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Keeping Trolls Out of Courts and Out of Pocket: Expanding the Inequitable Conduct Doctrine

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Keeping Trolls Out of Courts and Out of Pocket: Expanding the Inequitable Conduct Doctrine

Giordana Mahn*

Patent Asserting Entities (“PAEs”), often compared with the mythological troll who lurks under a bridge it did not build, demanding payment from anybody who wants to pass, are criticized for their business model as a type of “holdup” on innovation. They wait until a practicing entity infringes, then demand payment for technology that they did not create. Their critics charge PAEs with stifling innovation, crippling research and development, and chilling healthy competition. And although the courts, Congress, and government agencies identified PAEs as an issue since their recent emergence, current patent laws are ill-suited to limit PAE litigation and combat trolling tactics. Taking advantage of the weaknesses in the United States patent system, PAEs command the attention of alleged infringers as a serious threat to product companies and startups.

This Comment distinguishes PAEs from Non-Practicing Entities (“NPEs”), focuses on PAEs and their effect on innovation and the public, explains that PAEs are more harmful to public interest and rightly deserve their “troll” moniker, and suggests a solution to limiting their influence. With public interest as the underlying factor, this Comment proposes an affirmative defense—a combination of ideas and themes inherent in patent law with existing doctrines—to extinguish exclusive rights of PAEs by expanding the current definition of inequitable conduct.

* Loyola University Chicago School of Law, J.D. expected May 2014; the University of Michigan, Ann Arbor, B.S.M.E., 2009. I want to dedicate this Comment to my dad, Terry Mahn, my inspiring force to pursue engineering and the law as he has done. Go Blue. I especially want to thank my mom, Gayle Novig, my dad, and my partner, Justin Petersen for their endless supply of love, support, wisdom, and encouragement in this, and all my other pursuits. This publication could not have been possible without your help. Also thanks to my siblings and friends for support, to Professor Cynthia Ho for advice and ideas, and to the Junior Members and the Editorial Board of the *Loyola University Chicago Law Journal* for their valuable perspectives and hard work.

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INTRODUCTION

The United States patent system is premised on a utilitarian theory

that the public will benefit in a society that fosters innovation and rewards ingenuity.¹ This theory, implemented by the Framers of the Constitution, has reverberated throughout patent legislative and judicial history since the 1790s as the foundational purpose in the creation of a patent system.² Abraham Lincoln stressed the importance of “add[ing] the fuel of interest to the fire of genius” with a reward of exclusive rights to induce investment and innovation.³ This fundamental principle of constitutional patent protection is sound, but the way the system has evolved—particularly in recent years with defensive patent hoarding and patent trolls—is not what the Framers would have envisioned.⁴ Over time, Congress adopted equitable doctrines—inequitable conduct and patent misuse—to prevent unintended fraudulent and abusive conduct by patent holders.⁵ More recently, among the most discussed

1. See *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 151 (1989) (“[T]he ultimate goal of the patent system is to bring new designs and technologies into the public domain through disclosure.”); Christopher A. Harkins, *Fending Off Paper Patents and Patent Trolls: A Novel “Cold Fusion” Defense Because Changing Times Demand It*, 17 ALB. L.J. SCI. & TECH. 407, 419 (2007) (identifying that the original patent statute required patents to have some utility); Daniel McFeely, *An Argument for Restricting the Patent Rights of Those Who Misuse the U.S. Patent System to Earn Money Through Litigations*, 40 ARIZ. ST. L.J. 289, 300 (2008) (discussing the origins of patent law and its utilitarian purpose).

2. See *Bilski v. Kappos*, 130 S. Ct. 3218, 3232 (2010) (interpreting statutory language by “restor[ing] patent law to its historical and constitutional moorings”); *In re Bilski*, 545 F.3d 943, 966 (Fed. Cir. 2008) (Dyk, C.J., concurring) (using history of American patent law and English precedents to interpret patentability concepts “firmly embedded . . . since the time of the Patent Act of 1793”), *aff’d*, 130 S. Ct. 3218 (2010).

3. Abraham Lincoln, Second Lecture on Discoveries and Inventions, Delivered to the Phi Alpha Society of Illinois College at Jacksonville, Illinois (Feb. 11, 1859), in 3 COLLECTED WORKS OF ABRAHAM LINCOLN 357, 357 (R. Basle ed., 1953) [hereinafter Abraham Lincoln 2d Lecture], available at <http://www.abrahamlincolnonline.org/lincoln/speeches/discoveries.htm>; see Harkins, *supra* note 1, at 418 (discussing Abraham Lincoln’s passion for the patent system and his efforts defending the system).

4. See McFeely, *supra* note 1, at 291–94 (noting that “patent trolls” are an unintended negative consequence of the U.S. Patent System); Mark Summerfield, *Patent Trolls: As American as Apple Pie?*, PATENTOLOGY BLOG (Aug. 1, 2012), <http://blog.patentology.com.au/2012/08/patent-trolls-as-american-as-apple-pie.html> [hereinafter *American as Apple Pie*] (arguing that the major features of the U.S. patent system that protect innovation and small inventors contribute to the PAE “problem”); *This American Life: When Patents Attack*, Chicago Public Radio (July 22, 2011) (downloaded using iTunes) [hereinafter *This American Life*] (“But today . . . the patent system is doing the exact opposite of what it’s supposed to do. It’s not promoting innovation, it’s stifling it.”).

5. Inequitable conduct may be asserted as an affirmative defense against an infringement or validity claim. 35 U.S.C. § 282(b)(1) (2012). “The following shall be defenses in any action involving the validity or infringement of a patent and shall be pleaded: Noninfringement, absence of liability for infringement or unenforceability.” *Id.*; see *B. Braun Med., Inc. v. Abbot Labs.*, 124 F.3d 1419, 1427 (Fed. Cir. 1997) (explaining that the misuse doctrine evolved from the “equitable doctrine of unclean hands, whereby a court of equity will not lend its support to

and controversial issues with the patent system is the emergence of Patent Asserting Entities (“PAEs”), also known as “patent trolls.”⁶ This Comment follows the unintended emergence of PAEs, evaluates the controversy, considers each position, and proposes an equitable solution to Congress and the courts.

Unlike owners of other types of intellectual property (e.g., trademarks), a patentee does not have to use its patent to enforce it; Non-Practicing Entities (“NPEs”), as their name indicates, can assert patent rights without actually practicing the technology.⁷ NPEs hold patents, either through exclusive licensing or as owners, and assert their rights by attempting to license these patents to alleged infringers or threatening to sue for infringement.⁸

PAEs are a subgroup of NPEs often compared with the mythological troll, who lurks under a bridge it did not build, demanding payment from anybody who wants to pass.⁹ The business model of a PAE is a type of “holdup” on innovation, waiting until a practicing entity infringes, then demanding payment for technology that it did not

enforcement of a patent that has been misused”).

6. F.T.C., *THE EVOLVING IP MARKETPLACE: ALIGNING PATENT NOTICE AND REMEDIES WITH COMPETITION* 8 (2011) [hereinafter *FTC REPORT*]; BRIAN T. YEH, *CONG. RESEARCH SERV.*, R42668, *AN OVERVIEW OF THE “PATENT TROLLS” DEBATE* 4 (2012).

7. A patent grants a patentee rights to exclude others from making, using, selling, importing, and offering to sell. 35 U.S.C. § 154(a)(1). Unlike patent law, a trademark owner must use its trademark or will risk losing ownership rights to abandonment. LYDIA PALLAS LOREN & JOSEPH SCOTT MILLER, *INTELLECTUAL PROPERTY LAW: CASES & MATERIALS* 605 (3d ed. 2012). A mark is deemed abandoned when it no longer serves the purpose of indicating the source of the goods. 15 U.S.C. § 1127 (2012); *see infra* Part II.B (chronicling NPE presence in federal courts and popular media). Copyright trolls and copyright law are not covered in this Comment.

8. *See* YEH, *supra* note 6, at 5 (claiming that the term “NPE” is used too broadly to cover universities and independent inventors); Tracie L. Bryant, *The America Invents Act: Slaying Trolls, Limiting Joinder*, 25 *HARV. J.L. & TECH.* 673, 690 (2012) (“While there is no clear definition, most people use the term to refer to NPEs that acquire patents only to license or enforce them against companies using the invention.”); *cf.* McFeely, *supra* note 1, at 294 (calling all NPEs “patent trolls”).

9. This American Life, *supra* note 4. Throughout this Comment, I refer to both PAEs and NPEs. I distinguish the two as they are very different. *See infra* Part II.B (discussing the emergence of PAEs). However, many sources do not distinguish between the two, and therefore many times I quote the original language of the authors. Congress and the FTC use the term PAE, which excludes NPEs such as universities and small inventors. YEH, *supra* note 6, at 4 n.27. However, PAEs bring the most NPE suits. John R. Allison, Mark A. Lemley & Joshua Walker, *Patent Quality and Settlement Among Repeat Patent Litigants*, 99 *GEO. L.J.* 677, 684 (2011); *see also* Robin Feldman & W. Nicholson Price, *Patent Trolling – Why Bio & Pharmaceuticals Are at Risk* 12–13 (UC Hastings Research Paper No. 93, 2014), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2395987 (characterizing patent trolls as “monetizers” “whose core business involves licensing and litigating patents, rather than making products”).

create.¹⁰ PAEs produce nothing of value but instead assert bare patent rights against manufacturers—who often independently develop their products without knowledge of the existing patent—after production and marketing the technology have begun.¹¹ In fact, critics contend that PAEs stifle innovation,¹² cripple research and development (“R&D”),¹³ and chill healthy competition.¹⁴ Studies show that PAEs account for one-half of all patent suits brought in the United States, averaging \$3.17 to \$7.59 million in costs per suit.¹⁵ In 2011, PAEs generated \$29 billion in revenues from defendants and licensees, a 400% increase since 2005.¹⁶ PAE suits capture public attention because of the large awards in damages over commonly used technology.¹⁷ This Comment

10. See Sarah R. Wasserman Rajec, *A Review of Recent Decisions of the United States Court of Appeals for the Federal Circuit: Tailoring Remedies to Spur Innovations*, 61 AM. U. L. REV. 733, 744 (2012) (explaining how a new business of “buying patents from startups or others and aggressively enforcing their exclusive rights in order to extract high licensing fees” proliferated in an industry where technology is so complex and one product covers many patents). See generally *infra* note 108 and accompanying text (discussing patent holdups as a successful troll tactic). A practicing entity, or product company, uses technology covered by a patent.

