp. 2d at 444 (denying a permanent injunction where plaintiff alleged loss of market share, profits, and goodwill, but did not point to specific sales or market data showing a loss).

94. 513 F. Supp. 2d 578 (D. Md. 2007), *rev’d on other grounds*, 543 F.3d 1342, 88 U.S.P.Q.2d (BNA) 1365 (Fed. Cir. 2008).

95. *Id.* at 586; *see also Martek Biosciences Corp. v. Nutrinoa Inc.*, 520 F. Supp. 2d 537, 558–59 (D. Del. 2007) (finding irreparable injury and inadequacy of money damages and granting injunction where infringer was the “only competitor in the vegetarian DHA market for adult foods and beverages”), *aff’d in part, rev’d in part on other grounds*, 579 F.3d 1363, 92 U.S.P.Q.2d (BNA) 1148 (Fed. Cir. 2009); *Transocean Offshore Deepwater Drilling, Inc. v. GlobalSantaFe Corp.*, No. H-03-2910, 2006 WL 3813778, at *4 (S.D. Tex. Dec. 27, 2006) (granting a permanent injunction where the market for deep water drill rigs was small and defendant competed for customers, using the infringing products to win bids).

96. *Advanced Cardiovascular Sys., Inc. v. Medtronic Vascular, Inc.*, 579 F. Supp. 2d 554, 558–60 (D. Del. 2008) (noting the public interest merits in providing access to different types of stents); *see also IGT v. Bally Gaming Int’l Inc.*, 675 F. Supp. 2d 487, 489 (D. Del. 2009) (denying an injunction where it did not appear that the parties were “the only market participants”). *But see Callaway Golf Co. v. Acushnet Co.*, 585 F. Supp. 2d 600, 620–21 (D. Del. 2008) (granting an injunction where the market contained multiple competitors because infringement began during innovative period and it was impossible to tell what share of that patent holder would have captured absent infringement), *aff’d in part, rev’d in part*, 576 F.3d 1331, 91 U.S.P.Q.2d (BNA) 1705 (Fed. Cir. 2009).

unused patents where the patent holder has likely made a business decision to employ other technology. Thus, courts have distinguished between entities that do not practice any patents and competitors that have chosen not to practice a particular patent. For example, in *Broadcom Corp. v. Qualcomm Inc.*,⁹⁷ the Federal Circuit affirmed the right to an injunction of a competitor not practicing a patent in a case with facts similar to *Continental Paper Bag*.⁹⁸ The Federal Circuit concluded that the district court did not abuse its discretion in finding that allowing Qualcomm to sell infringing chips would irreparably harm Broadcom's efforts to market its competing products that were not covered by the patents.⁹⁹ The *Broadcom* decision reinforces courts' hands-off approach where business decisions are involved in a determination neither to use nor license patented technology.

A corollary to courts' interest in the size of market share held by a patentee is the weight given to patent holders in emerging markets. Courts are finding irreparable injury where a patent holder loses its opportunity to gain a foothold in an emerging market due to infringement. For example, in *TruePosition Inc. v. Andrew Corp.*,¹⁰⁰ the court granted a permanent injunction and noted that, in addition to taking market share from the patent holder, the infringer also took "the recognition of being a technology innovator and the first global supplier of the patented technology, and an unquantifiable amount of business opportunities flowing therefrom."¹⁰¹

The point as to new technology and emerging markets, however, is the market share question from another view. In a newly developing market where there are no possible substitutes for the patented technology, the effect an infringing entrant will have on the patent

97. 543 F.3d 683, 88 U.S.P.Q.2d (BNA) 1641 (Fed. Cir. 2008).

98. *Id.* at 702-03, 88 U.S.P.Q.2d (BNA) at 1656-57. The court found that although Broadcom "does not sell or plan to sell" chips embodying the asserted patents and rather licenses the technology to downstream user Verizon, the district court's finding of irreparable injury was proper. *Id.*, 88 U.S.P.Q.2d (BNA) at 1656-57. In so finding, the court emphasized the relationship between Broadcom and Qualcomm as indirect competitors, in that they competed for customers "despite offering different technology in [their] chipsets." *Id.* at 702, 88 U.S.P.Q.2d (BNA) at 1656. The court reemphasized its holding, pursuant to *Continental Paper Bag*, that "[t]here is no requirement in this country that a patentee make, use, or sell its patented invention" to qualify for the grant of a permanent injunction. *Id.* at 703, 88 U.S.P.Q.2d (BNA) at 1657 (citation omitted) (internal quotation marks omitted).

99. *Id.*, 88 U.S.P.Q.2d (BNA) at 1657.

100. 568 F. Supp. 2d 500 (D. Del. 2008).

101. *Id.* at 532; *see also* *Acumed LLC v. Stryker Corp.*, No. 04-CV-513-BR, 2007 WL 4180682, at *4 (D. Or. Nov. 20, 2007) ("Loss of market share in this nascent market is a key consideration in finding that Plaintiff suffers irreparable harm" (citation omitted) (internal quotation marks omitted)), *aff'd*, 551 F.3d 1323, 89 U.S.P.Q.2d (BNA) 1612 (Fed. Cir. 2008).

holder's market share will be more dramatic than in a crowded market, where substitutions abound. In a market with many actors, a patent holder's market share is less likely to be affected by an infringer's entry. A company in a volatile, undeveloped market has more to gain in terms of market share than one in an established market.¹⁰² In these cases, however, the injury is more difficult both to calculate and to remedy, thus supporting the idea that an injunction may be more appropriate than money damages in finding the proper balance between liability and property rules.¹⁰³

The Federal Circuit, exercising its exclusive jurisdiction over patent appeals, has also begun to weigh in on implementation of *eBay*.¹⁰⁴ The Federal Circuit has not always treated lost market share and lost sales as dispositive to determinations of irreparable injury.¹⁰⁵ Yet the court affirmed the entry of an injunction where lost market share was shown, even when weighed against an alleged willingness to license.¹⁰⁶ Indeed, the court has noted that “[p]ast harm to a patentee’s market share, revenues, and brand recognition is relevant to determining

102. See *Callaway Golf Co. v. Acushnet Co.*, 585 F. Supp. 2d 600, 621 (D. Del. 2008) (holding that irreparable harm exists because plaintiff lost its opportunity to enhance its goodwill and brand loyalty during a critical time period for development), *aff'd in part, rev'd in part*, 576 F.3d 1331, 91 U.S.P.Q.2d (BNA) 1705 (Fed. Cir. 2009).

103. Guido Calabresi & Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089, 1106–10 (1972); see ROGER D. BLAIR & THOMAS F. COTTER, *INTELLECTUAL PROPERTY: ECONOMIC AND LEGAL DIMENSIONS OF RIGHTS AND REMEDIES* 38–41 (2005) (arguing that injunctive relief should be the general default remedy for patent infringement for the traditional reasons property rules are seen to trump liability rules).

104. Certainly, the standard of review dictating that the entry or denial of a permanent injunction be reviewed for an abuse of discretion limits the court's review to a certain extent. At a minimum, however, a court that does not engage in weighing the four factors will find its decision vacated and remanded. See, e.g., *Ecolab, Inc. v. FMC Corp.*, 569 F.3d 1335, 1352, 91 U.S.P.Q.2d (BNA) 1225, 1235 (Fed. Cir. 2009) (vacating and remanding where the district court did not make any factual findings regarding the four factors).

105. See, e.g., *Reebok Int'l Ltd. v. J. Baker, Inc.*, 32 F.3d 1552, 1558, 31 U.S.P.Q.2d (BNA) 1781, 1786 (Fed. Cir. 1994) (rejecting the argument “that potential lost sales alone could demonstrate ‘manifest irreparable harm’ because acceptance of that position would require a finding of irreparable harm to every patentee, regardless of the circumstances” (quoting *Ill. Tool Works, Inc. v. Grip-Pak, Inc.*, 906 F.2d 679, 683, 15 U.S.P.Q.2d (BNA) 1307, 1310 (Fed. Cir. 1990))); see also *Nutrition 21 v. United States*, 930 F.2d 867, 871, 18 U.S.P.Q.2d (BNA) 1347, 1351 (Fed. Cir. 1991) (holding in the context of a preliminary injunction that “neither the difficulty of calculating losses in market share, nor speculation that such losses might occur, amount to proof of special circumstances justifying the extraordinary relief of an injunction prior to trial”).

106. *Acumed LLC v. Stryker Corp.*, 551 F.3d 1323, 1329, 89 U.S.P.Q.2d (BNA) 1612, 1617 (Fed. Cir. 2008) (holding no error in the district court's refusal to distinguish this case from other lost market share cases on the basis of the patent holder's prior licensing of the patent—once to settle litigation and once to an entity that at the time was not a direct competitor).

whether the patentee has suffered an irreparable injury.”¹⁰⁷ The Federal Circuit now heavily emphasizes the importance of an injunction in nascent markets.¹⁰⁸ In addition, although the court in *eBay* offered no categorical rule as to the availability of permanent injunctions to entities that do not practice their patents, in *Voda v. Cordis Corp.*,¹⁰⁹ the Federal Circuit affirmed just such a denial based on the district court’s finding that a patent holder had not shown irreparable injury when he alleged harm to his exclusive licensee.¹¹⁰

Most recently, the Federal Circuit took the opportunity to address the analysis of irreparable injury in *Robert Bosch LLC v. Pylon Manufacturing Corp.*,¹¹¹ holding that the district court abused its discretion in denying an injunction to Bosch and remanding the case with instructions to enter an injunction.¹¹² The district court’s holding was partly based on grounds that Bosch had failed to show irreparable injury where it was “not a clear case of a two-supplier market wherein a sale to Pylon necessarily represents the loss of a sale to Bosch” and where wiper blades were not “at the core of [Bosch’s] business.”¹¹³ In reversing, the Federal Circuit held that it was legal error to conclude that “the presence of additional competitors, without more, cuts against a finding of irreparable harm.”¹¹⁴ The Federal Circuit agreed that the existence of a two-player market might be substantial grounds for granting an injunction, but disagreed that more market competitors should automatically cut against an injunction, particularly where the patent holder was enforcing its rights against other market participants as well.¹¹⁵ The court further held that the district court erred by not crediting Bosch’s “unrebutted evidence of loss of market share and access to potential customers” and finding that Bosch had indeed been

107. *i4i Ltd. P’ship v. Microsoft Corp.*, 598 F.3d 831, 861–62, 93 U.S.P.Q.2d (BNA) 1943, 1965–68 (Fed. Cir. 2010) (emphasis omitted) (citation omitted) (internal quotation marks omitted), *aff’d*, 131 S. Ct. 2238, 98 U.S.P.Q.2d (BNA) 1857 (2011); *see also* *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 449 F. App’x 923, 932 (Fed. Cir. Nov. 18, 2011) (explaining that although a permanent injunction is meant to halt future irreparable injury, past harm is relevant to determining the irreparable nature of the injury).

