

COMMENT

**WHY PHARMACEUTICAL FIRMS SUPPORT
PATENT TROLLS: THE DISPARATE IMPACT
OF *EBAY V. MERCEXCHANGE* ON INNOVATION**

*Jeremiah S. Helm**

Cite as: Jeremiah S. Helm, *Why Pharmaceutical Firms Support Patent
Trolls: The Disparate Impact of eBay v. MercExchange on Innovation*,
13 MICH. TELECOMM. TECH. L. REV. 331 (2006),
available at <http://www.mtlr.org/volthirteen/helm.pdf>

A. <i>Distinguishing Universities from Patent Trolls:</i>	
<i>Active Innovation Matters</i>	333
B. <i>The Pharmaceutical Firm as Patent Troll:</i>	
<i>SmithKline Beecham v. Apotex</i>	338
C. <i>The Pharmaceutical Firm as Innovator:</i>	
<i>eBay's Disparate Impact</i>	342
CONCLUSION	343

Pity the poor patent troll, that hapless creature who would sneak out from its dark home to terrorize law-abiding corporations with patents of suspect worth.¹ Fortunately for the good corporate citizens of the world, the U.S. Supreme Court, targeting these trolls by name, took away one of the major weapons used to hold up infringers—the injunction.² Before the unanimous decision in *eBay v. MercExchange*, patent holders were almost always granted an injunction against an infringer. In fact, the Federal Circuit, in deciding *eBay*, noted that, upon a finding of infringement, an injunction would issue unless there were extraordinary circumstances.³

* J.D., expected May 2007, the University of Michigan Law School; Ph.D., Chemistry, Princeton University; B.A. Chemistry and Art History, Rice University. Many thanks to Laura Appleby and Stanislav Dolgoplov for their help.

1. The term “patent troll” was coined in 2001 by Peter Detkin, then a lawyer at Intel, to describe “companies ‘that try 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.’” Alan Murry, *War on ‘Patent Trolls’ May Be Wrong Battle*, WALL ST. J., Mar. 22, 2006, at A2. Ironically, Detkin is now the head of a company that falls under his definition of a troll. *Id.* But see James F. McDonough III, Comment, *The Myth of the Patent Troll: an Alternative View of the Function of Patent Dealers in an Idea Economy*, 56 EMORY L.J. 189 (2006) (providing a more favorable analysis of the role patent trolls play in the market for patents).

2. *MercExchange, L.L.C. v. eBay, Inc.*, 275 F. Supp. 2d 695 (E.D. Va. 2003), *modified*, 401 F.3d 1323 (Fed. Cir. 2005), *vacated and remanded*, 126 S. Ct. 1837 (2006).

3. See *eBay*, 401 F.3d at 1338 (“Because the ‘right to exclude recognized in a patent is but the essence of the concept of property,’ the general rule is that a permanent injunction will

The Court, in a brief opinion, disagreed with the Federal Circuit and explained that the injunction issue in a patent case must be analyzed under the traditional four-factor test.⁴ This test was described as follows:

According to well-established principles of equity, a plaintiff seeking a permanent injunction must satisfy a four-factor test before a court may grant such relief. A plaintiff must demonstrate: (1) that it has suffered an irreparable injury; (2) that remedies available at law, such as monetary damages, are inadequate to compensate for that injury; (3) that, considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and (4) that the public interest would not be disserved by a permanent injunction.⁵

After laying out the four-factor test, the Court noted that “[n]othing in the Patent Act indicates that Congress intended such a departure. To the contrary, the Patent Act expressly provides that injunctions ‘may’ issue ‘in accordance with the principles of equity.’”⁶ Since both the district court and the Federal Circuit applied a “categorical rule”—a rule against patent trolls in the district court, a rule for patent injunctions in the Federal Circuit—the Court remanded the case so the four-factor test could be applied.⁷

The practical effect of requiring the four-factor analysis is that patent trolls now have less bargaining power.⁸ Without the threat of an injunction—and faced with the alternative of court-determined damages—the troll is forced to the bargaining table to negotiate.⁹ Of course an injunction could still issue, however, the four-factor test seems to cut against the troll and in favor of the infringer:

When the patented invention is but a small component of the product the companies seek to produce and the threat of an in-

issue once infringement and validity have been adjudged.” (quoting *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1247 (Fed. Cir. 1989)).