11. The FTC describes the business model of a PAE as centered on “purchasing and asserting patents against manufacturers already using the technology, rather than developing and transferring the technology.” FTC REPORT, *supra* note 6, at 51. This Comment expands the PAE definition to include entities that use troll techniques. See *infra* Part V (proposing that PAEs and practicing entities that implement troll techniques be treated similarly).

12. See Rajec, *supra* note 10, at 747 (“[PAEs] has skewed incentives to license, enabling them to extract a higher value from patents than their patents warranted. This inefficiency negatively affected the ability of actual innovators to bring new products to market.”); James Bessen & Michael J. Meurer, *The Direct Costs from NPE Disputes* 21–22 (Bos. Univ. Sch. of Law, Working Paper No. 12-34, 2012), available at <http://www.bu.edu/law/faculty/scholarship/workingpapers/2012.html> (finding that defendants reduce their research and development (“R&D”) budgets to pay for the expensive litigation costs).

13. The FTC found that many companies factor in the likelihood of PAE litigation when making investment decisions. FTC REPORT, *supra* note 6, at 52–54. These expectations deter innovation by raising costs and risk for companies to bring products to market. *Id.* at 42–43. As a result, it is less likely that a company will bring products to market. Rajec, *supra* note 10, at 747.

14. See Christina Bohannon, *IP Misuse as Foreclosure*, 96 IOWA L. REV. 475, 478 (2011) (finding that PAE tactics abuse the monopoly privilege of a patent, and thus stifle competition).

15. These costs are average accrued costs of small- and medium-sized businesses of both litigated and non-litigated assertions. Bessen & Meurer, *supra* note 12, at 17 n.18.

16. *Id.* at 18–19.

17. See YEH, *supra* note 6, at 1 (stating that a successful PAE suit almost caused the shutdown of BlackBerry® wireless service); *infra* note 240 and accompanying text (noting that courts often award PAEs higher damages than practicing entities). See generally Gerard N. Magliocca, *Blackberries and Barnyards: Patent Trolls and the Perils of Innovation*, 82 NOTRE DAME L. REV. 1809, 1812 (2007) (explaining that the popularity of the BlackBerry suit introduced the public to PAEs). Additionally, PAEs are known for suing multiple defendants at once. Colleen V. Chien, *Of Trolls, Davids, Goliaths, and Kings: Narratives and Evidence in the Litigation of High-Tech Patents*, 87 N.C. L. REV. 1571, 1579 n.36 (2009) [hereinafter Chien, *High-Tech*

distinguishes PAEs from NPEs, focuses on PAEs and their effect on innovation and the public, explains that PAEs are more harmful to public interest and rightly deserve their “troll” moniker, and suggests an alternative to the current system.

Although the courts, Congress, and government agencies identified PAEs as an issue since their recent emergence, current patent laws are ill-suited to limit PAE litigation and combat trolling tactics.¹⁸ Taking advantage of the weaknesses in the U.S. patent system, PAEs command the attention of alleged infringers as a serious threat to product companies and startups. This Comment will briefly discuss the provisions in patent law which facilitate PAE proliferation, as well as two doctrines that are intended to limit patent abuse, but, in practice, have fallen short when applied to PAEs. Part I discusses the history of patent law, including the surfacing of PAEs. Part II discusses the PAE debate, the effect on innovation, and how courts, Congress, and federal agencies call for reform of the patent system to prevent PAEs from “lay[ing] traps”¹⁹ and levying “tax[es] on innovation.”²⁰ Part III analyzes the constitutionality of PAEs; evaluates efforts by the courts, Congress, and federal agencies to decrease abusive litigation; and explores proposals from the bar to limit PAEs. Finally, with public interest as the underlying factor, Part IV proposes an affirmative defense—a combination of ideas and themes inherent in patent law with existing doctrines—to extinguish exclusive rights of PAEs by expanding the current definition of inequitable conduct.

I. BACKGROUND

PAEs emerged relatively recently, but the roots of the controversy date back to the origins of the United States patent system. With both constitutional and statutory basis, the U.S. patent system promotes innovation and dissemination of new technology by rewarding inventors

Patents] (noting that PAEs often send hundreds of letters to allegedly infringing companies, and sue fifty in one suit).

18. PAEs emerged over the past ten to fifteen years with the “explosion” of the information technology industry. YEH, *supra* note 6, at 8–9.

19. Richard A. Posner, *Why There are Too Many Patents in America*, ATLANTIC MOBILE (July 12, 2012), <http://m.theatlantic.com/business/archive/2012/07/why-there-are-too-many-patents-in-america> [hereinafter Posner, *Too Many Patents*].

20. YEH, *supra* note 6, at 6 (explaining how PAEs effectively add an extra cost onto a consumer good because of royalty fees or litigation costs); see Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEX. L. REV. 1991, 2009 (2007) (noting that a patent owner can demand up to five times the amount it is worth in royalty fees once the alleged infringer makes irreversible investments).

with a temporary monopoly over their inventions. This Part will first discuss the origin and the purposes of patent law in the United States, describing the inspiration of the Framers of the Constitution to create the Progress Clause and the first Patent Act. Then, this Part will explain the basics of current U.S. patent law and the doctrines implemented to prevent abuse. Finally, this Part will conclude with a discussion of the emergence of PAEs, the tools of the U.S. patent system that enable PAEs to proliferate, and the controversy surrounding PAEs.

A. *Origin and Policy of Patent Law in the United States*

The Framers adopted the English concept of intellectual property when they drafted the Constitution.²¹ The Progress Clause of Article I grants Congress the power “[t]o promote the Progress of Science and useful Arts, by securing for limited Times to . . . Inventors the exclusive Right to their . . . Discoveries.”²² The utilitarian foundation of the Progress Clause established a “patent bargain” by rewarding progress in “science and useful arts” with exclusive patent rights.²³ Patent protection prevented others from copying patented works and driving prices down.

The patent system allows innovators and their investors to recapture investment in R&D and profit during their limited monopoly period.²⁴

21. *Bilski v. Kappos*, 130 S. Ct. 3218, 3239 (2010) (Stevens, J., concurring) (“The Constitution’s Patent Clause was written against the backdrop of English patent practices . . .” (internal quotations omitted)). Thomas Jefferson, as well as the American Constitutionalsists, was influenced by the ideas of English theorist, John Locke. ROSEN, *supra* note 21, at 64–66. Locke articulated the notion that there is a right to property when labor is added, including ideas, which is the basis of intellectual property. *Id.* at 279. Jefferson referred to Locke as “one of the greatest men who ever lived.” *Id.* at 60.

22. U.S. CONST. art. I, § 8, cl. 8; *see Bilski*, 130 S. Ct. at 3236 (“Pursuant to its power [in the Progress Clause], Congress has passed a series of patent laws that grant certain exclusive rights over certain inventions and discoveries as a means of encouraging innovation.”). There are many different names given to this Clause including: Intellectual Property Clause, Patent and Copyright Clause, and Exclusive Rights Clause. LOREN & MILLER, *supra* note 7, at 120 n.*. Professors Loren and Miller use “Progress” to describe the action the Clause is supposed to inspire because the word illustrates the means Congress is empowered to use, rather than the end sought. *Id.*

23. U.S. CONST. art. I, § 8, cl. 8; *see* Christopher A. Cotropia, *Modernizing Patent Law’s Inequitable Conduct Doctrine*, 24 BERKELEY TECH. L.J. 723, 728 (2009) (exploring the inequitable conduct doctrine with roots in the utilitarian theory that “underlies American intellectual property law”); *see also* McFeely, *supra* note 1, at 300 (noting that modern commentators, Thomas Jefferson, and the Supreme Court made clear that “the utilitarian theory of maximizing the benefit to society [is] the policy reason behind patent law in the United States”).

24. FTC REPORT, *supra* note 6, at 1. The FTC Report explains how antitrust laws maintain a competitive market and thus promote incentives and innovation, compatible with patent laws. *Id.* Without protection, intellectual property—intangible assets—risks underproduction because of

The Framers intended that for an inventor to obtain patent protection, the inventor “had to serve the ends of science—to push back the frontiers of chemistry, physics, and the like; to make a distinctive contribution to scientific knowledge.”²⁵ Thomas Jefferson, known as one of the most influential contributors to the Patent Act and the first Commissioner of the Patent Office, believed that the “exclusive right to invention was given not of natural right, but for the benefit of society.”²⁶ Jefferson’s view that the public interest is inherent in patent law is one the Supreme Court shares.²⁷

1. Patent Basics

The Patent Act of 1790 was modeled after the English Statute of Monopolies of 1624.²⁸ Although amended numerous times, the current U.S. patent system has the same basic protections set forth in English law.²⁹ Congress established the U.S. Patent and Trademark Office (“USPTO”) to ensure that the patent system contributes to a strong economy, encourages innovation, and fosters the “entrepreneurial spirit.”³⁰ The USPTO evaluates patent applications through the patent

their characteristics of “non-rivalrous consumption and non-excludability.” LOREN & MILLER, *supra* note 7, at 341; *see also* Richard A. Posner, *Patent Trolls Be Gone: How to Fix Our Broken System for Stimulating Invention*, SLATE (Oct. 15, 2012, 5:16 PM), http://www.slate.com/articles/news_and_politics/view_from_chicago/2012/10/patent_protection_how_to_fix_it.html [hereinafter Posner, *Trolls Be Gone*] (“[The exclusive right to use] prevents free riding by a competitor who would, by copying the invention, avoid the cost of inventing.”).