108. *Acumed LLC*, 551 F.3d at 1327–31, 89 U.S.P.Q.2d (BNA) at 1615–16 (granting an injunction due in part to the entrance of a new competitor into the market).

109. 536 F.3d 1311, 87 U.S.P.Q.2d (BNA) 1742 (Fed. Cir. 2008).

110. *Id.* at 1329, 87 U.S.P.Q.2d (BNA) at 1756.

111. 659 F.3d 1142, 100 U.S.P.Q.2d (BNA) 1656 (Fed. Cir. 2011).

112. *Id.* at 1150–51, 1157, 100 U.S.P.Q.2d (BNA) at 1663, 1668.

113. *Robert Bosch, LLC v. Pylon Mfg. Corp.*, 748 F. Supp. 2d 383, 408 (D. Del. 2010), *rev’d*, 659 F.3d 1142, 100 U.S.P.Q.2d (BNA) 1656 (Fed. Cir. 2011).

114. *Bosch*, 659 F.3d at 1151, 100 U.S.P.Q.2d (BNA) at 1664.

115. *Id.*, 100 U.S.P.Q.2d (BNA) at 1664.

irreparably harmed.¹¹⁶ Thus, the Federal Circuit appears to be countering the idea that increasing market share correlates with increasing irreparable injury. Nonetheless, the connection between lost market share and a showing of irreparable injury remains strong.

Although the focus on market share is new, the idea that competitors are deserving of injunctions, regardless of whether they practice a patent, is not. One of the questions on which certiorari was granted in *eBay* was the validity of the Court's holding in *Continental Paper Bag*,¹¹⁷ an early-twentieth-century case standing for the proposition that non-use of a patent is not grounds for denial of an injunction.¹¹⁸ The clear distinction between *Continental Paper Bag* and *eBay* was that *Continental Paper Bag* applied to a competitor.¹¹⁹ In its *Continental Paper Bag* holding, the Court entertained the infringer's contention that no permanent injunction should be entered for infringement of a "patent the invention covered by which has long and always and *unreasonably* been held in nonuse . . . instead of being made beneficial to the art to which it belongs."¹²⁰ The Court, however, held the nonuse was not unreasonable, based on the competitor status of the patent holder.¹²¹

In finding the nonuse not unreasonable, the *Continental Paper Bag* opinion takes as given that the patent holder is the best actor to determine when use of a patent will be efficient.¹²² Specifically, the Court addressed the suggestion that injunctive relief should not be available for an invention "deliberately held in nonuse for a wrongful purpose,"¹²³ then noted that the implied reason for the nonuse in the case at hand—making more money with the existing machines than could be made using the patented invention—was not

116. *Id.* at 1152, 100 U.S.P.Q.2d (BNA) at 1665.

117. See *eBay Inc. v. MercExchange, L.L.C.*, 546 U.S. 1029, 1029 (2005) (granting certiorari in part to determine whether the 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" (citation omitted)).

118. *Cont'l Paper Bag Co. v. E. Paper Bag Co.*, 210 U.S. 405, 429 (1908). The *Continental Paper Bag* Court noted that the only historical deviation from that practice was during the brief period in which a working requirement was enacted for foreign patentees. *Id.* The requirement called for forfeiture of a patent when it was not "worked" (i.e., introduced into public use) within the United States. *Id.*

119. Compare *id.* at 427 (finding the nonuse of the patent to be a reasonable competitor strategy), with *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 390, 78 U.S.P.Q.2d (BNA) 1577, 1579 (2006) (noting that MercExchange had been willing to cooperate and license its patents).

120. *Cont'l Paper Bag*, 210 U.S. at 422 (emphasis added) (internal quotation marks omitted).

121. *Id.*

122. *Id.* at 424.

123. *Id.* at 428 (internal quotation marks omitted).

unreasonable.¹²⁴ This reasoning evidences a respect for a patentee's business decision to withhold from the market—and thus, the public—technology that might have been superior to that currently on the market, specifically noting that a rights holder might choose to avoid the expense of building new machinery necessary to implement new technology. This view grants deference to competitors in a market, with an economic assumption that competitors within a market are best situated to make determinations about when it is efficient to practice any given technology. In general, then, courts are now denying injunctions to those entities that most concerned scholars, practitioners, and the Supreme Court: patent holders who exist only to license, possibly at levels approaching holdups. Courts deny injunctions for suspect entities through market share analysis. Licensors that do not present holdup risks, such as research and development shops and universities, have still obtained injunctions.¹²⁵ However, both formalistic and substantive problems exist with this approach.

III. QUESTIONING THE RULE

A. *The Limits of Irreparable Injury and Inadequacy of Money Damages to Identify Inefficient Actors*

The market share rule ensures that only actors who practice their patents will be entitled to injunctions.¹²⁶ Moreover, only firms that practice in the relevant field of technology will be competitors with market share, by definition. Thus, awarding only ongoing reasonable royalties¹²⁷ to those who have no market share appears to alleviate

124. *Id.* at 429.

125. See *Commonwealth Scientific & Indus. Research Org. v. Buffalo Tech. Inc.*, 492 F. Supp. 2d 600, 607–08 (E.D. Tex. 2007) (granting a research institution a permanent injunction even though the patentee did not sell patented devices).

126. The effects of a “lost profits” rule, as suggested by James Fischer, would be similar. See Fischer, *supra* note 69, at 23–28. Granting injunctions only to patent holders who claim and prove lost profits damages while denying them to patent holders who merely claim reasonable royalties would result in a rule where only competitors in a market would have recourse to an injunction. The problems with such a rule would be similar to those outlined in the following paragraphs, in that such a rule would be over- and under-inclusive. The only way in which a lost profits rule would be better is that, unlike the market share rule, it would not allow increased market share to weigh more heavily than a smaller amount of market share. Rather, it would operate as an either/or indicator of appropriateness of an injunction. Regardless, the problems of such a rule and the emergence of a market share rule do not make it an attractive alternative to using market power in the public interest analysis that I suggest in Part IV.

127. Some argue that an award of ongoing, reasonable royalties is essentially the same as a compulsory license. See, e.g., Golden, *supra* note 23, at 2148 (suggesting that a denial of a permanent injunction in favor of a reasonable royalty payment is

concerns of holdup¹²⁸ and ensures that other, non-suspect entities will be able to provide the public with access to innovation at a price reflective of its value.

The analysis of holdup concerns, however, is overly focused on the identity and business model of the patent holder in a way that does not always generate an “appropriate” level of reward. The supposed solution to the perceived inefficiency introduced by suspect entities is to limit injunctions for situations “in which the patent holder’s predominant commercial interest in bringing a patent infringement case is to obtain licensing revenues.”¹²⁹ In terms of form, this emerging competitor-with-market-share rule is over-inclusive. A rule allowing only practicing entities the remedy of an injunction reallocates the monopoly gains in interactions among companies that specialize in research and development on the one hand, and mass production, sales, and marketing on the other.¹³⁰ For companies that focus on research and development rather than commercialization, licensing fees and the proceeds from selling intellectual property provide profit and fund future activities.¹³¹ Without the threat of an injunction, however, such companies are likely to come away from negotiations with less compensation.¹³² Thus, the allocation of any gains attributable to the patent monopoly could be strongly shifted toward entities willing to take the commercial risks of bringing a

essentially a compulsory license). If true, compliance with our international obligations under the Trade Related Aspects of Intellectual Property Agreement might also be implicated by the emerging rule. See Andrew C. Mace, Note, *TRIPS, eBay, and Denials of Injunctive Relief: Is Article 31 Compliance Everything?*, 10 COLUM. SCI. & TECH. L. REV. 232, 245 (2009) (discussing the WTO definition of a compulsory license). But see Brief *Amici Curiae* of 52 Intellectual Property Professors in Support of Petitioners, *supra* note 67, at 9 (explaining that an ongoing royalty differs from a compulsory license because it only applies between parties to the lawsuit, whereas a compulsory license is a license available to anyone who meets its terms).

128. See *supra* Part II.A (discussing the holdup concerns leading to the *eBay* decision).

129. Lemley & Shapiro, *supra* note 47, at 2036.

130. According to the report recently released by the Federal Trade Commission, large companies specializing in various technologies have come to pursue “open innovation” strategies, whereby they combine their internal R&D efforts with outside sources such as universities, start-ups, and collaborations with other companies. FED. TRADE COMM’N, *THE EVOLVING IP MARKETPLACE: ALIGNING PATENT NOTICE AND REMEDIES WITH COMPETITION* 34–35 (2011), available at <http://www.ftc.gov/os/2011/03/110307patentreport.pdf>.

131. See Golden, *supra* note 23, at 2157 (discussing how small firms use patents to gain revenue for the immediate future); Stuart J.H. Graham & Ted Sichelman, *Why Do Start-Ups Patent?*, 23 BERKELEY TECH. L.J. 1063, 1075 (2008) (noting that “the threat of damages,” amongst other factors, leads alleged infringers to often pay for licenses, thus creating an incentive for companies to seek a patent).

132. Louis Kaplow, *The Patent-Antitrust Intersection: A Reappraisal*, 97 HARV. L. REV. 1813, 1835 (1984) (noting that incentives to innovate are affected by whether the reward can be reasonably expected, *ex ante*).

product to market, rather than those assuming the risk of the initial innovation. This shift is problematic in one sense because the Constitution allows a grant of exclusive rights to “Inventors,” not to firms taking on the risk of marketing an invention.¹³³ The market share rule devalues the actual invention and reallocates part of the patent’s worth to those who compete in the market, regardless of whether those entities choose to practice a particular patent.¹³⁴ More importantly, however, it discourages the trend of “open innovation” that many companies are beginning to follow,¹³⁵ and does so without regard to the consequences. Although purporting to target businesses whose main litigation purpose is exorbitant licensing fees, the emerging rule cannot distinguish among businesses that have no market share, and thus includes other business models, such as research and development start-ups and universities. These other business models may be driving innovation now and in the near future,¹³⁶ but by implementing a test that cannot distinguish start-ups and universities from NPEs, their patent rights become worth less than those of firms with market share. By reducing the available rewards to innovative firms that do not practice their inventions, then, the rule disincentivizes some of the business structures that are currently driving innovation.