4. *eBay*, 126 S. Ct. at 1841.

5. *Id.* at 1839.

6. *Id.* (quoting 35 U.S.C. § 283).

7. *Id.* at 1840–41.

8. *Id.* at 1842 (Kennedy, J., concurring). See generally Michael J. Meurer, *Controlling Opportunistic and Anti-Competitive Intellectual Property Litigation*, 44 B.C. L. REV. 509 (2002) (discussing opportunistic intellectual property litigation).

9. See *eBay*, 126 S. Ct. at 1842 (“[A]n injunction, and the potentially serious sanctions arising from its violation, can be employed as a bargaining tool to charge exorbitant fees.”). See also Mark A. Lemley, *Patenting Nanotechnology*, 58 STAN. L. REV. 601, 630 (2005) (arguing that injunctions create thriving market for patent trolls); Carl Shapiro, *Injunction, Hold-Up, and Patent Royalties* (Univ. of Cal, Berkeley, Competition Policy Ctr. Paper No. 06-062, 2006) (presenting a model that analyzes the injunction problem), available at <http://repositories.cdlib.org/cgi/viewcontent.cgi?article=1062&context=iber/cpc>.

junction is employed simply for undue leverage in negotiations, legal damages may well be sufficient to compensate for the infringement and an injunction may not serve the public interest.¹⁰

Is the four-factor test fairer or better than the Federal Circuit's near-automatic injunction rule? It is certainly more difficult to administer a factor test as compared to a bright-line rule. On the other hand, district courts undertake this type of inquiry all the time, although the inquiry is not usually in the context of the complex world of patents and incentives to innovate. At least one member of the Supreme Court, Justice Kennedy, seemed to believe that this change would primarily affect patent trolls.¹¹ Of course this statement expressly ignores the opinion of Justice Thomas who noted that special consideration might be appropriate when the patentee is a university or small inventor.¹²

*A. Distinguishing Universities from Patent Trolls:
Active Innovation Matters*

The problem with a "one-size-fits-all" remedy in patent litigation is that there are numerous players in different positions. Patent trolls are certainly infamous players within the patent litigation world, but they are not the only players. Inventors who fail to practice an invention may still seek to enforce their rights for many reasons besides being a troll.¹³ This motivation probably led Justice Thomas to suggest that universities should be treated differently: "[S]ome patent holders, such as university researchers or self-made inventors, might reasonably prefer to license their patents, rather than undertake efforts to secure the financing necessary to bring their works to market themselves."¹⁴ Implicit in this suggestion is the idea that universities are holding to the bargain set forth in the U.S. Constitution¹⁵—exclusivity in exchange for disclosure of innovation—and should not be denied an injunction.

Of course the hordes of trolls also hold to the letter of this bargain. These trolls disclosed their innovation and received a valid patent. In *eBay*, for example, the jury found MercExchange's patent valid and infringed.¹⁶ In fact, the jury found that eBay willfully infringed the patent.¹⁷ In this situation, it certainly seems like eBay is the wrongdoer. So why

10. *eBay*, 126 S. Ct. at 1842 (Kennedy, J., concurring).

11. *Id.*

12. *Id.* at 1840 (suggesting that a categorical rule against patent troll-like behavior would punish small inventors and universities).

13. *Id.*

14. *Id.*

15. U.S. CONST. art. I, § 8 cl. 8.

16. *eBay*, 275 F. Supp. 2d at 695.

17. *Id.* at 701.

does it feel so right to limit the ability of the patent troll to enforce its rights? The answer comes from the sense of injustice that accompanies the injunction granted to MercExchange.¹⁸ Whereas we want to aid a university to protect its intellectual property against a large corporation, we have little innate sympathy with a troll attempting to hold up an established firm that is just trying to run its business. The feeling is perhaps compounded when the defendant in the patent infringement suit is a company like eBay, which is beloved by consumers and collectors around the world for the amazing volume of trinkets it sells.¹⁹