25. *Great Atl. & Pac. Tea Co. v. Supermarket Equip. Corp.*, 340 U.S. 147, 154 (1950) (Douglas, J., concurring). The Framers interpreted “science” broadly to mean knowledge and learning. LOREN & MILLER, *supra* note 7, at 341.

26. McFeely, *supra* note 1, at 300.

27. *See* J.E.M. AG Supply Inc. v. Pioneer Hi-Bred Int’l Inc., 534 U.S. 124, 131 (2001) (emphasizing the importance of social and economic benefit to society in patent policy goals); *Diamond v. Chakrabarty*, 447 U.S. 303, 315 (1980) (“The . . . provisions of patent law have been cast . . . to fulfill the constitutional and statutory goal of promoting ‘the Progress of Science and the useful Arts’ with all that means for social and economic benefits envisioned by Jefferson.”).

28. *Statute of Monopolies*, 1623, 21 Jac. 1, c. 3 (Eng.); ROSEN, *supra* note 21, at 51; Vishwas Devaiah, *A History of Patent Law*, ALT L. F. (2012), <http://altlawforum.org/publications/a-history-of-patent-law/>.

29. Congress passed the first Patent Act in 1790, reformed the Patent Act in 1952, and recently made significant changes to U.S. patent law in the America Invents Act (“AIA”) in 2011. Pub. L. 112-29, 125 Stat. 284 (2011) (codified in scattered sections of 35 U.S.C.). The English Statute of Monopolies granted the first true inventor the exclusive term of fourteen years for a novel idea. Devaiah, *supra* note 28; *see* *Bilski v. Kappos*, 130 S. Ct. 3218, 3239 (2010) (“[E]arly American patent law was largely based on incorporated features of the English Patent System.” (internal quotations omitted)).

30. Kevin Mack, *Reforming Inequitable Conduct to Improve Patent Quality: Cleansing Unclean Hands*, 21 BERKELEY TECH. L.J. 147, 147–48 (2006). The Patent Act of 1836 established the Patent Office for examination of patent applications. Patent Act of 1836, ch. 357,

prosecution process, rejects improper claims, and gives the applicant the opportunity to amend for validity.³¹ As the law stands today,³² each patent grants the owner “the right to *exclude* others from making, using, offering for sale, or selling the invention.”³³ Once a patent is granted, the specification of how to make or use the patented idea or invention is disclosed to the public.³⁴

Direct patent infringement is a strict liability violation of federal law.³⁵ The patent holder may file a civil action in federal court to enforce its exclusive rights if another infringes its patent.³⁶ Without requiring a patent holder to *use* the patent, the patentee may sue for infringement without having to show any actual injury.³⁷ The Patent

§§ 1, 7, 5 Stat. 117, 117, 119–20. In its most recent Strategic Plan Report, the USPTO asserts its vision and goals:

Promoting innovation and creativity, stimulating economic growth, and creating high-paying jobs are key priorities of the Obama Administration. By providing IP protection in the form of patents and trademarks, the USPTO plays a key role in fostering the innovation that drives job creation, investment in new technology and economic recovery, and in promoting and supporting the administration’s priorities.

U.S. PATENT & TRADEMARK OFFICE, 2010–2015 STRATEGIC PLAN 2 (2010).

31. LOREN & MILLER, *supra* note 7, at 119–52 (including relevant cases and discussions proving that patent prosecution is very expensive and that it can take many years to grant a patent).

32. Anyone may buy or license a patent from the original owner. The inventor of a patented idea is not synonymous with the owner. *See* Brian J. Love, *An Empirical Study of Patent Litigation Timing: Could a Patent Term Reduction Decimate Trolls Without Harming Innovators?*, 161 U. PA. L. REV. 1309 (2013) (noting that PAEs do not file their own patent applications, but instead purchase patents from others, usually failing companies).

33. 35 U.S.C. § 154 (a)(1) (2012) (emphasis added).

34. *Id.*; *see* *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 480 (1974) (stating the expectation that society trades the exclusive rights of an invention in exchange for “the introduction of new products and processes of manufacture into the economy”); McFeely, *supra* note 1, at 301 (“[D]isclosure of invention and the attainment of social and economic benefits together form the policy underpinnings behind the grant of exclusive patent rights.”).

35. A person or entity infringes on a patent by either making, using, offering for sale, or selling the patented invention. 35 U.S.C. § 271(a) (“[W]hoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefore infringes the patent.”). Strict liability holds a patent infringer liable regardless of intention, and the nature of the offense or “good faith” is only relevant to court awarded damages. LOREN & MILLER, *supra* note 7, at 291. Thus, if someone invents the patented idea on her own, she may still be held liable for infringement absent bad faith. *Id.*

36. 35 U.S.C. § 281 (“A patentee shall have remedy by civil action for infringement of his patent.”). Patent lawsuits fall under the federal court’s exclusive subject matter jurisdiction because they arise under federal law. 28 U.S.C. § 1338(a) (2012). A claim against the U.S. must be brought in the Court of Federal Claims. *Id.* § 1498.

37. *See, e.g.*, *eBay Inc. v. MercExchange*, 547 U.S. 388, 393 (2006) (rejecting the district court’s holding that lack of irreparable injury precludes a party from seeking an injunction); *Cont’l Paper Bag Co. v. E. Paper Bag Co.*, 201 U.S. 405 (1908) (rejecting the contention that a

Act allows recovery for “adequate” damages for infringement, including an equitable remedy of an injunction to prevent further infringement.³⁸ To issue an injunction barring further infringement, courts look to the same four factors considered in any case in which a party seeks an injunction: (1) whether denial of the injunction would lead to irreparable injury for the plaintiff, (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.³⁹

The Statute of Monopolies, written to protect England’s craftsman from anti-competitive practices, included the requirement that the patent “must not be ‘mischievous to the State,’” by increasing the price of commodities at home, hurting trade, or being “generally inconvenient.”⁴⁰ Jefferson had concerns for potential abuse in the U.S. patent system as well.⁴¹ Though finally conceding the creation of the Patent Act, Jefferson’s apprehension was not unfounded. Over the years, courts of equity created the patent misuse and inequitable conduct doctrines to deter unintended abuses of the patent system.⁴²

court of equity should not grant injunctive relief to an NPE).

38. 35 U.S.C. § 284 (“Upon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer, together with interest and costs as fixed by the court.”). *Id.* § 283. Upon finding willful infringement, the court may increase damages up to three times actual damages. *See Harkins, supra* note 1, at 449–50. For a critique of patent damages awards and a proposal for calculating negotiated royalty rates, see Lemley & Shapiro, *supra* note 20.

39. *See Rajec, supra* note 10, at 741 (articulating the court’s considerations for granting injunctions); *see, e.g., eBay Inc., 547 U.S. at 391* (reversing because the Court of Appeals did not apply the four-factor test).

40. Devaiah, *supra* note 28; *see also ROSEN, supra* note 21, at 51 (tracing the U.S. patent system back to the English Statute of Monopolies and describing the tension in creating patent laws—the desire to create the incentive of an award of an exclusive monopoly over an invention, without suppressing competition).

41. Jefferson had reservations in supporting the Patent Act, for fear that granting patents would lead to the obstruction, instead of the promotion, of progress in the science and arts. Devaiah, *supra* note 28.

42. Though these doctrines are judicially created, the Patent Acts of 1790 and 1793 contain clauses requiring that third parties seek repeal of invalid patents obtained through fraudulent means. Act of Feb. 21, 1793, ch. 11, § 10, 1 Stat. 318, 323; Act of Apr., 10, 1790, ch. 7, § 5, 1 Stat. 109, 111. Additionally, each patent statute prior to the Patent Act of 1952 provided a private remedy for inequitably obtained patents. *See Robert J. Goldman, Evolution of the Inequitable Conduct Defense in Patent Litigation, 7 HARV. J.L. & TECH. 37, 38–40 (1993)* (describing the specific provisions that created a private remedy against procurement of patents by fraud).

2. Patent Misuse Doctrine

The patent misuse doctrine developed in the early 1900s based on the equitable principle that public interest “is more favorite of the law than is the promotion of private fortunes.”⁴³ The patent misuse doctrine provides a safeguard against patent holders seeking to extend patent rights beyond the patented material or term.⁴⁴ An alleged infringer may assert misuse as an affirmative defense where the patent holder attempts to enforce its patent in a manner “contrary to public policy.”⁴⁵ To succeed in this defense, the alleged infringer must prove that the patent holder has market power in the relevant market for the patented product, and the patent holder’s conduct tends to exclude competitors from the market or prevent them from entering.⁴⁶ If both are proven, the court will refuse to enforce the patent until the patent holder discontinues and remedies, or “purges,” the abusive practice.⁴⁷

43. Bohannon, *supra* note 14, at 481 (citing *Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502, 519 (1917)). The public interest and private fortunes often collide, and a court must balance the two in considering a plea for injunctive relief. Rajec, *supra* note 10, at 738 (arguing that the court should place more emphasis on the public interest). Historically, the ITC rarely accepts a public interest argument in denying an exclusion order to a patent holder. Colleen V. Chien & Mark A. Lemley, *Patent Holdup, the ITC, and the Public Interest*, 98 CORNELL L. REV. 1, 19–28 (2012). In fact, the ITC has only denied exclusion orders in cases of public health and welfare, improved fuel efficiency, and nuclear physics research. *Id.* at 21–23; Robin C. Feldman, *The Insufficiency of Antitrust Analysis for Patent Misuse*, 55 HASTINGS L.J. 399, 403 (2003) (stating that misuse doctrine evolved as a response to patent holders using the patent laws to run around the antitrust laws).