Substantively, John Golden criticized Lemley and Shapiro’s approach for ignoring the motivations and economic considerations of patent holders.¹³⁷ For example, Golden argues that the cost of litigation should cause the patent holder to settle for less than it would ultimately receive in damages.¹³⁸ In addition to costs, litigation carries with it uncertainty. Far worse than losing a particular infringement action, a patent holder faces the possibility that her

133. See U.S. CONST. art. I, § 8, cl. 8; *Cont’l Paper Bag Co. v. E. Paper Bag Co.*, 210 U.S. 405, 422–23 (1908) (proclaiming that the constitutional policy of patent law is to promote the progress of science and art by securing rights to inventors for their respective discoveries).

134. See *supra* text accompanying notes 97–103 (discussing the market share rule).

135. See *supra* note 130 (describing the trend of large companies focusing on R&D).

136. See *supra* note 130.

137. Golden, *supra* note 23, at 2136; see also Dennis Crouch, *Reviewing Part III of Innovation for the 21st Century: Harnessing the Power of Intellectual Property and Antitrust Law*, 61 ALA. L. REV. 587, 588 (2010) (book review) (noting that it is unclear “whether it is worth the added litigation expense and reduced patent incentive in order to shadow box with the mythical patent created holdup problems”).

138. Golden, *supra* note 23, at 2128–29. These views both deal with the motivations of the parties to litigation, and they assume that the public will be best served by the proper allocation of rights between them. As discussed below, *infra* note 173 and accompanying text, antitrust law is implicated when the interests of the parties do not balance out to meet those of the public, generally, and efficient levels of innovation are not likely to occur.

patent will be found invalid.¹³⁹ Even an owner of a patent that was properly granted must face the possibility that it will be found invalid by the court. This possibility should also lower any potential settlement figure. Golden focuses on the considerations a patent holder faces in choosing enforcement options to show that incentives for holdup may not be as strong as Lemley and Shapiro suggest, in addition to challenging the scope of any such holdup.¹⁴⁰ The extent to which the first two prongs of the equitable test can be employed to weaken the incentives of suspect entities to engage in holdup is thus open to debate. However, even when these factors can be useful, market share is not always the best indicator of the existence of incentives to innovate.

B. The Limits of Market Share as an Indicator of Irreparable Injury and Inadequacy of Money Damages

Although this Part continues to question the emerging rule, the good news is that courts appear to be getting the right result in terms of addressing the specific, limited problem *eBay* was meant to fix. For the most part, injunctions are still available to patent holders prevailing on an infringement claim. Courts, however, are not issuing injunctions to some NPEs that exist only to license. In this sense, the prescribed patent scheme is now one in which the public and other innovators in the art have a right to access that is cabined only by the rights of a patent holder with a well-established market share to make business decisions as to which products are efficient for it to produce or license. However, irreparable injury and inadequacy of money damages are factors that focus entirely on the patent holder's incentives, and thus differ from access concerns, which explicitly account for the public's interest in the patent grant.¹⁴¹ Obtaining the "correct" result has sometimes demanded slight legal contortions. For example, one court found that a patentee that licensed its patent and relied on licensing fees to fund its research—and thus had no market share—was nonetheless entitled to an injunction.¹⁴² The court reasoned that the loss of

139. See Golden, *supra* note 23, at 2134 (providing that if the patent is invalidated the patent holder loses the revenue that its patent could have generated); Mark A. Lemley & Carl Shapiro, *Probabilistic Patents*, 19 J. ECON. PERSPECTIVES 75, 76 (2005) (explaining that the risk of patent invalidation is substantial since roughly half of all litigated patents are found to be invalid).

140. Golden, *supra* note 23, at 2132–35.

141. See, e.g., ALAN R. THIELE, ET AL., *THE PATENT INFRINGEMENT LITIGATION HANDBOOK: AVOIDANCE AND MANAGEMENT* 216 (2010) (explaining the various interests a court could consider in determining whether to grant an injunction).

142. *Commonwealth Scientific & Indus. Research Org. v. Buffalo Tech. Inc.*, 492

future research opportunities otherwise would be irreplaceable.¹⁴³ The court's reasoning in that case demonstrates both the problems with using market share to identify inefficient actors and with assuming NPEs are not irreparably injured and unable to be adequately compensated by monetary damages. In fact, the automatic manner in which courts have correlated market share with irreparable injury raises a question about whether actors with no market share might not still suffer irreparable injuries or be inadequately compensated by money damages, and whether all loss of market share is irreparable with money damages inadequate to compensate for the harm.

The district courts that have granted permanent injunctions relying on the patent holder's market share have done so under the formalistic recitation that high levels of market share correlate with irreparable injury to a patent holder absent an injunction and with the inadequacy of money damages.¹⁴⁴ However, when calculating damages for past infringement, juries are routinely called on to take into account the market share of the patent holder, thus assigning a monetary value to its loss.¹⁴⁵ Accordingly, although loss of market share and reputational damages that accompany it may be an indicator of *greater* injury, and therefore of a need for higher money

F. Supp. 2d 600, 607–08 (E.D. Tex. 2007). *But see* Hynix Semiconductor Inc. v. Rambus Inc., 609 F. Supp. 2d 951, 983 (N.D. Cal. 2009) (finding that harm to Rambus's "innovation-based business model" was not irreparable because the lost opportunity to invest in research was in the past and Rambus would not continue to suffer lost royalties going forward).

143. *Commonwealth Scientific & Indus. Research Org.*, 492 F. Supp. 2d at 607.

144. *See supra* Part II.C (identifying cases where the court looked at the market share to determine the appropriate relief). Historically, inadequacy of money damages was a jurisdictional issue that had to be pled in order to bring a case in a court of equity as opposed to a court of law. *See* H. Tomás Gómez-Arostegui, *What History Teaches Us About Copyright Injunctions and the Inadequate-Remedy-at-Law Requirement*, 81 S. CAL. L. REV. 1197, 1204–05 (2008); F. Scott Kieff & Henry E. Smith, *How Not to Invent a Patent Crisis*, in REACTING TO THE SPENDING SPREE: POLICY CHANGES WE CAN AFFORD 55, 69 (2009) (explaining that, previously, the inadequacy of the legal remedy was a jurisdictional question). Post-*eBay*, however, it is clear that the inadequacy of money damages is to be weighed along with the other factors indicating the appropriateness of an injunction.

145. The *Georgia-Pacific* factors for determining a reasonable royalty include a determination of whether the parties "are competitors in the same territory in the same line of business" and "[t]he effect of selling the patented specialty in promoting sales of other products." *Ga.-Pac. Corp. v. U.S. Plywood Corp.*, 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970), *modified*, 446 F.2d 295, 170 U.S.P.Q. (BNA) 369 (2d Cir. 1971); *see also* *Novozymes A/S v. Genencor Int'l, Inc.*, 474 F. Supp. 2d 592, 608, 613 (D. Del. 2007) (taking into account direct competitor status of parties both for purposes of calculating reasonable royalties and of determining that money damages were inadequate and granting permanent injunction). Both of these factors relate to competitor status and the effect of a patent in spurring other sales, which are closely related to and at least equally nebulous as questions of market share loss.

damages, it does not always follow that the losses can never be compensated with money damages.¹⁴⁶ Rather, larger monetary damages may be warranted for a patent holder with more market share.¹⁴⁷ In addition, a rule dictating the availability of a permanent injunction does not always result in an infringer's exclusion from the market. Its greatest effect may be on ex ante negotiations, and may only mean that any license granted will be much more expensive for the infringer.¹⁴⁸ The real question, of course, is how large damages must be to encourage efficient levels of research ex ante. Any difficulty calculating money damages is steps removed from the concerns that led to *eBay*, specifically, suspect patents and suspect entities, their distortions on markets, and the resultant effects on access. For that reason, it is useful to probe further the ways that these factors and their application serve the purposes of promoting innovation, generally, and of distinguishing situations where NPEs exploit market inefficiencies, specifically.

Ultimately, as discussed above, the right to exclude and the corresponding remedy of a permanent injunction for infringement are intended to promote innovation.¹⁴⁹ Questions about whether the first two factors can identify and weed out inefficient actors, and whether market share is in fact a helpful indicator of those first two factors, bring into focus problems with the emerging rule. As discussed, the market share rule is overbroad and suggests the denial of relief to actors that may be innovators.¹⁵⁰ It also makes assumptions as to different business models that could affect emerging models of innovation. And in some situations, damages may indeed be calculated to include lost market share or reputational damages. The analysis until now has assumed that decisions about how to allocate permanent injunctions must involve some analysis as to which actors are the best innovators—or those who will respond to the availability of the equitable remedy by innovating more. As discussed above, however, there are problems with using market share to distinguish

146. Of course, awarding damages for past infringement is always backwards-looking. Thus, use of the *Georgia-Pacific* factors to grant higher damages does not necessarily mean that money damages were adequate, just that there was no other option. Only forward-looking relief can include an injunction.

147. See generally Fischer, *supra* note 69, at 27–28 (providing examples when monetary damages are sufficient compensation for royalties).

148. See Kaplow, *supra* note 132, at 1835. Alternatively, once damages become large enough, they may operate as a de facto injunction. This should occur when potential damages are higher than an infringer's potential profit from infringing.

149. See *supra* notes 19–22 and accompanying text (discussing the rights granted by a patent).

150. See *supra* Part III.A.

between innovative actors that achieve optimal levels of innovation (and provide optimal levels of access) on the one hand, and actors with skewed incentives, who present problems of holdup, restricting innovation, and diminishing access on the other.¹⁵¹

C. The Limits of Market Share as an Indicator of Innovative Incentives

The opinions analyzing the appropriateness of an injunction use market share as a proxy for irreparable injury and inadequacy of monetary damages to deny injunctions to patent holders who are seen as contributing little to innovation.¹⁵² After examining the problems with reliance on irreparable injury and inadequate money damages as indicators of inefficient actors, as well as the problems with reliance on market share as an indicator of irreparable injury and inadequate money damages, however, the correlation between market share and incentives both to innovate and to bring that innovation to market is unclear. The antitrust literature analyzing the effects of market structure on incentives to innovate is informative,¹⁵³ painting a complex picture in which market share is an imperfect indicator of innovative potential.