But, again, there is a problem. Though a patent troll might be less likable than eBay or a university, the affability of the patent holder does not make a patent facially more (or less) valid than any other patent. While trolls might assert patents that are objectively of dubious quality, any issued patent gets the same presumption of validity and requires the same burden of clear and convincing evidence to overturn.²⁰ In fact, from a distance, university behavior looks troll-like since they collect patents and license them out to firms rather than bringing a product to market. If a company refuses to obtain a license, universities are no strangers to litigation.²¹ There must be something more than the popularity of the patent holder if the judiciary should, as suggested by the Court, grant injunctions to universities but not to trolls.²²

One way society can justify granting an injunction to a university is to recognize that it is engaged in ongoing and expensive research.²³ As a result, a university should be allowed to reap the fruits of the labors of its graduate students in part because they will pay for the next generation of graduate student stipends, lab facilities, and science buildings. In fact, the Bayh-Dole Act encourages universities to profit from the commercialization of their inventions by others.²⁴ The purpose of the Act was to

18. The district court declined to award attorney's fees or enhanced damages for the act of willful infringement. *Id.* at 721–22.

19. See, e.g., Rob Hof, *What Is It About eBay's Ads?*, BUS. WK. ONLINE, Oct. 23, 2005, http://www.businessweek.com/the_thread/techbeat/archives/2005/10/what_is_it_abou_1.html.

20. 35 U.S.C. § 282 (2001).

21. For example, Columbia University has been involved in a number of patent cases. See, e.g., *Pharmacia Corp. v. Par Pharm., Inc.*, 417 F.3d 1369 (Fed. Cir. 2005); *MedImmune, Inc. v. Centocor, Inc.*, 409 F.3d 1376 (Fed. Cir. 2005); *In re Columbia Univ. Patent Litig.*, 330 F. Supp. 2d 18 (D. Mass. 2004); *Biogen, Inc. v. Columbia Univ.*, 332 F. Supp. 2d 286 (D. Mass. 2004); *Columbia Univ. v. Roche Diagnostics GmbH*, 150 F. Supp. 2d 191 (D. Mass. 2001).

22. *eBay*, 126 S. Ct. at 1840.

23. For example, the National Institutes of Health, a part of the U.S. Department of Health and Human Services, doles out tens of billions of dollars in research grants each year. See Am. Ass'n for the Advancement of Sci., NIH 'Soft Landing' Turns Hard in 2005 (Feb. 20, 2004), <http://www.aaas.org/spp/rd/nih05p.pdf> (last visited Dec. 2, 2006).

24. 35 U.S.C. §§ 200–212 (2001).

increase collaboration between private firms and research universities by granting intellectual property rights for discoveries made during government-funded research.²⁵ The result of this Act is more patenting at the university level and more investment in technology transfer offices to exploit the intellectual property rights.²⁶ Given the background of the Bayh-Dole Act, it might make sense to treat universities differently. Intuitively, it seems much fairer to give increased bargaining power to an entity that is likely to take any gains and reinvest them into research. In contrast, a patent troll will pocket his ill-gotten gains, removing the profits from the innovation system, and leaving it worse off than before.

The undeniable fact is that universities are active innovators, while patent trolls, almost by definition, are not. Given the four factors of the injunction test, this difference is key. A court might forgive a university for not commercializing and practicing the invention because it exists to conduct research, not run a business. A patent troll does not receive the benefit of the doubt in this regard. Instead, the troll exists to extract profit from companies who actually use the invention, thereby giving the full benefit of a commercialized product to society.²⁷ With a university, extracting profits from an active company via licensing does not seem all that bad because of the assumption that society will benefit further innovation, and such licensing is explicitly encouraged by the Bayh-Dole Act. With a patent troll, it just looks like a windfall.

But is there anything wrong with a windfall, even if it is going to a troll? One argument is the flipside of the justification for allowing universities the right to hold up infringers. Since the troll is taking money away from entities that might engage in innovation and, therefore, reducing innovation going forward, society should discourage this behavior. There might be something to this argument, but it does not fit well in all situations. eBay, for example, is not an especially active developer of technology. Despite the obviously technology-centric nature of the firm, eBay probably consumes far more intellectual property than it generates.²⁸

25. *Id.* § 200.