44. Bohannon, *supra* note 14, at 485 (discussing the equity rationale in *Morton Salt Co. v. G.S. Suppiger Co.*, 314 U.S. 488 (1942), for refusing to grant relief to a patent holder who attempted to use its patent to require its licensee to purchase other unpatented goods). Section 271(d) of the Patent Misuse Reform Act “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.” Rajec, *supra* note 10, at 777 n.240 (quoting 35 U.S.C. § 271(d) (2012)). Absent elements of monopolization of the market beyond the coverage of the patent, an NPE will not be found to have misused its patent. *Id.*

45. *B. Braun Med., Inc. v. Abbott Labs.*, 124 F.3d 1419, 1427 (Fed. Cir. 1997) (noting that the patent misuse doctrine evolved from the “equitable doctrine of unclean hands whereby a court of equity will not lend its support to enforcement of a patent that has been misused”); see *Morton Salt*, 314 U.S. at 493 (“[A] patent . . . used as a means of restraining competition . . . is . . . a contributing factor in thwarting the public policy underlying the grant of the patent.”).

46. See Bohannon, *supra* note 14, at 487.

47. See, e.g., *C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 1372 (Fed. Cir. 1998) (explaining that a finding of misuse renders the patent unenforceable until the misuse is purged, but will not invalidate the patent); Feldman, *supra* note 45, at 402 (noting that a patent holder is denied relief until “the abusive practice has been abandoned and the effects of the practice have dissipated”).

3. Inequitable Conduct Doctrine

Similar to the patent misuse doctrine, the inequitable conduct doctrine is based on the principles of equity, and requires that those enforcing their exclusive patent rights come to court with “clean hands.”⁴⁸ The doctrine of “unclean hands” denies injunctive or other equitable relief to a party that acted fraudulently or in bad faith.⁴⁹ Inequitable conduct is an affirmative defense to an infringement claim, and is based on the assertion that the patent holder procured the patent by fraudulent conduct before the USPTO.⁵⁰ The USPTO follows relevant sections of the Code of Federal Regulations that impose a duty of candor and good faith on patent applicants during prosecution.⁵¹ If a defendant can prove that the patent holder violated this duty, then the patent is rendered permanently unenforceable.⁵²

The inequitable conduct doctrine is unique in patent law, because it speaks to the individual’s conduct, instead of the technicalities of a claimed invention.⁵³ To prove inequitable conduct, the defendant must

48. The Supreme Court in *Precision Instrument Manufacturing Co. v. Automotive Maintenance Machinery Co.*, was the first to establish this doctrine. 324 U.S. 806, 814–16 (1945); see also Stijepko Tokic, *The Role of Consumers in Deterring Settlement Agreements Based on Invalid Patents: The Case of Non-Practicing Entities*, 2012 STAN. TECH. L. REV. 2, 16 (“The doctrine of inequitable conduct is the patent system’s response to invalid patents procured by deceptive conduct before the PTO and it is based on principles of equity, where those seeking equity must come with clean hands.”).

49. See *Precision Instrument*, 324 U.S. at 814 (“The doctrine is rooted in the historical concept of court of equity as a vehicle for affirmatively enforcing the requirements of conscience and good faith.”); Mack, *supra* note 30, at 150 n.20 (defining unclean hands).

50. See 35 U.S.C. § 282(b)(1) (2012) (permitting an alleged infringer to plead “unenforceability”). Inequitable conduct can consist of “making material misrepresentations, by omission or commission, with the intent to mislead” during patent prosecution before the PTO examiner. LOREN & MILLER, *supra* note 7, at 277.

51. 37 C.F.R. §1.56(a) (2013) (adding that “[a] patent by its very nature is affected with public interest”).

52. In fact, a finding of inequitable conduct renders all claims of a patent unenforceable, not only the alleged infringed claim. See *Kingsdown Med. Consultants, Ltd. v. Hollister, Inc.*, 863 F.2d 867, 877 (Fed. Cir. 1988) (en banc) (“When a court has finally determined that inequitable conduct occurred . . . during prosecution of the patent application, the entire patent is rendered unenforceable.”). The patent remains unenforceable, even if the invention actually meets patent requirements. See, e.g., *Star Sci., Inc. v. R.J. Reynolds Tobacco Co.*, 537 F.3d 1357, 1365 (Fed. Cir. 2008) (stating that “the penalty for inequitable conduct is so severe, the loss of the entire patent even where every claim clearly meets every requirement of patentability”); see also Mack, *supra* note 5, at 152 (noting that historically the Supreme Court recognized that a patent is affected with public interest when applying the doctrine of unclean hands to patent cases).

53. See *Cotropia*, *supra* note 23, at 725 (“The nature of the inequitable conduct doctrine makes it unique in patent law, in that it is an individual’s failure to disclose—rather than an inherent trait of the claimed invention—that results in the denial of the protection for the invention and other related patents.”); Mack, *supra* note 5, at 154 (noting that after a party meets

prove materiality of nondisclosed information omitted by a patent holder and culpable intent to deceive or mislead the USPTO.⁵⁴ The inequitable conduct doctrine, considered the “atomic bomb” of patent law because it can render patents permanently unenforceable, has a much graver consequence than a finding of misuse or invalidity.⁵⁵

B. Emergence of PAEs and Controversy

PAEs thrive in the U.S. for three reasons: (1) U.S. patent laws do not require a patent holder to use (practice) or license the patent;⁵⁶ (2) plaintiffs can receive damages and injunctive relief under the patent laws without showing actual injury;⁵⁷ and (3) the patent system issues vague, and often times invalid, patents that enjoy the presumption of validity.⁵⁸ PAEs utilize the high-tech industry because the patents are

the threshold requirements of materiality and intent, the court must balance the materiality of the information with the intent of the accused to warrant a finding of inequitable conduct).

54. Mack, *supra* note 5, at 152–56.

55. Therasense Inc. v. Becton, Dickinson & Co., 649 F.3d 1276, 1288 (Fed. Cir. 2011); *see, e.g.*, Consol. Aluminum Corp. v. Foseco Int’l Ltd., 910 F.2d 804, 809 (Fed. Cir. 1990) (holding patentee’s related patents unenforceable because of inequitable conduct); Lummus Indus., Inc. v. D.M. & E. Corp., 862 F.2d 267, 274 (Fed. Cir. 1988) (“The principle is well settled that if inequitable conduct is established as to any claim, all claims of the patent are rendered unenforceable.”). A finding of invalidity only renders a claim of the patent, not the entire patent, unenforceable. Cotropia, *supra* note 23, at 737. For a detailed history of inequitable conduct in the courts, *see generally* Goldman, *supra* note 42. For a critique of the doctrine, *see generally* Cotropia, *supra* note 23.

56. The Supreme Court determined that use of a patent is not implied in U.S. patent law. Crown Die & Tool Co. v. Nye Tool & Match Works, 261 U.S. 24, 35 (1908).

57. 35 U.S.C. § 281 (2012) (“A patentee shall have remedy by civil action for infringement of his patent.”); *see* Rajec *supra* note 10, at 741. Preliminary injunctions are allowed under 35 U.S.C. § 154(a)(1). A patent holder can seek a preliminary injunction to stop infringing activities, which can disrupt the “free flow of goods and services, impacting not only parties but also the public who must abruptly adjust to life without the enjoined product or service.” Chien & Lemley, *supra* note 43, at 10; *see, e.g.*, Wechsler v. Macke Int’l Trade, Inc., 486 F.3d 1286, 1293 (Fed. Cir. 2007) (“Normally, if the patentee is not selling a product by definition there can be no lost profits. The only exception is where the patentee has the ability to manufacture and market a product, but for some legitimate reason does not.”); *see also* David Hricik, *Legal Ethics and Non-Practicing Entities: Being on the Receiving End Matters Too*, 27 SANTA CLARA COMPUTER & HIGH TECH. L.J. 793, 794 (2011) (explaining that the Patent Act does not prevent an individual from suing another for infringement when that individual cannot show actual damages in the form of lost profits); Robert P. Merges, *The Trouble with Trolls: Innovation, Rent-Seeking, and Patent Law Reform*, 24 BERKELEY TECH. L.J. 1583, 1586 (2009) (asserting that the most important result from *eBay* is that it rejected the “automatic injunction” rule); Tokic, *supra* note 48, at 7 (“NPEs are entitled to preliminary injunctions against alleged infringers to stop all alleged infringing activities.”).

58. Vague patent claims are a major concern that will not be covered in this Comment. An issued patent is presumed to be valid, and the issue of validity can be rebutted at trial by the alleged infringer only with clear and convincing evidence. 35 U.S.C. § 282(a); YEH, *supra* note

extremely lucrative and complex and provide many opportunities for troll techniques.⁵⁹ PAEs are characterized by their tactics, specifically using patent holdup and significant leverage in bargaining power, to coerce alleged infringers into paying high royalties or licensing fees to avoid an expensive trial.⁶⁰

Unlike other types of intellectual property (e.g., trademarks), a patent holder does not have to practice the patent to maintain exclusive rights.⁶¹ An NPE, which does not practice its patent, can be a university,⁶² small startup,⁶³ independent inventor,⁶⁴ technology development firm,⁶⁵ or a PAE, for example.⁶⁶ NPEs hold patents, either through exclusive licensing or as owners, and assert their rights by seeking licensing fees from alleged infringers or threatening to sue them

6, at 3; Cotropia, *supra* note 23, 732 n.35 (arguing that this presumption makes “issuance mistakes hard to reverse” (citing Doug Lichtman & Mark A. Lemley, *Rethinking Patent Law’s Presumption of Validity*, 60 STAN. L. REV. 45, 47 (2007))).

59. An average suit costs \$1.6 million through discovery and \$2.8 million through trial often where \$1–25 million is at stake. AM. INTELLECTUAL PROP. LAW ASS’N, 2011 REPORT OF THE ECONOMIC SURVEY (2012).