Although some economists discuss market concentration in terms of market share—the measure used by courts evaluating injunctions post-*eBay*—others have analyzed the effects on innovation of increased market power.¹⁵⁴ Market power is generally considered the

151. See *supra* Parts II, III.A (identifying holdup concerns and responding to those concerns).

152. See *supra* Part II.C (discussing the emergence of the market share rule).

153. The applicability of antitrust theories about the relevance of market power to the appropriate strength of patents is not limited to patent remedies. See, e.g., Andrew Blair-Stanek, *Increased Market Power as a New Secondary Consideration in Patent Law*, 58 AM. U. L. REV. 707, 709–10 (2009) (suggesting significant increase in market power as an additional secondary consideration in determining whether a patent is non-obvious).

154. A number of the antitrust laws require an initial showing of market power before anti-competitive behavior can be found. William M. Landes & Richard A. Posner, *Market Power in Antitrust Cases*, 94 HARV. L. REV. 937, 937 (1981) (explaining that market power must be shown for a finding of monopolization or attempted monopolization in violation of section 2 of the Sherman Act and in violation of section 7 of the Clayton Act, *inter alia*). Market power is also important in the context of patent misuse, as, by statute

[n]o patent owner otherwise entitled to relief for infringement or contributory infringement of a patent shall be denied relief or deemed guilty of misuse or illegal extension of the patent right by reason of his having done one or more of the following: . . . (5) conditioned the license of any rights to the patent or the sale of the patented product on the acquisition of a license to rights in another patent or purchase of a separate product, *unless, in view of the circumstances, the patent owner has market power in the relevant market for the patent or patented product on which the license or sale is conditioned.*

35 U.S.C. § 271(d) (2006) (emphasis added); see also *Ill. Tool Works Inc. v. Indep.*

“ability of a firm . . . to raise price above the competitive level without losing so many sales so rapidly that the increase is unprofitable.”¹⁵⁵ It is a measure of a firm’s ability to control price in the relevant market.¹⁵⁶ Often, market share and market power are strongly correlated, as control and power tend to be;¹⁵⁷ however, this is not always the case.¹⁵⁸ A firm may have larger market share and yet lack market power, a situation that arises in markets with low barriers to entry and low start-up costs.¹⁵⁹ A shift upwards in price by such a firm allows smaller companies and newcomers to capture that market share.¹⁶⁰ Accordingly, the firm does not have strong market power. Conversely, a firm with little or no market share might yet be said to have a high level of market power.¹⁶¹ The NPEs that have formed a central part of the discussion so far may exhibit considerable market power in terms of the prices they can command on licenses. This situation arises in circumstances Lemley and Shapiro noted were particularly troublesome in terms of holdup, namely, where the cost

Ink, Inc., 547 U.S. 28, 31, 77 U.S.P.Q. 2d (BNA) 1801, 1802 (2006) (eliminating the presumption of market power in a patented product in tying cases in the antitrust context). The connection between high levels of market power and the potential for a finding of patent misuse highlights that, in the antitrust context, suspicion is directed toward those who are strong market participants. This suspicion is lacking in the market share rule, which places increasing trust in companies with increasing dominance of the market.

155. Landes & Posner, *supra* note 154, at 937; see HERBERT HOVENKAMP, FEDERAL ANTITRUST POLICY: THE LAW OF COMPETITION AND ITS PRACTICE 89 (4th ed. 2011) (“Market power is a firm’s ability to deviate profitably from marginal cost pricing.”).

156. One measure of market power is the Lerner Index, which in one formulation is $(P - MC)/P$, where P is the firm’s price at its profit-maximizing level of output, and MC is the firm’s marginal cost at the profit-maximizing level of output. In a perfectly competitive world, the price will equal the marginal cost and the Lerner Index will be zero. In contrast, if a firm is able to raise the price higher and higher (towards infinity), the Index value approaches one. HOVENKAMP, *supra* note 155, at 89; see also Landes & Posner, *supra* note 154, at 946 (demonstrating the effect of market share in relation to market demand elasticity).

157. See Mika Kato, *Transitoriness of Market Power and Antitrust Activity*, 6 J. COMPETITION L. & ECON. 393, 394–95 (2010) (noting that “the most important single criterion for designating monopolization has been a firm’s market share” and that a dominant firm can use market power to raise its market share); see also HOVENKAMP, *supra* note 155, at 90–91 (“Courts rely . . . on the fact that there is a positive correlation between market *share* and market power. . . . All other things being equal, a firm with a large market share has a greater ability to increase price profitably than a firm with a smaller share.”).

158. See Landes & Posner, *supra* note 154, at 947 (outlining the “pitfalls in mechanically using market share data to measure market power”); see also HOVENKAMP, *supra* note 155, at 91 (qualifying general correlation to explain that “[m]arket share is an incomplete proxy for market power,” and that market elasticities must be taken into account to properly correlate the two).

159. Landes & Posner, *supra* note 154, at 945–49 (explaining that market share may not be a good indicator of market power when substitutions for consumption or production are readily available).

160. *Id.* at 947.

161. *Id.*

of designing around a patent is high and where a patented product forms a small part of a complex invention.¹⁶² The costliness of implementing an alternative and the threat of injunction allow an NPE to raise licensing fees without losing customers.¹⁶³ Thus, although market power is often connected to market share, the structure of the relevant market also affects levels of market power. A general correlation between market share and market power can be assumed to discuss the results and implications of research, though there are also special cases in which market power and market share are not correlated.¹⁶⁴

Antitrust laws promote competition in the marketplace by regulating anti-competitive behavior. The laws primarily govern mergers and acquisitions, and as a result, analysis tends to look at pre-merger market structures and compare those with potential post-merger markets.¹⁶⁵ The field of antitrust law has a general “presumption that greater competition in the form of reduced product-market concentration brings improved market performance and increased consumer benefits in the form of lower prices, higher quality, and higher output.”¹⁶⁶ However, this view does not hold in all situations. For example, there are conflicting accounts in the literature on the connection between market power and incentives to innovate.¹⁶⁷ On one side is the “Schumpeterian” view that innovation “is hardly conceivable with perfect . . . competition from the start,”¹⁶⁸

162. Lemley & Shapiro, *supra* note 47, at 2037–39.

163. *Id.* at 2037.

164. Even without the correlation, however, market share is still relevant to antitrust inquiries. HOVENKAMP, *supra* note 155, at 91 (explaining that in many situations of concern in antitrust, the “power” basis of the offense, then, is market share, not market power as such”).

165. See Andrew R. Dick, *Coordinated Interaction: Pre-Merger Constraints and Post-Merger Effects*, 12 GEO. MASON L. REV. 65, 65–66 (2003) (describing the current market analysis conducted when reviewing a merger).

166. Michael L. Katz & Howard A. Shelanski, *Mergers and Innovation*, 74 ANTITRUST L.J. 1, 2 (2007).

167. Richard T. Rapp, *The Misapplication of the Innovation Market Approach to Merger Analysis*, 64 ANTITRUST L.J. 19, 27 (1995) (explaining that the connection between market structure and innovation has been “debated by economists for decades without resolution”).

168. JOSEPH A. SCHUMPETER, CAPITALISM, SOCIALISM AND DEMOCRACY 105 (1950). Schumpeter continues to explain that:

traditional theory is correct in holding that profits above what is necessary in each individual case to call forth the equilibrium amount of means of production, entrepreneurial ability included, both indicate and in themselves imply net social loss and that business strategy that aims at keeping them alive is inimical to the growth of total output.

Id. And while he agrees that competition would eliminate these profits, he nevertheless suggests that because in the course of innovation, “these profits acquire new organic functions . . . [the ability of competition to eliminate such profits] cannot any longer be unconditionally credited to the account of the perfectly

implying that high levels of competition—and thus, low levels of market concentration—are not conducive to innovation. On the other side is the view that competition spurs innovation, while monopolies or near-monopolies have incentives to suppress it.¹⁶⁹ Each view merits further consideration.

The Schumpeterian view argues that companies with significant market share are better suited to introduce innovations than perfect competitors.¹⁷⁰ This account stems from the idea that large firms have equipment and experience such that the costs of introducing innovation are much lower.¹⁷¹ This view argues that the elimination of redundant research and development efforts, in addition to other savings from economies of scale, are a net benefit that allows for more efficient investment in innovation.¹⁷² Market concentration also “reduces market uncertainty and provides the cash flow required to engage in costly and risky *R&D* on an efficient scale.”¹⁷³ Finally, monopoly or near-monopoly status creates space in the market for long-term planning and protects against disorganization of the market.¹⁷⁴

In contrast to the Schumpeterian view, the other view is that the merger of innovative firms—or R&D firms—in a relatively small market will lead to incentives to suppress innovation, or at least slow the introduction of innovative products to the market.¹⁷⁵ Thus, a firm might acquire patents that cover a number of innovative products, but would have no incentive to introduce improvements to a market that it already controlled.¹⁷⁶ Any new product a company considered

competitive model.” *Id.* Although Schumpeter may have thought competition was more conducive to small improvements in current technology, he was more concerned with larger-scale innovations, or “creative destruction,” that changed the structures of current businesses. *Id.* Thus, he thought that what really mattered was “competition from the . . . new technology . . . which strikes not at the margins of the profits and the outputs of the existing firms but at their foundations and their very lives.” *Id.* at 84.

169. Kenneth J. Arrow, *Economic Welfare and the Allocation of Resources for Innovation*, in *THE RATE AND DIRECTION OF INVENTIVE ACTIVITY: ECONOMIC AND SOCIAL FACTORS* 609, 619 (Richard Nelson ed., 1962) (noting various assumptions necessary to make this conclusion and also concluding that in both monopoly and competitive situations, the incentive to invest is less than is socially desirable).

170. SCHUMPETER, *supra* note 168, at 105.

171. *See id.* at 100–01 (noting several advantages available to monopolists).

172. Richard J. Gilbert & Steven C. Sunshine, *Incorporating Dynamic Efficiency Concerns in Merger Analysis: The Use of Innovation Markets*, 63 *ANTITRUST L.J.* 569, 594 (1995).

173. Richard C. Levin et. al., *R&D Appropriability, Opportunity, and Market Structure: New Evidence on Some Schumpeterian Hypotheses*, 75 *AM. ECON. REV.* 20, 20 (1985).

174. SCHUMPETER, *supra* note 168, at 102–03.

175. *See Arrow*, *supra* note 169, at 619 (arguing that competitive conditions give companies more incentive to invest than monopolistic conditions).