26. See Cornell Center for Technology, Enterprise, and Commercialization, Bayh-Dole, <http://www.cctec.cornell.edu/cctec/about/history/bayhdole/index.cfm> (last visited Dec. 1, 2006) (“Prior to Bayh-Dole, fewer than 250 U.S. patents were issued to universities each year. Since 1993, U.S. universities participating in the Survey have averaged more than 1,600 U.S. patents annually. In recent years, patents issued to U.S. universities have exceeded 2,000.”).

27. eBay, Inc. v. MercExchange, L.L.C., 126 S. Ct. 1837, 1842 (2006) (quoting FED. TRADE COMM’N, TO PROMOTE INNOVATION: THE PROPER BALANCE OF COMPETITION AND PATENT LAW AND POLICY 37 (2003), available at <http://www.ftc.gov/os/2003/10/innovationrpt.pdf>).

28. A search for “eBay” on the USPTO website reveals that eBay is the assignee on 18 patents. <http://patft.uspto.gov/netahtml/PTO/search-bool.html> (last visited Dec. 2, 2006).

Should we really care if a patent troll is extracting money from a firm that is not really engaged in innovation?

The answer is a resounding yes, though not simply because trolls are inherently horrible creatures. The reason why an injunction was so problematic in *eBay* was because the patent constituted a small part of the overall business.²⁹ An injunction would give MercExchange the right to hold eBay's entire business operations hostage, thereby increasing the bargaining power far beyond what is reasonable.³⁰ While there is nothing wrong per se with a windfall, it would be too large relative to the technological contribution of MercExchange's patent. In other words, the value of MercExchange's innovation to society was so miniscule in comparison to the bargaining position that results from an injunction as to make the situation unjust.³¹

But eBay was an infringer, and a willful one at that. Why should one have sympathy for eBay? In reality, sympathy has no part in this analysis. Instead, it is the structure of the industry that yields this result. Assume, for a moment, that eBay practices a series of ten patents, nine licensed and one—unknown to the company—unlicensed, to run its site. Now assume that these patents are of approximately equal value to eBay, that is to say the firm would pay one unit to license each patent, for a total cost of nine units (ten units minus one unit for the unlicensed patent).³² eBay, because of its hard work and ingenuity, is able to take these ten innovations, valued at ten units (though it is only paying nine units), and turn the combination into a product valued at 100 units. The profit, assuming this is the only cost to eBay, is ninety-one units.

Now that eBay is successful, the patent troll senses the opportunity for profit. The patent troll brings a suit, and eBay loses. The just outcome here seems to be paying the troll one unit, or perhaps even a little more, say two or three units, or maybe even one tenth of the value of the product commercialized by eBay, ten units. Getting three (or ten) times the market rate for the patent makes litigation look very worth-

29. *See eBay*, 126 S. Ct. at 1842 (“When the patented invention is but a small component of the product the companies seek to produce and 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 injunction may not serve the public interest.”).

30. *Id.*

31. *Id. See also id.* (“The potential vagueness and suspect validity of some of these [business method] patents may affect the calculus under the four-factor test.”).

32. In the alternative, one could simply assume that the market price for each of these patents is set at one unit because there are alternative technologies that could be used. It is important to remember that just because a patent exists does not mean the firm has power in the relevant market. A patent holder could face competition from any number of firms if substitute technologies are available.

while. However, a patent troll with an injunction in hand is in a position to demand far more.³³ Since each of the ten patents is required for eBay's product, an injunction against the use of any one of those ten patents can shut down eBay completely.³⁴ This means eBay forgoes ninety units of profit (after deducting for the missing patent). How much is eBay willing to pay the troll to keep operating? Rationally, eBay will pay up to ninety units, although the actual figure could be much smaller. This is a classic holdup problem, which carries with it all the associated transaction costs from bargaining.³⁵

Perhaps more harmful is the fact that the troll is rewarded far beyond the value of his innovation. The patent system exists to spur innovation. It does so by providing monopoly rights to an inventor as an incentive to innovate.³⁶ The value of these rights is both the incentive and the reward for innovation. If inventors can guess the value of these rights, they will invest an optimal amount in innovation, thus minimizing the social costs and maximizing the social benefits.³⁷ Patent trolls ignore this bargain. By demanding and obtaining far more than the value of his patent, a troll is simply engaging in wasteful rent-seeking.³⁸ There is no social benefit to this type of behavior. Thus our intuition that patent trolls are doing bad things is confirmed and denying an injunction helps society avoid giving an incentive for troll-like behavior.³⁹