60. See *infra* note 108 and accompanying text (discussing patent holdup).

61. There is no use requirement in patent law. See *supra* note 56 and accompanying text. A trademark, however, is deemed abandoned when it no longer serves the purpose of indicating the source of the goods. 15 U.S.C. § 1127 (2012).

62. See Mark A. Lemley, *Are Universities Patent Trolls?*, 18 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 611, 618 (2008) (arguing that universities are not trolls); Mike Masnick, *University of California Won’t Give Up: Sues Facebook Over Already Rejected Patents*, TECHDIRT (Sep. 13, 2012, 2:34 PM), <http://www.techdirt.com/articles/20120913/11135120376/university-california-wont-give-up-sues-facebook-over-already-rejected-patents.shtml> [hereinafter Masnick, *University of CA*] (arguing that there are some universities that troll).

63. See Love, *supra* note 32, at 1325 tbl.2 (listing startup, “pre-product” group as an NPE, meaning that they intend to market their patent, but have not or could not); see also Allison et al., *supra* note 9, at 684 tbl.1 (categorizing startup, “pre-product” separately).

64. See Chien, *High-Tech Patents*, *supra* note 17, at 1587 (asserting that individual inventors do not deserve the “troll” label because independent inventors, with fewer resources, are more selective than PAEs about their targets in patent litigation); see also Love, *supra* note 32, at 1334 (finding that individual inventors who do not practice assert their patents early in term like a product company).

65. See FTC REPORT, *supra* note 6, at 229 (describing a R&D firm that licenses “as part of a technology transfer program” and competes in the technology market, but not the goods market); YEH, *supra* note 6, at 6 n.48 (illustrating how Qualcomm focuses on R&D—rather than acquiring patents—and then pitches patented technologies to licensees in advanced, or ex ante patent licensing). But see Chien, *High-Tech Patents*, *supra* note 17, at 1573 n.3 (noting that Qualcomm reported \$11.1 billion in revenue in 2008 in royalty and licensing payments from patent licenses).

66. In his empirical study, Professor Brian Love found a group of companies that demonstrated troll-like practices such as asserting their patent late in the term. Love, *supra* note 32, at 5. This demonstrates that NPEs, PAEs, and product companies often blur the line between practicing entities and trolls. *Id.*

for infringement.⁶⁷ NPEs may act as intermediaries to reduce transaction costs between those who invent and those who develop and commercialize those inventions for public use.⁶⁸ Because neither PAEs nor NPEs practice patents, they are often categorized together. In reality, however, PAEs and NPEs are very different.

The difference between NPEs and PAEs is clear when comparing the plaintiffs in *Continental Paper Bag Co. v. Eastern Paper Bag Co.*⁶⁹ and *NTP, Inc., v. Research in Motion, Ltd.* (“BlackBerry”).⁷⁰ In *Continental Paper Bag*, the United States Supreme Court held that the non-use of a patent is not grounds for denying an injunction.⁷¹ A paper bag company brought an action to prevent its competitor from using its patent and sought an injunction against further manufacturing.⁷² After the Court found infringement, the defendant argued that the plaintiff was not entitled to an injunction because the plaintiff only used the patent to suppress competition.⁷³ The Court reasoned that forcing the plaintiff to use the patent as the defendant suggested was infeasible for its business and would impose an unreasonable economic burden on the plaintiff.⁷⁴ The Court granted the injunction and held that the patent owner was in the best position to determine an efficient use, or non-use, of its patent.⁷⁵

Although almost one hundred years after *Continental Paper Bag*,

67. See Harkins, *supra* note 1, at 439 (asserting that some patent owners or original inventors become PAEs and never develop the patented products); Love, *supra* note 32, at 1326 (reporting that NPEs assert patents both as exclusive licensees and as patent owners).

68. See YEH, *supra* note 6, at 5–6 (differentiating PAEs from NPEs as PAEs do not operate as an intermediary to bring products to market). 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, 190 (2006) (“[P]atent trolls make the patent market more efficient by realigning market participant incentives, making patents more liquid, and clearing the patent market.”); Nathan Myhrvold, *The Big Idea: Funding Eureka!*, HARV. BUS. REV., Mar. 2010, at 48–49 (asserting that PAEs offer “department stores” for licensing and purchasing patents, enabling individual inventors to earn returns despite lacking resources).

69. 210 U.S. 405 (1908).

70. *NTP, Inc. v. Research in Motion, Ltd. (BlackBerry)*, 418 F.3d 1282 (Fed. Cir. 2005).

71. *Continental Paper Bag*, 210 U.S. at 427 (holding that a non-user of a patent for an improvement in paper bag machinery will not justify a court in equity withholding injunctive relief against infringement because the patentee decided to save the expense of changing or altering the old machines).

72. *Id.* at 413.

73. *Id.* at 428.

74. *Id.* at 428–29. Justice Harlan weighed the public interest against the interests of the patent holder when he stated that “it is the privilege of any owner of property to use or not use [its patent], without question of motive.” *Id.* at 429.

75. *Id.*

PAEs first emerged in the public eye in 2005 in *BlackBerry*.⁷⁶ In *BlackBerry*, NTP sued Research in Motion (“RIM”) for infringing NTP’s wireless email patents, which covered a small feature of the multi-component BlackBerry® cell phone.⁷⁷ Pursuing a business model which “extracted licensing fees from companies,” NTP claimed that RIM’s BlackBerry® device infringed on “over forty . . . claims from its several patents-in-suit.”⁷⁸ After a judgment of willful infringement, the district court awarded NTP additional damages totaling \$53 million, and granted a permanent injunction against RIM.⁷⁹ RIM appealed the district court’s decision, and ultimately, the USPTO reviewed and invalidated two of NTP’s patents.⁸⁰ Although RIM was gaining momentum for the appeal, RIM’s investors and customers pressured RIM to settle the dispute for \$612.5 million to avoid an injunction that would have devastated the company.⁸¹ As a result, the exorbitant costs of the settlement passed on to BlackBerry® customers.⁸²

Comparing the plaintiffs in *Continental Paper Bag* and *BlackBerry* exemplifies a very important difference between an NPE and a PAE, and therefore both cannot fall under the same classification of NPE,

76. Rajec, *supra* note 10, at 742–43; *see also* Chien & Lemley, *supra* note 43, at 3–4 (finding that since *eBay* (a year after *BlackBerry*) PAEs have drawn scrutiny, even “fury of the mainstream media”).

77. *BlackBerry*, 418 F.3d 1282, 1287 (Fed. Cir. 2005).

78. *Id.* at 1290.

79. For damages, a court awards the greater of a reasonable royalty or lost profits. 35 U.S.C. § 284 (2012); *see supra* note 38 (setting forth the statutory language for awards). In *BlackBerry*, the trial court awarded the PAE \$33 million in damages based on a reasonable royalty. McFeely, *supra* note 1, at 295–97. The judge increased the award to \$53 million as a punitive measure for willful infringement. Tokic, *supra* note 48, at 7. Additionally, the judge instructed RIM to pay NTP’s legal fees and issued an injunction ordering RIM to discontinue infringement activities, meaning discontinuing the sale and marketing of the BlackBerry® device. *Id.* However, the parties settled as NTP’s valid patents could have warranted the court granting a permanent injunction. *Id.*

80. The Federal Circuit invalidated six of the fourteen infringement claims. McFeely, *supra* note 1, at 295. While the parties negotiated a settlement, the USPTO, in a “rare move,” ordered a review of NTP’s wireless email patents. *Id.* at 296. The USPTO issued final rejections for two of NTP’s patents, and invalidated four more claims that the Federal Circuit affirmed in its earlier holding. *Id.*

81. Although NTP actually asserted invalid patents, the threat of an injunction enabled NTP to force RIM to settle for \$612.5 million—twelve times the amount the district court awarded NTP in damages. *See* Rajec, *supra* note 10, at 742–43. A permanent injunction would have shutdown BlackBerry® systems in the United States. Sarah McBride, *Patent Troll Fights Heat Up for Start-Ups*, HUFFINGTON POST (Sept. 17, 2012, 9:19AM), http://www.huffingtonpost.com/2012/09/17/start-ups-fight-back-as-p_n_1889938.html.

82. *See* Andy Kessler, *Patent Trolls vs. Progress*, WALL ST. J., Apr. 12, 2012, www.online.wsj.com/article/SB10001424052702303772904577336483746932506.html (calculating that the NTP essentially added six dollars to each BlackBerry® ever sold).

PAEs, or Patent Trolls. Both plaintiffs, unable to show actual damage, had the power to seek an injunction without practicing their patents.⁸³ The PAE in *BlackBerry* exploited its power (of putting RIM out of business) to extract a lucrative settlement with RIM, who was in no position to bargain.⁸⁴ The business models of the plaintiffs in these two cases are clearly different: one is a competitor in the market, the other a “virtual company” with revenue solely dependent on enforcing patent rights.⁸⁵ The law, however, does not distinguish between the two plaintiffs. In fact, the law enables PAEs, like NTP, to take advantage of this legal treatment and use equitable remedies as leverage over their target.

A PAE can be a freestanding business, patent holding subsidiary, affiliate, or a shell of an operating company seeking to participate in the industry of asserting patents.⁸⁶ One study found that PAEs account for almost 65% of all NPE litigation.⁸⁷ The terms used to describe PAEs such as “extortionists,”⁸⁸ “dirtier than dirt,”⁸⁹ “blackmailers,”⁹⁰ “intellectual property ambulance chasers,”⁹¹ “patent system bottom feeders,”⁹² and Patent Trolls⁹³—the most popular name—clearly

83. See Chien, *supra* note 17, at 1589 (describing how “injunctions appear to provide a particularly potent weapon” for PAEs).

84. See McFeely, *supra* note 1, at 295–97 (“Demands for licensing and threats of litigation (with actual litigation when necessary) are the ways in which the patent troll makes it money); Tokic, *supra* note 48, at 7 (noting that BlackBerry® customers were worried about RIM’s ability to continue to provide its services).