176. Michael A. Carrier, *Two Puzzles Resolved: Of the Schumpeter-Arrow Stalemate and*

introducing would be in competition with its other products, and thus the company would stand only to divide market share it already had among multiple products, while losing the cost of introducing the innovation.¹⁷⁷ This phenomenon is known as “cannibalization” of the market.¹⁷⁸ A competitor, in contrast, “receives all of the returns from a new invention,” and thus has every incentive to bring innovations to market.¹⁷⁹

Another criticism that may be leveled at the Schumpeterian view is that it adheres to a dated view of how innovation takes place. Even if Schumpeter is correct that the most efficient means of introducing innovation is through large firms whose size allows them to research efficiently, the truth is that many large innovations take place outside the structure of large businesses and that small start-up companies and R&D shops assume the initial risk of following an idea, cashing in only later when, and if, it is successful by selling the technology or the company to one of those larger firms.¹⁸⁰ In addition, large companies with market power may find that licensing patents they do not use brings in desirable revenue.¹⁸¹ The possibility of a large company participating in holdup and troll-like behavior diminishes the idea that there are only two types of actors: licensor-trolls and competitor-innovators.¹⁸² The Schumpeterian view would support stronger remedies for those with greater market power because those are the most innovative actors in the marketplace. Under this account, there is no reason to suspect them of having skewed incentives.¹⁸³ Certainly, these companies do not exist solely to license their inventions and thus do not fit into the problem *eBay* was meant to address, as framed by scholars and practitioners.¹⁸⁴ If a company with strong market power refuses to license, it is not a holdup for a higher licensing rate but a real attempt to stop competitors from offering the innovation

Pharmaceutical Innovation Markets, 93 IOWA L. REV. 393, 404 (2008) (citing Kenneth J. Arrow, *Economic Welfare and the Allocation of Resources for Invention*, in *ESSAYS IN THE THEORY OF RISK-BEARING* 144, 157 (3d ed. 1976)).

177. *Id.*

178. *Id.*

179. *Id.*

180. *See supra* note 130 (characterizing the interactions between R&D firms and large firms).

181. *See, e.g.*, JAFFE & LERNER, *supra* note 5, at 57–58 (discussing Texas Instruments’s decision in the 1980s to begin asserting patents against its competitors and the resulting licensing fees it acquired, amounting to more than fifty-five percent of its total net income by 1999).

182. *Id.* (using Texas Instruments’s decision to exercise dormant patents to demonstrate how a company could fall outside either category).

183. *See supra* note 168 and accompanying text (describing Schumpeter’s view of competition).

184. *Supra* Part II.

on the market. The other view points out that companies with strong market power may have other reasons to suppress the introduction of new technologies, such as avoidance of market cannibalization.¹⁸⁵

The effects of market power on incentives to innovate are most often discussed in the context of mergers and, specifically, mergers in innovation markets.¹⁸⁶ When evaluating mergers, government agencies consider the different, possibly opposing accounts outlined above. The Federal Trade Commission (FTC) has used the concept of innovation markets to evaluate anticompetitive effects of a proposed merger and recently reevaluated, *inter alia*, the effects of mergers on innovation markets.¹⁸⁷ The horizontal merger guidelines recently issued by the Department of Justice (DOJ) and the FTC give credence to both accounts of the possible effects of market power on innovation.¹⁸⁸ First, the guidelines state the conventional idea that “[c]ompetition often spurs firms to innovate.”¹⁸⁹ Acknowledging the cannibalization concern, the guidelines note that mergers may diminish incentives “to continue with an existing product-development effort or reduce[] incentive to initiate development of new products”¹⁹⁰ because the products of one firm would diminish the sales of the other firm.¹⁹¹ Once merged, no incentive remains to commit resources to development of products that will not result in

185. *Supra* notes 174–79 and accompanying text.

186. Innovation markets are described in the FTC and DOJ’s 1995 Intellectual Property Guidelines as:

the research and development directed to particular new or improved goods or processes, and the close substitutes for that research and development. The close substitutes are research and development efforts, technologies, and goods that significantly constrain the exercise of market power with respect to the relevant research and development, for example by limiting the ability and incentive of a hypothetical monopolist to retard the pace of research and development.

U.S. DEP’T OF JUSTICE & FED. TRADE COMM’N, ANTITRUST GUIDELINES FOR THE LICENSING OF INTELLECTUAL PROPERTY 11 (1995) [hereinafter ANTITRUST GUIDELINES FOR THE LICENSING OF IP], available at <http://www.justice.gov/atr/public/guidelines/0558.htm>.

187. See U.S. DEP’T OF JUSTICE & FED. TRADE COMM’N, HORIZONTAL MERGER GUIDELINES (2010) [hereinafter HORIZONTAL MERGER GUIDELINES], available at <http://www.ftc.gov/os/2010/08/100819hmg.pdf> (outlining how agencies analyze the effects of mergers on competition, including innovative markets); see also Rapp, *supra* note 167, at 19–20 (discussing the DOJ and FTC’s “innovation market approach” to merger analysis and explaining that “[t]he aim of the [then] new policy is to introduce dynamic efficiency considerations into merger enforcement, to recognize the importance of innovation as a means of nonprice competition and a source of welfare gains, and to prevent mergers that would reduce competition in innovation”).

188. See HORIZONTAL MERGER GUIDELINES, *supra* note 187 (outlining the agencies’ methods to predict a merger’s effect on competition).

189. *Id.* at 23.

190. *Id.*

191. *Id.* at 23–24.

new revenue streams.¹⁹² Consumers may lose in such situations, both because of the loss of innovation and because of diminished choice and access to innovation.¹⁹³ The guidelines, however, also recognize another possibility that a merger may “enable innovation that would not otherwise take place, by bringing together complementary capabilities that cannot be otherwise combined.”¹⁹⁴ For that reason, the guidelines suggest that the regulatory agencies consider efficiencies in research and development resulting from a merger that “may spur innovation but not affect short-term pricing.”¹⁹⁵ The possibilities described in the agency guidelines—that increased market power may suppress or augment incentives to innovate—reflect the ambiguous state of the literature on the topic.

As recognized in the language of the FTC guidelines, it is possible that both accounts are right. There is no reason, for example, that a correlation between market power and innovation need be linear. Another possibility is an inverted U-shaped correlation between market power and innovation.¹⁹⁶ In the mid-1960s, F.M. Scherer performed a study measuring the levels at which companies employed scientists and engineers as a proxy for investment in innovation.¹⁹⁷ He found a correlation between increased market power and an increase in this measure of innovation; however, the correlation reversed itself after a threshold level of concentration was met.¹⁹⁸ Scherer’s finding seems to give credence to both accounts of incentives to innovate as a function of market power. Thus, Scherer validates the Schumpeterian account of a company that does not participate in the market—and therefore has no market power—such

192. *Id.* at 23.

193. *See id.* at 24 (“Where a merger substantially reduces competition by bringing two close substitute products under common ownership, and one of those products is eliminated, the merger may also lead to a price increase on the remaining product, but that is not necessarily a condition for anticompetitive effect.”). In the context of licensing, the DOJ and FTC have also noted that “even if lawfully acquired and maintained, [market power] would be relevant to the ability of an intellectual property owner to harm competition through unreasonable conduct in connection with such property.” ANTITRUST GUIDELINES FOR THE LICENSING OF IP, *supra* note 186, at 4.

194. HORIZONTAL MERGER GUIDELINES, *supra* note 187, at 23–24.

195. *Id.* at 31.

196. F.M. Scherer, *Market Structure and the Employment of Scientists and Engineers*, 57 AM. ECON. REV. 524, 530 (1967) (finding that increased firm size corresponds with increased patent activity until a threshold is met, at which point, firm size has a downward correlation with patent activity).

197. *Id.* at 524.

198. *See id.* at 530 (“[T]echnological vigor appears to increase with concentration mainly at relatively low levels of concentration. When the four-firm concentration ratio exceeds 50 or 55 per cent, additional market power is probably not conducive to more vigorous technological efforts and may be downright stultifying.”).

as an NPE in a competitive market, predicting such a company is less likely to be innovative.¹⁹⁹ Similarly, and in line with both Scherer's and Schumpeter's accounts, a company with a small amount of market power is unlikely to have the equipment and expertise to develop and bring a product to market.²⁰⁰ As a result, the first innovations such a company contemplates will be costlier than they would be for a large company already engaged in the general area, and that company may be less innovative than a larger company. On the other end of the spectrum, Arrow's account is validated by Scherer's findings. Thus, companies with near-monopolies are unlikely to introduce innovations that will only cannibalize their own profits.²⁰¹ As a result, although these companies may be innovative, they may choose not to bring some innovations to market. In between these extremes are the companies that have the resources, expertise, and market space to innovate, in addition to having the incentives to continue introducing those innovations to the market to remain competitive.²⁰² Many questions remain, and more recent empirical analysis has not fully answered the question of how correlated market power and innovation are, and on what factors this correlation might depend.²⁰³ This complex picture may be the reason Michael Katz and Howard Shelanski suggest that innovation should be taken into account in merger enforcement, but that each case must be evaluated "with a presumption that a merger's effects on innovation are neutral except in the case of merger to monopoly, where there would be a rebuttable presumption of harm."²⁰⁴

The more nuanced antitrust description of the correlation of market power and incentives to innovate has been missing from the dialogue regarding the grant of permanent injunctions following *eBay*. As detailed in Part II, the focus leading up to *eBay* was solely on NPEs and the potential for holdup that they represented.²⁰⁵ For that reason, the clearest solutions focused on identifying NPEs and denying them permanent injunctions. However, as explained,

199. See *supra* note 168 and accompanying text (referring generally to the Schumpeterian view).

200. See *supra* note 168 and accompanying text.

201. See *supra* note 178 and accompanying text (noting the cannibalism concerns).

202. See Arrow, *supra* note 169, at 619 (determining that there is an optimal level of competition needed to spur innovation).

203. See John M. Golden, *Principles for Patent Remedies*, 88 TEX. L. REV. 505, 539–40 (2010) (demonstrating conditions in which even a monopolist would have to innovate).