The example above also illustrates several reasons why we should not be especially concerned when a court opts for damages instead of an injunction. First, patents are all about incentives, and incentives mean money. The right to exclude is not worth much to a patent troll

33. This consideration was part of Justice Kennedy's concurring opinion in *eBay*: "When the patented invention is but a small component of the product the companies seek to produce and *the threat of an injunction is employed simply for undue leverage in negotiations . . .*" *eBay, Inc. v. MercExchange, L.L.C.*, 126 S. Ct. 1837, 1842 (2006).

34. For a detailed study on this type of patent holdup, see Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking* (May 31, 2006) (unpublished manuscript), *available at* <http://faculty.haas.berkeley.edu/shapiro/stacking.pdf>.

35. See Robert P. Merges & Richard R. Nelson, *On the Complex Economics of Patent Scope*, 90 COLUM. L. REV. 839, 865–66 (1990) (discussing the effect of patent holdups).

36. See Dan L. Burk & Mark A. Lemley, *Policy Levers in Patent Law*, 89 VA. L. REV. 1575, 1595–1630 (2003) (discussing various theories of patent law).

37. See Mark A. Lemley, *Property, Intellectual Property, and Free Riding*, 83 TEX. L. REV. 1031, 1057 (2005) (arguing that "[i]ntellectual property rights are justifiable only to the extent that excludability does in fact create value").

38. Meurer, *supra* note 8, at 509.

39. See generally Meurer, *supra* note 8 (discussing possible solutions to opportunistic litigation).

who is not actually practicing the invention.⁴⁰ Thus, the value of the patent should be a good substitute for the right to exclude.⁴¹

Second, we might be wary about the judiciary's ability to determine the actual value of a patent.⁴² After all, we are dealing with a system designed to give incentives for innovation.⁴³ If a court cannot accurately value a patent, then it is liable to give too much or too little incentive for innovation. However, a court is almost certainly going to get closer to the actual value of the patent than the patent troll will. In the example above, the troll could extract up to ninety times the actual value of the patent. A court is likely to be able to guess a rough value for a patent; even if the value is off by 100 percent or more, it is likely to be far closer than what a troll might bargain for with an injunction in hand.⁴⁴ Thus, it appears that the four-factor test really is a good idea, especially for situations like *eBay*.

B. *The Pharmaceutical Firm as Patent Troll:*
SmithKline Beecham v. Apotex

Now on to a more difficult question: if trolls are doing bad things, why does the pharmaceutical industry come down opposite to eBay on this issue?⁴⁵ At first glance, it seems like large pharmaceutical firms have as much, or more, to lose from patent trolls as eBay. After all, no other industry depends as much on patents as the pharmaceutical industry.⁴⁶ This intuition is also confirmed by the brief filed by the pharmaceutical industry in support of MercExchange—the *eBay* troll—that extolled the virtues of strong patent rights.⁴⁷

40. This statement may or may not be true as a general matter. For example, the right to exclude may make an exclusive license more valuable. This argument assumes that a party not practicing an invention has no preference for the right to exclude as opposed to the monetary value of that right, i.e., the license price.

41. See *eBay Inc. v. MercExchange, L.L.C.*, 126 S. Ct. 1837, 1842 (2006) (“When the patented invention is but a small component of the product . . . and the threat of an injunction is employed simply for undue leverage in negotiations, *legal damages may well be sufficient to compensate for the infringement . . .*”).

42. Determining the value of a patent may be difficult in general. See, e.g., Mark A. Lemley & Carl Shapiro, *Probabilistic Patents*, J. ECON. PERSP., Spring 2005, at 75, 80–83 (comparing patents to lottery tickets).

43. See generally Burk & Lemley, *supra* note 36.

44. See Merges & Nelson, *supra* note 35, at 866 n.117 (discussing how the social harm that can come from a patent holdup).