85. McFeely, *supra* note 1, at 295 (describing NTP’s business model). For more discussion on the different NPEs and the differences between NPEs and PAEs, see generally Rajec, *supra* note 10.

86. See YEH, *supra* note 6, at 4 n.27; This American Life, *supra* note 4 (following a patent that changed in ownership many different times, including transfer to an affiliate or shell company from its larger parent PAE firm).

87. Love, *supra* note 32, at 19 n.70 (finding that of the 65%, about 43% of those patents were acquired from failed or operating companies, and 22% asserted by inventor-affiliated licensing companies); see also Allison et al., *supra* note 9, at 684 (classifying each patent owner without a troll label, and finding that the patent class responsible for the most litigation fell under “acquired patents”).

88. This American Life, *supra* note 4; see also Posner, *Trolls Be Gone*, *supra* note 24 (“Patent ‘trolls’ . . . purchase large numbers of patents in the hope of using the threat of a patent-infringement suit to *extort* a patent-licensee fee” (emphasis added)).

89. *Drop Dead Diva: Pick’s and Pakes* (Lifetime television broadcast Aug. 26, 2012).

90. Merges, *supra* note 57, at 1588.

91. Harkins, *supra* note 1, at 439 (internal quotations omitted).

92. David G. Barker, *Troll or No Troll? Policing Patent Usage with an Open Post-Grant Review*, 2005 DUKE L. & TECH. REV. 9, 7 (“Some commentators have described corporate patent trolls as ‘patent system bottom feeders’ who buy ‘improvidently-granted patents from distressed companies for the sole purpose of suing legitimate businesses.’” (citation omitted)).

demonstrate the controversy surrounding these entities.

The FTC reported that unlike NPEs—who actually transfer technology that they or their clients invented, developed, and patented—PAEs do not transfer anything but impose a so-called transaction fee to avoid getting sued.⁹⁴ PAEs do not produce anything but instead assert patents against manufacturers—who often independently develop a product without knowledge of the existing patent—after they have already produced and marketed the technology.⁹⁵ Their business depends on aggregating patents, identifying potential target licensees or infringers, and enforcing their patent rights to pursue royalties under threat of litigation.⁹⁶ Generally, the public views PAEs as “arbitrageurs,” forcing themselves between innovation and the market for a price.⁹⁷

Relying on a number of “troll” tactics enabled by the patent system, PAEs generated \$29 billion in revenues from defendants and licensees in 2011.⁹⁸ PAEs typically assert high-tech patents late in the patent

93. The term was first coined by a lawyer at Intel, who described the PAE in a lawsuit as a troll, lying under a bridge it did not build, demanding payment from anybody who passed. This American Life, *supra* note 4. Ironically, the attorney who coined the name, worked at one of the largest PAE companies later in his career. *Id.*; see also Tokic, *supra* note 47, 3 n.17 (“The term ‘patent troll’ is highly controversial because under Detkin’s definition of patent trolls, most U.S. universities and many individual inventors such as Thomas Edison, who made a fortune from many patents that he never practiced, would be characterized as patent trolls.”).

94. FTC REPORT, *supra* note 6, at 40; see Charles Duhigg & Steve Lohr, *The Patent Used as a Sword*, N.Y. TIMES, Oct. 7, 2012, <http://www.nytimes.com/2012/10/08/technology/patent-wars-among-tech-giants-can-stifle-competition.html> (describing a so-called “patent tax” that adds 20% of R&D costs to software and electronic companies).

95. See FTC REPORT, *supra* note 6, at 50–51 (reporting that infringement is rarely intentional because the infringers likely do not know about the existing patent). The FTC described the business model of a PAE as centered on “purchasing and asserting patents against manufacturers already using the technology, rather than developing and transferring the technology.” *Id.* at 50–51.

96. Some acquire patents for a “one-stop-shop” defensive patent pool, licensing patents to companies anticipating litigation. This American Life, *supra* note 4 (quoting the CEO of one of the largest PAE firms describing his company as a department store for buying and licensing patents); see also Ashby Jones, *Patent ‘Troll’ Tactics Spread*, WALL ST. J., July 8, 2012, <http://online.wsj.com/article/SB10001424052702303292204577514782932390996.html> (discussing the spread and growth of PAEs and defensive patent aggregates).

97. YEH, *supra*, note 6, at 4; see Magliocca, *supra* note 17, at 1812 (pointing to PAEs taking advantage of the “large gap between the cost of getting a patent and the value that can be captured with an infringement action”).

98. Bessen & Meurer, *supra* note 12, at 18–19; see also Sara Jeruss, Robin Feldman & Joshua Walker, *The America Invents Act 500: Effects of Patent Monetization Entities on US Litigation*, 11 DUKE L. & TECH. REV. 357 (2012) (noting the significant rise in PAE-filed lawsuits in the past five years).

term and utilize patent holdup and ex post licensing.⁹⁹ PAEs benefit from considerable leverage and bargaining power over their targets. First, PAEs neither have a product nor practice a patent. Thus, they have no threat of countersuit for infringement, accumulate significantly lower costs, and risk much less at trial.¹⁰⁰ Second, they target vulnerable defendants who easily succumb to settlement instead of challenging the allegations at trial.¹⁰¹ Third, PAEs can recover damages often ranging in the millions without showing injury to their market share.¹⁰²

PAEs make most of their revenue by licensing ex post facto.¹⁰³ In an ex post licensing scenario, a PAE will buy and assert a patent against an unsuspecting company that has already begun using the patented technology.¹⁰⁴ Studies show that PAEs frequently buy patents only after the technology is ubiquitous in an industry, and on average assert the patents twelve years into the twenty-year patent term.¹⁰⁵ The PAE

99. Patented material is not always valid; many times the PAE's patent is so vague that it would be invalid if challenged. Posner, *Trolls Be Gone*, *supra* note 24. However, because of the presumption of validity, PAEs can still enforce the patent until proven invalid, costing companies time and money in litigation costs.

100. Christopher Harkins, a patent litigator, explains the asymmetry of risk between a PAE and a product company:

While the patent troll might hold out for the proverbial big pay day, the manufacturer defendant needs to consider the loss of revenues from a business unit being shut down by an injunction, costing jobs to employees working on the accused products, as well as the reality of answering to shareholders in shareholder litigation in the form of a derivative suit.

Harkins, *supra* note 1, at 443–45.

101. See This American Life, *supra* note 4 (recounting a small start-up company's experience—the company received a letter accusing it of patent violations and requesting that it arrange settlement and payment immediately).

102. See *American as Apple Pie*, *supra* note 4 (arguing that patent trolls thrive in the U.S. specifically because of the U.S. patent system and laws); see also Ryan Davis, 'Patent Trolls,' *Other NPEs Win Higher Damages: Report*, LAW360 (Sept. 12, 2012, 7:40 PM), <http://www.law360.com/articles/377585/-patent-trolls-other-npes-win-higher-damages-report> [hereinafter Davis, *Higher Damages*] (reporting that between 2006 and 2011, the median damages award was \$6.9 million for NPEs and \$3.7 million for practicing entities).

103. See This American Life, *supra* note 4 (revealing that the founder and vice chairman of Intellectual Ventures, a "super-PAE," admitted that the bulk of the PAE firm's revenue is from "people" using the patent before and after his firm bought the patent).

104. The PAE will identify the valuable technology—most often in high-tech patents—look for opportunities for existing or potential infringement, and then buy the patent from the inventor of the infringed patent. Merges, *supra* note 57, at 1590–91 (discussing how a patent troll strategy is to "take advantage of 'lock-in'" by waiting until "technology is fully entrenched before scouting around for patents").

105. Love, *supra* note 32, at 24–25 (finding that NPEs begin litigating the patent with nine years left in the patent term, finishing in the final years of the term (much later than practicing

will notify the product company of alleged infringement and threaten litigation unless the company licenses the patent in order to continue production.¹⁰⁶ For the most part, PAEs assert high-tech patents covering a very small component of a much larger, complex, multi-component device.¹⁰⁷ This tactic is essentially a “patent holdup” where a PAE can overcharge a defendant through licensing fees because the defendant cannot afford to take its product off the market.¹⁰⁸

The threat of litigation is an effective tactic for a PAE to convince an alleged infringer to settle without challenging the PAE’s patent.¹⁰⁹ With significant investments sunk into a product, a company must choose between paying an usurious demand on a possibly invalid patent or going to trial and risk being enjoined.¹¹⁰ PAE litigation is very expensive, averaging \$3 to \$8 million per suit,¹¹¹ and product companies will settle nine times out of ten even with a strong defense of non-infringement.¹¹²

entities which litigate early in the patent term)); *see also* Michael Risch, *Patent Troll Myths*, 42 SETON HALL L. REV. 457, 490 (2012) (finding an average of seven years between the issuance of a patent and the filing a complaint for infringement).

106. *See* This American Life, *supra* note 4 (describing a PAE’s letter of infringement notice—“you’re in violation of three of the patents that our company holds. You must contact us immediately to arrange payment and settlement, or we will be taking you to court”).

107. *See* Merges, *supra* note 57, at 1597–1601.

108. *See* Chien & Lemley, *supra* note 43, at 6; Merges, *supra* note 57, at 1599 (calling PAEs “opportunistic litigation mills, not research firms[,] . . . exploiting the widespread perception that where there is a patent there must be innovation”).

109. Alleging willful infringement is another very powerful tactic for PAEs. Tokic, *supra* note 48, at 9. Case law and the Patent Act give trial judges discretion to award treble damages and attorneys’ fees for willful infringement. *Id.*; *see, e.g., BlackBerry*, 418 F.3d 1282, 1287 (Fed. Cir. 2005) (reversing in part and affirming in part the trial court’s finding of willful infringement).

110. *See* Tokic, *supra* note 48, at 6 (finding that PAEs target the largest, most well-known technology companies more frequently than any other individual or company because they already have products on the market). PAEs set the royalty demand ranging from \$100,000 to \$700,000 below the average litigation costs of \$2 million and two to three years of trial. McBride, *supra* note 78.