204. Katz & Shelanski, *supra* note 166, at 6.

205. *Supra* Part II.

market share may not be a reliable indicator of irreparable injury.²⁰⁶ In addition, reliance on market share as an indicator of irreparable injury for identifying companies likely to engage in holdup leads to questions about whether market share is really an indicator of innovative potential and, if so, whether the correlation is a simple, linear one. As detailed, market share may be a helpful indicator of innovative potential, but the relationship is not simple, and it is likely not linear either.²⁰⁷ Rather, it appears that a complete lack of market power may, but does not always, result in lower incentives to innovate and more opportunities for holdup and other inefficiencies.²⁰⁸ Exceptions are possible for entities that have specialized in innovation, such as some start-up companies and universities. This Part's exploration of literature analyzing effects of large amounts of market power suggests that inefficient incentive structures lurk there, too, and calls into question the usefulness of market power as a proxy for innovative potential. In particular, companies with high levels of market power have incentives not to introduce innovations to the market.²⁰⁹

Thus far, it has been demonstrated that the first two factors of the equitable test for injunctions may not be ideal for identifying actors likely to keep innovation from the market. In addition, increased market share may not always point to an irreparable injury or the inadequacy of money damages.²¹⁰ It is possible that if market share is a helpful indicator of innovative potential, both very high and very low levels of market share will correlate with incentives to keep innovation from the market; as a result, injunction-seeking companies with high levels of market share should be looked at skeptically, as well. Market power and market share may not always correlate. In situations where NPEs could be said to have high levels of market power but not market share, their lack of innovative potential—and incentives to hold up—would make the grant of an injunction less likely under the current market share rule or under a

206. See *supra* Part III.A (discussing the limitations of the market share test in assessing injury).

207. See *supra* note 196 and accompanying text (describing the non-linear nature of the relationship between innovation and market share).

208. See *supra* Part II.A (finding efficiencies associated with NPEs).

209. See *supra* notes 175–79 and accompanying text (referencing how companies with dominant market power have cannibalism concerns in introducing innovation into the market).

210. This Article does not suggest that market share should no longer be considered relevant to those factors; it is. However, market share is not determinative, and the balancing test should not be strained by forcing an analysis here that belongs elsewhere.

rule that required more scrutiny for high levels of market power. On the other hand, companies with high levels of market share that have low levels of market power (because there are low barriers to entry and start-up costs in the relevant industry) would be more likely to receive an injunction under the market share rule and under a rule that required more scrutiny for high levels of market power. To the extent that market share and market power are not correlated, a rule that requires more scrutiny for companies that exhibit market power would not change the analysis of which companies are likely to engage in holdup or suppression of technology. Because the effect of such inefficiencies is an improper balancing of incentives to innovate, and because the result on either end of the market power spectrum is a lack of access to technology by the public, the next Part addresses the public interest prong of the equitable test to determine its utility in identifying situations where market power is determinative of innovative potential and usefulness of an injunction.

IV. USING MARKET SHARE CRITICALLY: A GREATER ROLE FOR THE PUBLIC INTEREST PRONG

Public interest plays a unique role in patent law. Patent suits may determine rights of private parties, but they also routinely set the scope, validity, and enforceability of patents²¹¹—all of which are secured against the public.²¹² Thus, patents that are misused, although otherwise valid, may be deemed unenforceable.²¹³ Likewise, overbroad patent claims may be invalidated and the rulings given res judicata effect, or may simply be interpreted to have a scope limited to what the patentee can rightfully claim to have invented.²¹⁴ Similarly, the remedy for patent infringement is about more than the allocation of rights between the parties. In weighing the

211. Lemley & Shapiro, *supra* note 139, at 76. The U.S.P.T.O. is also routinely a party when the denial of a patent is challenged. *See, e.g., Ass'n for Molecular Pathology v. U.S. Patent & Trademark Office*, 653 F.3d 1329, 1334, 99 U.S.P.Q.2d (BNA) 1398, 1401 (Fed. Cir. 2011) (challenging the validity of DNA molecule patents); *Grasty v. U.S. Patent & Trademark Office*, 211 F. App'x 952, 953 (Fed. Cir. 2007) (per curiam) (challenging the denial of a petition to revive abandoned application).

212. While the consequences of judgments vary depending on which party prevails and whether a final judgment is obtained at the district or appellate court level, the allocation of rights between private parties will affect the availability of products to the public and their prices.

213. *See Morton Salt Co. v. G. S. Suppiger Co.*, 314 U.S. 488, 492, 52 U.S.P.Q. (BNA) 30, 33 (1942) (describing the unenforceability of a patent misused in a tying scheme, the Court explained that “[i]t is a principle of general application that courts, and especially courts of equity, may appropriately withhold their aid where the plaintiff is using the right asserted contrary to the public interest”).

214. *See supra* note 64 (explaining judicial responses to overbroad patent claims).

appropriateness of an injunction, however, the public interest factor is currently a simple check that public health is not endangered by entry of an injunction.²¹⁵ I suggest a modest expansion, such that courts determine that the public interest in the balance struck by the patent grant is also represented in the balance of equities of the injunction grant.²¹⁶ Ultimately, the problems the Court attempted to address in *eBay* are problems best weighed in terms of the public interest because it is a more straightforward approach to those concerns than using market share as a proxy for innovative capability.

The concerns underlying *eBay* were not merely about compensation for patent holders; rather, they implicated the underlying purpose of the patent system to fuel innovation and the balance it strikes to accomplish that.²¹⁷ Moreover, the use of market share as the sole measure of the effect of the remedy on the patent holder, under the first two prongs of the equitable test, is a proxy for innovative potential that becomes less dependable in situations in which companies have high levels of market power. Market share still tells a story about the nature of harm to a patent holder and the ability of money damages to remedy that harm. Thus, in nascent markets, an infringer's usurpation of market share may indeed be difficult to calculate, and an ongoing injunction may be the fairest way to grant ongoing relief. For some business structures, however, the market share does not answer the question of irreparable injury and adequacy of money damages. The same concerns underlying the NPE problem—public access to innovation and incentivizing innovation²¹⁸—that are now routinely considered under the first two prongs of the equitable test may also be considered under the public interest prong. Market share may tell a story in that analysis too, but

215. See *infra* note 230 and accompanying text (describing the possible public health reasons for denying an injunction).

216. Judge Aldrich's dissent in *Continental Paper Bag*, at the circuit level, invoked the public interest by suggesting that nonuse of a patent by a competitor, for the purpose of deriving a monopoly over another product, is "an attitude which offends public policy, the conscience of equity, and the very spirit and intention of the law upon which the legal right [to exclude] is founded." *Cont'l Paper Bag Co. v. E. Paper Bag Co.*, 150 F. 741, 745 (1st Cir. 1906) (Aldrich, J., dissenting), *aff'd*, 210 U.S. 405 (1908). The Judge further referenced the public interest in suggesting that the equitable remedy of an injunction was inappropriate, writing that

the act of acquiring a valuable right, into which the public interest enters, not for use, but to destroy or withdraw from use, alone involves a certain measure of wrong, because, upon natural and fundamental grounds, it is in a sense wrong to buy and withhold a thing of public interest and benefit

Id. at 751. He continued that in such situations "the right to equitable relief in aid of the abstract right is forfeited." *Id.*

217. *Supra* text accompanying notes 19–21.

218. See *supra* text accompanying notes 50–51 (outlining the NPE problem).

it is a story cabined by acknowledging antitrust concerns that come with large amounts of market share, and it should act as a counterweight to the assumption about the level of injury and consequent rewards.

The interests encompassed under the public interest factor of the equitable test are as follows: (1) granting sufficiently strong rights to incentivize innovation,²¹⁹ (2) gaining access to the invention, through the patent disclosure and its eventual dedication to the public domain,²²⁰ and (3) gaining earlier access to the invention through its market availability by the patentee or its licensees.²²¹ The first and second interests, encompassing disclosure of inventions and encouragement of innovation, are equally satisfied whether the patent holder is a practicing or a non-practicing entity. Indeed, these interests are satisfied by the time a patent application is filed.²²² The public interest associated with situations of non-existent market power is the interest in access. There is a societal interest in both public access to patented technology and access of other innovators working in the art to advance it further.²²³ These access-related interests are not equally served in the case of practicing and non-practicing entities. When an invention is practiced, it is likely to be available to the public at some price,²²⁴ and thus available to other innovators who wish to purchase and use it. An entity that does not practice its invention—and refuses to license it—withholds these benefits from the public entirely. One exception to this categorization is independent invention. When a non-patent holder has independently come up with the same idea as a patent holder, the patent disclosure must have been less valuable than in cases where there is no independent invention, given that the same thing

219. *See, e.g.,* *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 480, 181 U.S.P.Q. (BNA) 673, 678 (1974) (noting that the right of exclusion provides an incentive to risk enormous costs in time, research, and development).

220. *See, e.g.,* *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 736, 62 U.S.P.Q.2d (BNA) 1705, 1712 (2002) (explaining that “patent rights are given in exchange for disclosing the invention to the public”).

221. *See, e.g.,* *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 429, 220 U.S.P.Q. (BNA) 665, 672 (1984) (acknowledging that the patent system allows public access to the products after exclusive control has expired).

222. Patent applications are generally published within eighteen months of filing but certainly upon the grant of a patent. 35 U.S.C. § 122(b) (2006). *But see generally* Jeanne C. Fromer, *Patent Disclosure*, 94 IOWA L. REV. 539, 548 (2009) (arguing for stronger disclosure requirements).

223. *See generally* *Sony Corp. of Am.*, 464 U.S. at 429, 220 U.S.P.Q. (BNA) at 672 (noting that the public interest lies in the benefits derived from the labors of inventors).

224. This excludes inventions that are used within a company for its own purposes, such as manufacturing.

was invented without access to the disclosure.²²⁵ In addition, where an invention is likely to be independently invented, it may be that the strong, exclusive rights associated with patents are not necessary to spur the innovation in the first place.²²⁶ In terms of remedies, although independent invention is not a defense to a claim of patent infringement, it does allow an infringer to escape the enhanced damages associated with willful infringement.²²⁷ Historically, courts have found that the public interest in promoting innovation weighs in favor of the grant of an injunction.²²⁸ Rarely, the access interest has been invoked to deny injunctions for reasons relating to public health.²²⁹ After discussing that history, I suggest that the access interest need not be so sparingly invoked.

A public interest analysis may be useful in identifying cases where injunctions would serve the goals of access and innovation. The public interest factor has been used rarely to deny injunctions. When the public interest has been considered relevant, it has been for public health reasons;²³⁰ otherwise, it generally has been assumed that the public interest mainly lies in strong enforcement of patent rights.²³¹ *City of Milwaukee v. Activated Sludge*,²³² a 1934 case, is the most frequently mentioned case in this context. The United States Court of Appeals for the Seventh Circuit reversed the district court's grant

225. Samson Vermont, *Independent Invention as a Defense to Patent Infringement*, 105 MICH. L. REV. 475, 479 (2006) (noting that a patent award is excessive when two or more inventors independently create the same invention).