45. See Brief of Amicus Curiae Pharmaceutical Research and Manufacturing of America in Support of Respondent, *eBay, Inc. v. MercExchange, L.L.C.*, 126 S. Ct. 1837 (2006) (No. 05-130), 2006 WL 622122 [hereinafter Brief of PhRMA].

46. F.M. Scherer, *The Pharmaceutical Industry*, in 1B HANDBOOK OF HEALTH ECONOMICS 1297, 1317 (Anthony J. Culyer & Joseph P. Newhouse eds., 2000).

47. Brief of PhRMA, *supra* note 45, at 2.

On one hand, given their dependence on patents, it seems obvious that the pharmaceutical industry would want strong patent rights. On the other hand, it is somewhat confusing to see them come down on the same side as the non-innovating patent troll in *eBay*. The main reason for the pharmaceutical industry's interest in preserving the automatic injunction rule set out by the Federal Circuit stems from the difference between typical products in the pharmaceutical and information technology industries. Whereas a firm like eBay utilizes a number of different patents in its product, thus giving rise to the opportunity for a troll to extract more than the actual value of a patent, a pharmaceutical firm can ensure market exclusivity for a drug with a single patent on the active molecule.⁴⁸ Moreover, the cost of identifying putative drug molecules, including maintaining a laboratory, obtaining the chemical inputs, and disposing of chemical waste, are far higher than in the information technology industry, where costs might be limited to a single computer.⁴⁹ As a result, there are fewer potential unknown patent holders, and it is easier for firms to avoid unwitting infringement of a patent.⁵⁰ Finally, given the enormous investment firms must make to bring a drug through clinical trials, there is an incentive for pharmaceutical firms to ensure that their target molecule is not covered by another patent.⁵¹

Thus, it seems unlikely that pharmaceutical companies are subject to troll-like behavior. Instead they have a different adversary—the generic drug industry. Due to a provision in the Food, Drug, and Cosmetic Act, branded and generic firms are constantly fighting battles over infringement.⁵² In this battle, an injunction provides pharmaceutical firms with the ultimate weapon to maintain their market position and keep competitors from the market.⁵³ However, some aspects of the branded

48. For an example of how a single patent can be used to exclude competitors from the market for a drug, see *SmithKline Beecham Corp. v. Apotex Corp.*, 403 F.3d 1331 (Fed. Cir. 2005).

49. According to one estimate, in 1990, the pharmaceutical industry as a whole spent roughly \$8 billion on research and development. Scherer, *supra* note 46, at 1307.

50. There are fewer than 40 members of PhRMA. PhRMA, Member Company List, http://www.phrma.org/about_phrma/member_company_list/members/ (last visited Nov. 5, 2006).

51. The U.S. Food and Drug Administration estimates that it takes an average of 8.5 years for a drug to go from development to market. FDA New Drug Development Timeline, <http://www.fda.gov/fdac/graphics/newdrugspecial/drugchart.pdf> (last visited Nov. 5, 2006). The time to bring a product to market in the information technology industry is obviously much less. This can lead to situations where infringing products are brought to market before a patent *application* is even published.

52. Federal Food, Drug, and Cosmetic Act § 505(j), 21 U.S.C. 355(j) (1999).

53. See, e.g., *SmithKline Beecham Corp. v. Apotex Corp.*, 247 F. Supp. 2d 1011, 1048–50 (N.D. Ill. 2003) (Posner, J., sitting by designation), *aff'd on other grounds*, 365 F.3d 1306 (Fed. Cir. 2004), *vacated by reh'g en banc*, 403 F.3d 1328 (Fed. Cir. 2005), *remanded to 403 F.3d 1331* (Fed. Cir. 2005).

pharmaceutical industry's use of patents appear more trollish than the behavior of the generic firms. Especially suspicious is the practice of listing patents of questionable validity in the Orange Book to keep generic firms off the market.⁵⁴ This allows the branded firms to maintain their monopoly pricing and extract greater profits from society as a whole.⁵⁵ This opportunistic behavior, focused on extracting rents from society, is suspiciously similar to that of the patent troll holding up a large, established company.