111. These costs are average accrued costs of small- and medium-sized businesses of both litigated and non-litigated assertions. Bessen & Meurer, *supra* note 12, at 24, 36–37.

112. *See* Brief for Yahoo! Inc. as Amicus Curiae in Support of Petitioner at 2–3, 6–7, *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388 (2006) (No. 05-130) (asserting that PAEs have little incentive to cross-license and companies with strong defenses have a strong incentive to settle). In infringement cases between practicing entities, the parties may reach an agreement by cross-licensing—an option unavailable when dealing with PAEs. Bryant, *supra* note 8, at 677. Practicing parties also have the opportunity to counter-sue, but because PAEs do not practice the patent, defenders cannot allege counter-infringement. *Id.* *But see* McBride, *supra* note 81 (reporting on a recent tendency for young companies to go to trial instead of settling, therefore preventing future claims against other companies). Settlements tend to be half the cost of

Critics characterize PAEs as predatory and opportunistic “bottom-feeders” who will capitalize on any opportunity, no matter the victim.¹¹³ Large corporations provide an obvious target because of their deep pockets, but small inventors and innovative startups also fall victim to PAEs.¹¹⁴ PAEs easily exploit small inventors and struggling companies by buying valuable patents for much less than their actual worth.¹¹⁵ In one noteworthy patent acquisition, TechSearch asserted a \$50,000 patent it purchased from a bankrupt firm to file a \$500 million patent infringement suit against Intel.¹¹⁶

On the other hand, PAEs argue that they create an efficient market as a crusading middleman benefiting small inventors and the general public.¹¹⁷ First, they claim to level the playing field for small inventors and startups.¹¹⁸ PAEs, funded by venture capitalists, can provide the money for litigation against large competitors that would otherwise “crush” small businesses and infringe their valid patents with “impunity.”¹¹⁹ Second, PAEs claim to encourage innovation by helping struggling businesses recoup their R&D costs.¹²⁰ And finally, PAEs

litigated suits. Bessen & Meurer, *supra* note 12, at 24.

113. See Harkins, *supra* note 1, at 439 (“[S]ome claim that patent trolls exploit solo inventors, small companies, and those on the brink of bankruptcy.”); Charles Duhigg & Steve Lohr, *The Patent, Used as a Sword*, N.Y. TIMES, Oct. 7, 2012, <http://www.nytimes.com/2012/10/08/technology/patent-wars-among-tech-giants-can-stifle-competition.html> (reporting that since 2006, Apple has been sued 135 times mostly by patent trolls “interested in its deep pockets”).

114. See Bessen & Meurer, *supra* note 12, at 12, 22 (rebutting the argument that PAEs only target large companies with deep pockets); Tokic, *supra* note 48, at 6 (finding that PAEs target the largest, most well-known technology companies more frequently than any other individual or company from 2006–2010, including HP, Apple, AT&T, Sony, and Microsoft); McBride, *supra* note 81 (noting that Hipmunk, a startup technology company, received an infringement claim from a PAE after it announced \$15 million in new funding).

115. See Risch, *supra* note 105, at 427 (finding that PAEs bought patents from companies that no longer operate).

116. See also McFeely, *supra* note 1, at 294.

117. See Bryant, *supra* note 8, at 679–80 (noting the counterargument that PAEs act as efficient licensing entities); Sannu K. Shrestha, *Trolls or Market-Makers? An Empirical Analysis of Nonpracticing Entities*, 110 COLUM. L. REV. 114, 119–31 (2010) (arguing that PAEs benefit the patent system as they are “market-makers”).

118. See FTC REPORT, *supra* note 6, at 68 (finding that independent inventors have difficulty negotiating royalty payments from large product companies without a credible threat of an expensive infringement suit); Shrestha, *supra* note 117, at 127–28 (arguing that small inventors and startups lack the necessary resources to develop and market their patents and cannot afford to prevent larger companies from infringing their patents without the economic backing of a PAE).

119. Bessen & Meurer, *supra* note 12, at 20 (quoting Risch, *supra* note 105, at 459); see McDonough, *supra* note 68, at 212 (“Unlike the individual inventor who poses no real litigation threat, the patent dealer has ample funds with which to litigate.”); This American Life, *supra* note 4 (noting that PAE firms are often backed by venture capitalists expecting a large return).

120. See *infra* notes 166–70 and accompanying text.

claim to be the intermediaries necessary for an efficient patent system by reducing transaction costs between those who invent and those who develop and commercialize.¹²¹ As an intermediary, PAEs can promote innovation by managing risk of investments and compensating small investors from their settlements and licensing agreements.¹²² Additionally, PAEs profess to serve an important function as a filter in the patent system: they become experts in valuing different types of patents and, thus, benefit inventors of valuable patents with expert appraisals.¹²³ Despite PAEs' arguments to the contrary, PAEs overwhelmingly burden the nation's economy, outweighing any potential positive effects they may have.

II. DISCUSSION

In just a matter of years, PAEs became widely discussed as a major problem with the current patent system.¹²⁴ PAE infringement suits overwhelm federal courts, accumulate the largest costs, and have millions of dollars at stake.¹²⁵ This Part presents studies from both sides of the debate examining the effects of PAEs on innovation. First, this Part discusses the arguments between PAEs and their critics. This Part will explore the PAE impact on public interest and the patent system in general. Finally, this Part details recent federal court decisions, federal agency opinions, and new and proposed legislation that seek to prevent PAEs from "lay[ing] traps"¹²⁶ and levying "tax[es]

121. See James Bessen et al., *The Private and Social Costs of Patent Trolls*, 34 REG. 26 (2011) (noting that many intermediaries do not have to employ "trolling techniques"); McDonough, *supra* note 68, at 190 (arguing that patent trolls provide efficiency by encouraging innovation and creating incentives).

122. See Myhrvold, *supra* note 67, at 48–49 (pioneering his company as a "capital market for inventions akin to the venture capital market that supports startups and the private equity market that revitalizes inefficient companies"); Shrestha, *supra* note 117, at 119–31 (describing two views on NPEs).

123. Shrestha, *supra* note 117, at 128 ("By repeatedly analyzing and buying patents, [PAEs] become experts at differentiating between valuable and trivial patents and rewarding the inventors accordingly.").

124. See Rajec, *supra* note 10, at 743 ("NPEs entered public consciousness in earnest during the litigation surrounding BlackBerry® technology."); Reyhan Harmanci, *Patent Trolling: It's as Bad as You Think*, BUZZFEED (Oct. 12, 2012, 1:27 PM), <http://www.buzzfeed.com/reyhan/patent-trolling-its-as-bad-as-you-think> (noting that patent trolls have received significant attention in the past decade).

125. See Davis, *Higher Damages*, *supra* note 102.

126. Judge Richard A. Posner wrote an article describing the current problems with the patent system. Posner, *Too Many Patents*, *supra* note 19. Among other issues, he discusses the problem with patent trolls and how they "lay traps for producers." *Id.* Additionally, he notes characteristics of the current patent system that benefit patent trolls: (1) the Seventh Amendment,

on innovation.”¹²⁷

A. PAE Effects on Innovation and Public

Much controversy surrounds PAEs and their effects on innovation in the United States.¹²⁸ Despite the extensive discussion surrounding PAEs, there is little information that conclusively proves the negative effects of PAEs on innovation.¹²⁹ This lack of conclusive knowledge could be due to several reasons. First, almost nine out of ten NPE lawsuits settle, making it very difficult to aggregate information concerning these undisclosed dealings.¹³⁰ Second, most of the licensing agreements are confidential.¹³¹ Despite these challenges, experts in the field performed and reported empirical studies providing evidence supporting the assertion that PAEs negatively affect innovation and the public interest.¹³²

The proportion of PAE litigation to all infringement suits varies drastically depending on the source.¹³³ PAEs maintain that “trolls” are essentially obsolete and were invented by disgruntled defendants.¹³⁴ Nathan Myhrvold, the CEO and founder of one of the largest PAE firms, claimed that PAEs only account for 2% of all infringement

which confers the right to a jury trial in federal court, (2) understaffing of the USPTO, and (3) notice failure of existing patents. *Id.*

127. YEH, *supra* note 6, at 6.

128. Compare Bessen & Meurer, *supra* note 12 (using a survey and a database of litigation statistics to estimate the direct costs NPEs contribute to incentives to innovate), and YEH, *supra* note 6 (discussing the “patent troll” debate, effects on innovation, and recent and proposed legislative actions), with Risch, *supra* note 105, at 491–93 (arguing that PAEs help, rather than harm, startups and small businesses).

129. See Bessen & Meurer, *supra* note 12, at 3; Love, *supra* note 32, at 1312–16; Harmanci, *supra* note 124.

130. Tokic, *supra* note 48, at 1; see Allison et al., *supra* note 9, at 694 (finding that NPEs settle 89.6% of their cases).

131. See Bessen & Meurer, *supra* note 12, at 3; Love, *supra* note 32, at 1310–11.

132. See FTC REPORT, *supra* note 6, at 67–68 (concluding that the benefits of PAE activity “appear . . . ambiguous at best”); Bessen & Meurer, *supra* note 12, at 12 (concluding from a survey of eighty-two firms, with a total of 1184 defenses against NPE litigation, that NPEs—including PAEs, inventors, and universities—reduce the net amount of investment in innovation). *But see* Risch, *supra* note 105, at 460 (studying ten of the most litigious PAEs and concluding that their patents are valid, contrary to popular belief).

133. Professor Brian J. Love analyzed many empirical studies that attempted to put a percentage on PAE litigation and found many inconsistencies. Love, *supra* note 32, at 1310–12, 1315–16. The data pools included the ten most litigious NPEs, the most litigated patents, and a study of only the newsworthy PAEs. *Id.* at 3 n.1.