226. *Id.*; see Michael Abramowicz & John F. Duffy, *The Inducement Standard of Patentability*, 120 YALE L.J. 1590, 1677–78 (2011) (“[W]here one party does not seek a patent and it appears that this failure to seek a patent is not simply a strategic gambit to deny the other party a patent, such evidence strongly suggests that a patent incentive was not needed to motivate the invention.”).

227. David S. Olsen, *Taking the Utilitarian Basis for Patent Law Seriously: The Case for Restricting Patentable Subject Matter*, 82 TEMP. L. REV. 181, 194 n.45 (2009).

228. See *infra* note 245 (discussing the public interest considerations surrounding injunctions).

229. See *infra* note 230 and accompanying text (discussing the public health considerations surrounding injunctions).

230. See *City of Milwaukee v. Activated Sludge, Inc.*, 69 F.2d 577, 593, 21 U.S.P.Q. (BNA) 69, 75 (7th Cir. 1934) (declining permanent injunction against the city after finding infringement because enjoining use of the sewage treatment method would affect public health). But see *Acumed LLC v. Stryker Corp.*, No. 04-CV-513-BR, 2007 WL 4180682, at *8 (D. Or. Nov. 20, 2007) (finding insufficient evidence of a public health issue to find that an injunction would be a disservice to the public interest), *aff'd*, 551 F.3d 1323, 1331, 89 U.S.P.Q.2d (BNA) 1612, 1617 (Fed. Cir. 2008) (noting that “in another case, the public interest factor may so strongly weigh against enjoining the infringer that an injunction would be inappropriate”).

231. Julie A. Burger & Justin Brunner, *A Court's Dilemma: When Patents Conflict with Public Health*, 12 VA. J.L. & TECH. 7, 20 (2007); see *Hybritech Inc. v. Abbott Labs.*, 849 F.2d 1446, 1458, 7 U.S.P.Q.2d (BNA) 1191, 1201 (Fed. Cir. 1988) (upholding the district court in finding that public interest in enforcing patent rights outweighed any other public interest considerations).

232. 69 F.2d 577, 21 U.S.P.Q. (BNA) 69 (7th Cir. 1934).

of an injunction against the City, despite upholding its finding that the City infringed a patent over a method and apparatus for sewage treatment.²³³ The court explained that the result of an injunction would be that the City “would close the sewage plant, leaving the entire community without any means for the disposal of raw sewage other than running it into Lake Michigan, thereby polluting its waters and endangering the health and lives of that and other adjoining communities.”²³⁴ Another notable case in which an injunction was rejected for public interest reasons that specifically related to public health was *Vitamin Technologists, Inc. v. Wisconsin Alumni Research Foundation*.²³⁵ There, the United States Court of Appeals for the Ninth Circuit noted that the patent holder did not intend to use or license the patented process to irradiate oleomargarine such that it is supplemented by vitamin D.²³⁶ This fortification of oleomargarine, the evidence showed, prevented and cured rickets, a disease that disproportionately affected the poor.²³⁷ The court made these notes “as a tribunal concerned that equitable processes not be used contra to the public interest, a matter in which the court is not ‘at the mercy’ of the parties.”²³⁸ Although the *Vitamin Technologists* court discussed the public interest in granting an injunction, its language was that of patent misuse,²³⁹ a doctrine that may render a patent entirely unenforceable but that now, by statute, does not apply to refusal to practice a patent.²⁴⁰ A defense of patent misuse may include

233. *Id.* at 593, 21 U.S.P.Q. (BNA) at 82.

234. *Id.*, 21 U.S.P.Q. (BNA) at 82.

235. 146 F.2d 941, 63 U.S.P.Q. (BNA) 262 (9th Cir. 1944).

236. *Id.* at 945, 63 U.S.P.Q. (BNA) at 267.

237. *Id.*, 63 U.S.P.Q. (BNA) at 267. Although the connection between vitamin D deficiency and rickets sounds like a problem distinctly from another era, the importance of the vitamin is in the news again, with a claim that it “promises to be the most talked-about and written-about supplement of the decade.” Jane E. Brody, *What Do You Lack? Probably Vitamin D*, N.Y. TIMES, July 27, 2010, at D7.

238. *Vitamin Technologists*, 146 F.2d at 945, 63 U.S.P.Q. (BNA) at 267. Ultimately, however, the court determined that the patents were invalid, and thus its analysis of the public interest was not dispositive to the ultimate outcome of the case. *Id.*, 63 U.S.P.Q. (BNA) at 267.

239. *Id.* at 944, 63 U.S.P.Q. (BNA) at 266 (noting that “it is not the private use but the public interest which is dominant in the patent system,” and “[t]he patent is a privilege[,] [b]ut it is a privilege which is conditioned by a public purpose” (citations omitted) (internal quotation marks omitted)).

240. 35 U.S.C. § 271(d) (2006). Patent misuse is a defense to a claim of patent infringement, allowing for non-enforcement when a patentee has sought to extend the patent grant beyond its scope. However, section 271(d) of the patent statute explicitly states that “refus[al] to license or use any rights to the patent” does not alone constitute misuse such that a patent owner shall be denied relief. *Id.* Thus, nonuse of a patent does not allow for a finding of misuse if there also is not an element of monopolization of the market beyond that allowed by the patent. The Court’s concern, expressed in *eBay*, with “the economic function of the patent holder”—namely, its concern with patent holders who exist merely to extract high

allegations of antitrust violations;²⁴¹ however, misuse may be found without showing an antitrust violation when enforcement of a patent would be “contrary to public policy.”²⁴² Thus, public health concerns have led courts to deny permanent injunctions in some cases on the basis of the public interest; however, this is the extent of use of the public interest factor in the denial of injunctions.²⁴³ For the most part, the public interest is considered to favor a strong patent system with the strong remedy of an injunction to support it.²⁴⁴

Post-*eBay* case law has, for the most part, continued to assert that the public has an overriding interest in granting strong patents and responding to their infringement with strong remedies to fuel further innovation.²⁴⁵ However, some courts have recognized that, as Justice Kennedy suggested, the public interest may not always be served by an injunction.²⁴⁶ Thus, some courts have found that the public

licensing fees through the threat of litigation—cannot be addressed with a finding of patent misuse, despite the fact that in such cases, “the threat of an injunction is employed simply for undue leverage in negotiations . . . and an injunction may not serve the public interest.” *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 396–97, 78 U.S.P.Q.2d (BNA) 1577, 1581 (2006) (Kennedy, J., concurring). Indeed, where patent misuse is found, the arguably draconian remedy of unenforceability is imposed on the patent. Mark A. Lemley, Comment, *The Economic Irrationality of the Patent Misuse Doctrine*, 78 CALIF. L. REV. 1599, 1616–17 (1990) (“[O]ptimal punishment is unlikely in the normal case because the level of patent misuse sanction is not related to the severity of the patent misuse violation.”).

241. HOVENKAMP, *supra* note 155, at 262 (discussing application of section 2 of the Clayton Act, which forbids tying of unpatented products to those under patent).

242. *Id.* (citing *Morton Salt Co. v. G. S. Suppiger Co.*, 314 U.S. 488, 52 U.S.P.Q. (BNA) 30 (1942)).

243. *See supra* note 230 (noting the rare occurrence of denial of an injunction due to public interest concerns).

244. *See, e.g.*, *Smith & Nephew, Inc. v. Synthes*, 466 F. Supp. 2d 978, 985 (W.D. Tenn. 2006) (“[T]he public maintains an interest in protecting the rights of patent holders, and injunctions serve that interest.”); *see also infra* note 245 and accompanying text (discussing the general belief, after *eBay*, that emphasizes the public interest benefits of encouraging innovation through enforcement of patent rights).

245. *See, e.g.*, *Sanofi-Synthelabo v. Apotex, Inc.*, 470 F.3d 1368, 1383, 81 U.S.P.Q.2d (BNA) 1097, 1099 (Fed. Cir. 2006) (acknowledging the public interest in encouraging innovation); *FURminator, Inc. v. Kim Laube & Co.*, No. 4:08CV00367 ERW, 2011 WL 1226944, at *3 (E.D. Mo. Mar. 30, 2011) (noting the importance of injunctions in serving the public interest), *appeal dismissed*, 440 Fed. App’x 924 (Fed. Cir. 2011); *Enpat, Inc. v. Budnic*, No. 6:11-cv-86-PCF-KRS, 2011 WL 1196420, at *5 (M.D. Fla. Mar. 29, 2011) (noting that “the public interest factor typically weighs in favor of granting injunctive relief”); *Smith & Nephew, Inc.*, 466 F. Supp. 2d at 985 (“[T]he public maintains an interest in protecting the rights of patent holders, and injunctions serve that interest.”); *TiVo Inc. v. EchoStar Commc’ns Corp.*, 446 F. Supp. 2d 664, 670 (E.D. Tex. 2006) (“The public has an interest in maintaining a strong patent system.”), *aff’d in part, rev’d in part*, 516 F.3d 1290, 85 U.S.P.Q.2d (BNA) 1801 (Fed. Cir. 2008).

246. *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 396–97, 78 U.S.P.Q.2d (BNA) 1577, 1581 (2006) (Kennedy, J., concurring) (suggesting that when “the threat of an injunction is employed simply for undue leverage in negotiations, legal damages may well be sufficient to compensate for the infringement and an

interest in access weighs more heavily than the private interests of the litigating parties; nevertheless, those courts still framed their decision in terms of the market share rule, concluding that in their cases, a competitor with market share would not suffer irreparable injury from the denial of the injunction.²⁴⁷ In two district court cases involving the same parties and coronary stent technology, the courts denied injunctions after analysis of market share and consideration of the public interest in a diverse stent market.²⁴⁸ These cases are illustrative of competing concerns that are all being played out in the first two factors of the equitable test, but that would be clarified if they were examined through a public interest lens.

In *Advanced Cardiovascular Systems, Inc. v. Medtronic, Inc.*,²⁴⁹ the Delaware district court found no irreparable injury and that money damages would be adequate where the parties were in a market with three head-to-head competitors by looking at market share data and determining that increased market share for the infringing firm did not necessarily come at the expense of the patent holder.²⁵⁰ The court noted that of the three competitors, Advanced Cardiovascular Systems, which changed hands during the course of litigation and is now part of Abbott Labs, had a sixty-three percent market share of the bare metal stent market, compared with infringer Medtronic's seventeen percent share.²⁵¹ The court also noted that Advanced Cardiovascular Systems's market share was predicted to drop to fifty-six percent by 2010, infringer Medtronic's market share was predicted to increase to thirty-three percent, and third-party BSC's market share was predicted to drop to eleven percent in that time frame.²⁵² As a result, the court concluded that the infringer apparently was gaining market share at the expense of both of the other competitors, "clouding the relationship between Medtronic's infringement and ACS's losses."²⁵³ In addition, the court found

injunction may not serve the public interest").