One litigated example of a branded pharmaceutical firm acting like a patent troll is *SmithKline Beecham v. Apotex*.⁵⁶ In *SmithKline Beecham*, the branded pharmaceutical firm originally marketed a form of Paxil known as anhydrous paroxetine hydrochloride ("anhydrous Paxil").⁵⁷ It later found a new form of the same molecule, which will further be referred to as Paxil hemihydrate.⁵⁸ While SmithKline Beecham ("SKB") initially marketed anhydrous Paxil, it later focused on Paxil hemihydrate, which had the advantage (for SKB) of being protected by a patent.⁵⁹ Despite the patent protection for the hemihydrate, SKB faced the unwelcome prospect of market competition from a generic version of the bioequivalent anhydrous Paxil.⁶⁰ In order to keep the anhydrous Paxil from the market, SKB sued Apotex for infringement based on the patent protection for Paxil *hemihydrate*.⁶¹ The scientific details of the theory of the suit are somewhat obscure, but the general idea was that when SKB created Paxil hemihydrate, it thereafter became impossible, or nearly impossible, to produce pure anhydrous Paxil, uncontaminated by Paxil hemihydrate.⁶² Thus, despite its best efforts, Apotex was unable to produce anhydrous Paxil without also producing a small amount of the hemihydrate form.⁶³ Selling anhydrous Paxil contaminated by a small amount of hemihydrate Paxil thus infringed SKB's patent on the *hemihydrate*.⁶⁴ As a result, as long as the patent on the hemihydrate was valid, SKB could keep the unprotected anhydrate from the market.

54. See, e.g., Press Release, Fed. Trade Comm'n, Wrongful "Orange Book" Listing Raises Red Flag with FTC; Leads to Consent Order with Biovail Corp. Concerning its Drug Tiazac (Apr. 23, 2002), available at <http://www.ftc.gov/opa/2002/04/biovailtiazac.htm>.

55. Timothy J. Muris, *Looking Forward: The Federal Trade Commission and the Future Development of U.S. Competition Policy*, 2003 COLUM. BUS. L. REV. 359, 371–72.

56. *SmithKline Beecham*, 247 F. Supp. 2d 1011.

57. *Id.* at 1015.

58. *Id.* at 1017.

59. *Id.* at 1019, 1023.

60. *Id.*

61. *Id.* at 1024.

62. For a discussion of the "disappearing polymorph theory," see *id.* at 1018–25.

63. *Id.*

64. *Id.* at 1025.

This behavior is certainly opportunistic, and Judge Posner, sitting by designation, was bothered by SKB's actions. As a result, he postulated a number of alternative theories, some quite novel, which allowed Apotex to escape liability and bring the substantially pure anhydrate to market.⁶⁵ The Federal Circuit initially declined to adopt any of Posner's myriad approaches and invalidated the SKB patent based on public use.⁶⁶ After the original opinion was vacated en banc, the court subsequently invalidated the patent as inherently anticipated on remand.⁶⁷

It appears that the court's inclination at each level was that it would be unfair to enforce SKB's patent.⁶⁸ This is not dissimilar from the reasoning of Justice Kennedy's concurring opinion in *eBay*.⁶⁹ In fact, Judge Posner used very similar reasoning in his district court opinion.⁷⁰ Thus, it is entirely possible that pharmaceutical firms opposed the *eBay* outcome because they are, on occasion, actually patent trolls in sheep's clothing.

65. *Id.* at 1025–52.

66. *SmithKline Beecham*, 365 F.3d at 1321.

67. *SmithKline Beecham*, 403 F.3d at 1346. The reasoning in this opinion was strongly criticized by Judge Newman, who claimed the court was severely misconstruing the law. *SmithKline Beecham*, 403 F.3d at 1329.

68. Judge Posner, however, was the only one to openly explain what he was doing. In crafting an equitable defense against infringement by the disappearing polymorphs, Posner made the following statement:

Apotex gains nothing from the seeding of its plant . . . [I]f you are trying to make anhydrate, any hemihydrate that gets into it is an impurity The only possible effect of preventing the alleged infringement would be to perpetuate an expired patent (patent 196, which expired more than a decade ago) by making it impossible for Apotex to manufacture a formerly patented substance that is now in the public domain.

SmithKline Beecham, 247 F. Supp. 2d at 1043–45. Posner also observed that “the patented product on which the claim of infringement is based has been so changed that it is no longer the same invention. The hemihydrate that is found in *small quantities* in the anhydrate is *not the same invention* covered by patent 723; it is merely an impurity.” *Id.* at 1045 (emphasis added).

69. See *eBay Inc. v. MercExchange, L.L.C.*, 126 S. Ct. 1837, 1842 (2006) (“When the patented invention is but a *small component* of the product the companies seek to produce . . . legal damages may well be sufficient to compensate for the infringement and an injunction may not serve the public interest.”) (emphasis added).

70. Justice Posner explained that an injunction “is not to provide relief when damages are known to be zero. *To provide relief in such a case would be to invite a form of extortion.*” *SmithKline Beecham*, 247 F. Supp. 2d at 1045. Posner also argued that “any injury that SmithKline sustains from the fact that minute amounts of its product creep into Apotex's generic product will be due not to the invasion of any interest that patent law protects, but merely to the fact that the existence of a public-domain substitute for a patented product injures the patentee by providing competition.” *Id.* at 1048.

C. *The Pharmaceutical Firm as Innovator:
eBay's Disparate Impact*

SmithKline Beecham illustrates that, at times, pharmaceutical firms engage in the type of opportunistic behavior practiced by patent trolls.⁷¹ These firms, however, have a much more important, and compelling, reason for resisting judicially imposed damages instead of mandatory injunctions. A pharmaceutical firm with a valid patent can maximize its profits by charging the monopoly price. Any price, either higher or lower, results in decreased profits.⁷² Presumably, the firm anticipates the future monopoly profits and chooses to invest the appropriate amount in developing a drug.⁷³

Now imagine if a court, instead of granting the pharmaceutical firm an injunction, chooses to award damages in the form of an ongoing royalty payment. Due to an asymmetry of information, it is highly unlikely that the court, or for that matter, the jury, will choose to award exactly the monopoly price as an award for damages. Whether the court chooses to set the royalty at a level higher or lower than the monopoly price, the firm will make less than if it were awarded an injunction. Therefore, it is almost certain that the pharmaceutical firm will receive less than what they expected when they chose to innovate. The result is that *eBay* could have a dampening effect on innovation in the pharmaceutical industry.⁷⁴

The royalty-setting problem is particularly acute in the pharmaceutical industry, where a single product might be protected by a single patent. Here, the very same situation that created a holdup problem for *eBay* works to its advantage. Think back to the hypothetical situation described above, where *eBay* produces a product using ten patented components equally. Since there are multiple components, the profit derived from any individual patented part is only a fraction of the profit from the completed product. When faced with a patent troll holdup, the profit is drained from all of the other components of the product. When faced with a royalty rate that deviates from the maximum because of the court's inability to accurately determine damages, however, *eBay* stands to lose far less than a pharmaceutical firm. Even if the court grants a royalty-free license, *eBay* has lost, at most, only one-tenth of the overall profits. Thus, given the benefits gained from the protection from patent

71. This behavior is only encouraged by the prospect of a thirty-month stay based on the relevant FDCA provisions. *Id.* at 1048–49. *See also supra* notes 54–55.

72. This is because the monopoly price is, by definition, profit-maximizing. Thus, any other price will lead to decreased profits.

73. *See Burk & Lemley, supra* note 36, at 1600–04 (discussing the prospect theory of the patent system).

74. This assumes, of course, that courts would start awarding damages instead of injunctions to plaintiffs in pharmaceutical patent infringement suits.

trolls, it is likely that eBay would not be adverse to a court setting a royalty if one of its patents was infringed.

CONCLUSION

Pharmaceutical firms sided with patent trolls in *eBay* for a number of reasons. In part, the explanation lies in their desire to opportunistically exploit the power of an injunction. This behavior looks like the behavior of a patent troll and should not be encouraged. On the other hand, moving away from an automatic injunction will almost certainly reduce the incentive for pharmaceutical firms to innovate, especially as compared to firms in other areas. Thus, *eBay* creates a disparate impact across industries on the incentive to innovate. Courts must consider both the incentive to innovate provided by patents and the harm to society resulting from the associated monopoly when deciding whether to grant an injunction. Ultimately, the way that courts apply *eBay* to different industries will help determine whether the pharmaceutical firms' support of MercExchange was warranted.