247. See discussion *infra* accompanying notes 248–266 (discussing the role of market share in a court's decision to issue an injunction).

248. See *Advanced Cardiovascular Sys., Inc. v. Medtronic, Inc.*, No. C95-03577-DLJ, 2008 WL 4647384, at *13 (N.D. Cal. Oct. 20, 2008) (denying a motion to modify the injunction because it had been in force for eight years, any loss of market share could be proven and compensated, and there was strong public interest in access to multiple types of stents); *Advanced Cardiovascular Sys., Inc. v. Medtronic Vascular, Inc.*, 579 F. Supp. 2d 554, 561 (D. Del. 2008) (noting public interest in access to different types of stents).

249. 579 F. Supp. 2d 554 (D. Del. 2008).

250. *Id.* at 559.

251. *Id.*

252. *Id.*

253. *Id.*

willingness to license was evidence that money damages would be adequate.²⁵⁴ Thus, in contrast to the general rule of many other courts, the court here determined that a competitor with market share would not suffer irreparable injury and that money damages would be adequate. In regards to the public interest factor, the court cited the “strong public interest in maintaining diversity in the coronary stent market,” which was “previously recognized by this court and the Federal Circuit.”²⁵⁵

A month later, a California district court also denied an extension of injunctive relief to Advanced Cardiovascular Systems in a lawsuit involving catheters used in percutaneous transluminal coronary angioplasty.²⁵⁶ The court was faced with the question of whether to extend the injunction to reflect the possible extension the patent term would receive, making up for time spent testing the products for regulatory compliance.²⁵⁷ In finding no irreparable injury, the court explained that any loss of market share would not unduly burden such a large company and could be proved and compensated.²⁵⁸ In this case, the parties were two of the larger companies in the market and in direct competition with each other, although the court also noted that two other competitor companies had larger market share in the market it found to be relevant.²⁵⁹ The court suggested that although Abbott might lose some market share to Medtronic when the court denied the injunction, “nothing suggests that this loss could have any significant effect on the continued ability of Abbott to effectively compete in the DES market or to continue to invest in relevant research and development.”²⁶⁰ The court relied on Abbott’s willingness to license in finding that money damages would be

254. *Id.* at 560–61.

255. *Id.* at 561. Compare *Roche Prods., Inc. v. Bolar Pharm. Co.*, 733 F.2d 858, 865–66, 221 U.S.P.Q. (BNA) 937, 942 (Fed. Cir. 1984) (“[S]tandards of the public interest, not the requirements of private litigation, measure the propriety and need for injunctive relief . . .” (quoting *Hecht Co. v. Bowles*, 321 U.S. 321, 331 (1944)) (internal quotation marks omitted)), with *Amgen, Inc. v. F. Hoffmann-La Roche Ltd.*, 581 F. Supp. 2d 160, 209–10 (D. Mass. 2008) (granting injunction and noting court’s original impression that public interest would be served by allowing introduction to the pharmaceutical market, but that ultimately, public is better served by a “robust patent system”), *aff’d in part, vacated in part*, 580 F.3d 1340, 92 U.S.P.Q.2d (BNA) 1289 (Fed. Cir. 2009).

256. *Advanced Cardiovascular Sys., Inc. v. Medtronic, Inc.*, No. C95-03577-DLJ, 2008 WL 4647384, at *13 (N.D. Cal. Oct. 20, 2008). Percutaneous transluminal coronary angioplasty is a method of delivering stents using catheters.

257. *Id.* at *9.

258. *Id.* at *10.

259. See *id.* (using the market for percutaneous transluminal coronary angioplasty performed with drug-eluting stents).

260. *Id.*

adequate.²⁶¹ Turning to the public interest inquiry, the court found it would be in the public interest to allow the infringing device to enter the market.²⁶² In so finding, the court noted that extending the injunction would leave just one product on the market at that “advanced technological level.”²⁶³ The court then determined that the public interest further did not favor extending the injunction to account for the regulatory testing done for Food and Drug Administration approval²⁶⁴ because the patent holder had profited from the patent with no delay for testing.²⁶⁵

Although both courts appear to have come to a reasonable conclusion, it is not clear how the market share decision can be squared with all the other decisions discussed in Part III.C. However, these cases would make sense if market share were returned to a lower level of importance under the irreparable injury and inadequacy of monetary damages factors, while simultaneously performing a function under a new, stronger public interest inquiry. Because the companies are not fighting for market share in an emerging market, and because there is adequate (indeed, ample) data about the relevant markets, the loss of market share would not result in a finding of irreparable injury. However, the high levels of market share commanded by Abbott in the coronary stent market would lead courts to carefully probe the effects of an injunction on access.²⁶⁶

Therefore, nothing prevents a more nuanced analysis under the public interest prong of the test. Such an analysis would recognize the public interest in a strong patent system such that innovation is incentivized. NPEs may be very problematic in a few situations, but

261. *Id.*

262. *Id.* at *11 (citing *Cordis Corp. v. Boston Scientific Corp.*, 99 Fed. App’x 928, 935 (Fed. Cir. 2004) (“[S]trong public interest supports a broad choice of drug-eluting stents”); *Cordis Corp. v. Boston Scientific Corp.*, No. Civ.A. 03-027-SLR, 2003 WL 22843072, at *2 (D. Del. Nov. 21, 2003) (noting the “obvious concern of depriving the public of the best and safest medical devices by limiting competition”)).

263. *Id.*

264. *Id.* at *13. Abbott had not yet received an extension in patent term; its request was pending at the time of the decision. *Id.* at *9.

265. *Id.* at *10.

266. These cases related to technologies that affect public health. Unlike cases that previously involved denial of injunctions for public health reasons, however, these situations do not present the same urgency or need to avoid a major, public health catastrophe. Thus, these cases would not fit the mold for other injunction denials based on public health.

they do not constitute the majority of plaintiffs in patent cases.²⁶⁷ Thus, including analysis of the innovative contribution of patent holders as a public interest inquiry would not lead to wholesale denial of injunctions. In contrast, the market share inquiry is over-inclusive, so that courts using the current rule have to first identify, then exclude, entities that have no market share but are productively engaged in research and development from the market share rule. Moreover, the interest of the public is the appropriate legal lens for evaluating the public interest in access to a particular invention, as well as the interest of other innovators in using an invention. Specifically, in cases where a patent holder does not practice the patented invention, the public interest in access is not met when the patent holder has no market share, such as in the case of an NPE. For patent holders with intermediate amounts of market share who do not practice the patented invention, one can presume that competition in the market is furnishing alternatives, as is the patent holder, who has presumably made an efficient business decision to pursue another line of innovation over the patented technology.

On the far end of the market share spectrum, however, the efficiency of a patent holder's decision not to practice its patent is also questionable, and the public may again be deprived of access to the innovation. In near-monopoly or strong oligopoly situations, a company may choose not to implement innovation because of concerns of cannibalizing its own sales. In addition, without competitors, companies have less reason to invest in new products, as they already have full command of the market. This leads to fewer choices on the market for consumers where a company decides to market just one of a few innovations and worse choices when a company chooses not to introduce innovations at all to maximize sales of what would otherwise be an obsolete product. As a result, access interests are also weightier for companies with high levels of market power requesting permanent injunctions. Although the access interest may weigh more heavily for patent holders with strong market power who do not use their inventions, I am not suggesting that injunctions routinely be denied for large companies, either. Businesses should have wide leeway to decide what inventions to

267. According to a 2009 study by PricewaterhouseCoopers, in the eighteen districts with the most NPE litigation, from 1995–2008, NPEs accounted for anywhere from 10.6% to 46.2% of patent suits. PRICEWATERHOUSECOOPERS, A CLOSER LOOK: PATENT LITIGATION TRENDS AND THE INCREASING IMPACT OF NONPRACTICING ENTITIES 19 (2009), available at <http://www.pwc.com/us/en/forensic-services/publications/assets/2009-patent-litigation-study.pdf>.

pursue and how to be most profitable.²⁶⁸ Nonetheless, merely participating in the market should not insulate a company if that company is pursuing strategies that would result in the denial of an injunction to an NPE.

Unlike analysis under the irreparable injury and inadequacy of monetary damages prongs of the equitable test, the public interest analysis would allow courts to account for the potentially skewed incentives of a patent holder with either very high or very low levels of market power and craft an appropriate remedy. This public interest analysis would not have the problems of being over- and under-inclusive and would allow courts to directly address the concerns that led to the *eBay* case.

CONCLUSION

District courts have mostly, and correctly, denied injunctions to those entities about whom alarms were sounded leading up to, and in the wake of, the *eBay* decision. However, courts' reliance on market power as a proxy for determining when a patent holder would suffer irreparable injury absent an injunction and where money damages would not be adequate proves problematic. This reliance is particularly problematic when viewed through the lens of the underlying purpose of the patent grant, which is incentivizing innovation. Some extremely innovative business structures do not possess strong market share. Even to the extent that some entities with little market share are less likely to innovate and more likely to inefficiently hold up innovation, the hold up concern also applies to firms with large amounts of market share. Although antitrust literature varies as to the details, it appears that at either extreme end of the spectrum, actors have lower incentives to innovate. By focusing only on market share in the context of irreparable injury and inadequacy of money damages, courts are narrowly and mistakenly deciding which actors are efficient and thus deserving of injunctions. This Article argues that the underlying concern in *eBay* is best characterized as one of access to innovation, thus highlighting the public interest factor of the equitable test. Courts generally presume that the public interest weighs in favor of injunctions absent a public health interest in access. However, by weighing the public

268. See, e.g., *Cont'l Paper Bag Co. v. E. Paper Bag Co.*, 210 U.S. 405, 428 (1908) (holding that patent was not "deliberately held in nonuse for a wrongful purpose" where the purpose was "to make more money with the existing . . . machines than could be made with new . . . machines, when the cost of building the latter was taken into account").

interest in access in all cases—not just those that involve public health—against its interest in incentivizing innovation, courts would be able to take a more nuanced view of the link between market power and innovative potential.