134. See Merges, *supra* note 57, at 1586 (“Some believe the troll label is a meaningless epithet, applied only to a plaintiff in a patent lawsuit with whom one has a legal conflict.”).

suits.¹³⁵ In contrast, other experts in the field assert that their findings show that PAEs are responsible for almost half of all infringement suits in the United States.¹³⁶ The large discrepancy between findings of 2% and 50% does not necessarily invalidate PAE impact, but exemplifies the difficulty in definitively studying PAEs.¹³⁷ Before Congress limited joinder, PAEs often joined over 100 defendants in one suit; impacting over 100 companies, but statistically accounting for only one suit. Additionally, PAEs assert their patents late in the twenty-year patent term.¹³⁸ Consequently, counting one year of PAE lawsuits does not necessarily correlate with a PAE's agenda.

The PAE debate, largely biased and factually supported by anecdotal evidence and projection,¹³⁹ includes the following assertions against PAEs: (1) PAEs use weak patents to engage in frivolous litigation, and (2) PAEs drive up the cost of products and directly affect the public by extracting unreasonably high licensing fees from manufacturers. Critics argue that PAEs engage in these tactics because of the nature of high-tech patents.¹⁴⁰

Asserting high-tech patents is a very lucrative business for PAEs,¹⁴¹ providing opportunities for patent hold up and asserting weak patents.¹⁴² High-tech and business method patents, including software

135. Myhrvold and Risch argue that PAEs only account for a small number of NPE suits. Risch, *supra* note 105, at 466; Nathan Myhrvold, *Inventors Have Rights, Too!*, WALL ST. J., Mar. 30, 2006, at A14; *see also* Marc Morgan, *Stop Looking Under the Bridge for Imaginary Creatures: A Comment Examining Who Really Deserves the Title Patent Troll*, 17 FED. CIR. B.J. 165, 166 (2007) (estimating that “trolls” only account for a 2% of NPE litigation).

136. Bryant, *supra* note 8, at 679; *see also* Lemley & Shapiro, *supra* note 20, at 2009 (finding that PAEs file 30–40% of all patent suits in the computing and electronics industries).

137. Past studies do not accurately reflect the economic impact of PAEs in a given year, according to Professor Brian Love. *See* Love, *supra* note 32, at 1334 (“Thus, the bare statistic that [PAEs] account for only about one-fifth of all patents litigated obscures the fact that [PAEs] account for the majority of patents litigated in the final few years of the term—the only portion of the term when they are actively asserting their patent rights.”); *see also* Chien, *High-Tech Patents*, *supra* note 17, at 1601 (accounting for the number of defendants in PAE suits, rather than solely the number of individual suits, significantly changed her results).

138. *See supra* note 105 and accompanying text (finding that PAEs assert their patents around twelve years into the patent term).

139. Jeruss et al., *supra* note 98, at 362.

140. *See* Chien, *High-Tech Patents*, *supra* note 17, at 1580–81 (explaining the reasons that NPEs emerged from the high-tech industry: (1) acquisition from distressed or bankrupt companies—casualties from the Internet bubble; (2) products in the industry tend to be covered by multiple patents, increasing the likelihood of infringement; and (3) easier to file a paper patent that can be “bought and sold free of underlying technology”).

141. *See* Tokic, *supra* note 48, at 5 (“[I]n the past seven years, there have been at least fifteen judgments and settlements . . . with at least five topping \$500 million.”).

142. Professor Love found in his studies that PAEs dominate in industries where “innovation

patents, have ambiguous construction of patent claims, cover extremely complex technology, and are easy to acquire.¹⁴³

Because PAEs rarely win on the merits at trial, critics claim that they assert weak and invalid patents to engage in frivolous lawsuits.¹⁴⁴ Frequently, weak patents are inappropriately equated with invalid patents; but weak can also mean broadly construed claims.¹⁴⁵ Critics accuse PAEs of using weak or invalid patents with ambiguous claims and scope to reach products of seemingly unrelated technology.¹⁴⁶ PAEs argue that these criticisms have no statistical support because PAEs frequently settle without challenging patent validity.¹⁴⁷ According to Villanova University School of Law Professor Michael Risch, PAEs' low success rate is unrelated to the validity or weakness of the patents.¹⁴⁸ Risch explains PAEs often fail because they depend

is rapid and cheap” and PAEs are nowhere to be found “where innovation is slow and expensive.” Love, *supra* note 32, at 1348. Other industries also allow for patent holdup because of their complex nature, such as biotechnology and medical research. Rajec, *supra* note 10, at 746.

143. See *Bilski v. Kappos*, 130 S. Ct. 3218, 3229 (2011) (noting that the Court in *eBay* discussed that business method patents “raise special problems in terms of vagueness and suspect validity”). However, see Robin Feldman & W. Nicholson Price, *Patent Trolling – Why Bio & Pharmaceuticals Are at Risk*, *supra* note 9, which argues that biotechnology and pharmaceutical patents are also vulnerable to “patent monetization.”

144. See Tokic, *supra* note 48, at 1 (explaining that nine out of ten lawsuits with NPEs settle, which raises doubts of the validity of their patents). Additionally, Tokic argues that the “current legal framework is still ill-suited to deter settlements based on invalid patents.” *Id.* at 18. Tokic’s analysis is supported by what many refer to as a “paper patent.” See also Chien, *High-Tech Patents*, *supra* note 17, at 1581 n.47 (“A paper patent is a patent covering an invention that exists only on paper, and the invention has not been made or operated.”); cf. Shrestha, *supra* note 117, at 120–21 (“A recent, more comprehensive study, also based on data from Stanford’s IPLC, found that NPEs initiated about seventeen percent of patent infringement suits between January 1, 2000 and March 21, 2008.”).

145. Software patents tend to be very broad as there are many ways to write a computer program. See Duhigg & Lohr, *supra* note 113.

146. Love, *supra* note 32, at 1344. While PAEs predominantly stay within the high-tech industry, many argue that PAEs disrupt the patent system in general. *Id.*; see also Tokic, *supra* note 48, at 5 n.26 (“It is increasingly routine to read a single lawsuit in which an NPE/plaintiff has sued a dozen or more companies. For example, a plaintiff recently . . . named 22 companies as defendants, asserting that each was infringing the plaintiff’s broadly-worded patents . . .” (quoting *Patent Reform in the 111th Congress: Legislation and Recent Court Decisions, Hearing Before the S. Comm. on the Judiciary*, 111th Cong. 7 (2009) (statement of Steven Appleton, Chairman and Chief Executive Officer, Micron Tech., Inc.), available at http://www.patentfairness.org/pdf/appleton_20090310.pdf)).

147. See Harkins, *supra* note 1, at 434–37 (arguing that rising costs of patent litigation increasingly make challenging patent validity more prohibitive); Risch, *supra* note 105, at 481 (pointing to the lack of proof of the allegation that PAEs use weak patents). Many PAEs sue companies with invalid patents, and because of the presumption of validity, they can assert their rights until proven invalid at trial.

148. Risch, *supra* note 105, at 481 (arguing that the most litigious patents asserted by PAEs

on overly broad constructions of patent claims.¹⁴⁹ Furthermore, a rational PAE would not sue for infringement with an invalid patent considering the high costs of patent litigation and the low probability of a successful outcome.¹⁵⁰

High-tech patents are complex, multi-faceted technology providing many opportunities for infringement. Often times, a PAE owns a patent on a small piece of a multi-component, complex product.¹⁵¹ The defendant may infringe on just one protected piece of the technology, and the PAE can threaten to shut down the entire manufacture and sale of that product.¹⁵² This holdup threat enables PAEs to demand high royalty or license fees that reflect the entire value of the product, not solely the value of the piece or component that the patent protects.¹⁵³ Likewise, PAEs own patents covering standard essential technology, commonly used throughout an industry, and assert these patents by

are on par with other patents by objective standards of value and quality); *see* YEH, *supra* note 6, at 5 (arguing instead that PAEs often lose on the merits of infringement cases because they depend on overly broad constructions of the patents in question).

149. Risch, *supra* note 105, at 481. Claims can be interpreted in different ways by the court using different sources to define the language. LOREN & MILLER, *supra* note 7, at 133–35. Depending on the language, context, and reference, patent claims can be construed differently. *Id.* Therefore, a patent can be valid, but because a patent holder depends on a broad construction of those claims, a court may find non-infringement. Non-infringement does not mean that the patent holder's patent is invalid, but that the patent does not cover the defendant's activity.

150. *See* Shrestha, *supra* note 117, at 120 (asserting that it is doubtful PAEs have invalid patents for this reason). *But see* Allison et al., *supra* note 9, at 694 (“[I]t is surprising that product companies and NPEs settle at the same rate given their very different win rates”); *see also* Shrestha, *supra* note 117, at 120 (noting that the cost to mount an infringement suit as plaintiff is about \$2 million). This calculation cites the cost of an average patent infringement for a plaintiff, not a PAE. *See* John R. Allison, Mark A. Lemley, Kimberly A. Moore & R. Derek Trunkey, *Valuable Patents*, 92 GEO. L.J. 435, 551 (2004). A PAE “commonly has few documents beyond the patent and prosecution history.” Harkins, *supra* note 1, at 443.

151. For example, thousands of patents are essential for a standard 3G cellular telephone system. Lemley & Shapiro, *supra* note 20, at 1992; *see also* Michael A. Heller & Rebecca S. Eisenberg, *Can Patents Deter Innovation? The Anti-Commons in Biomedical Research*, 280 SCI. 698 (1998) (explaining that biomedical researchers underuse scarce resources because the proliferation of patents on small components allow owners to restrict use); Carl Shapiro, *Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard Settling*, in INNOVATION POLICY & THE ECONOMY 119, 119–23 (Adam B. Jaffe et al. eds., 2001) (exploring the effect of a patent thicket—a situation where too many owners hold overlapping patents—on cumulative technological development).

152. *See supra* notes 76–82 and accompanying text (discussing the remedies in patent infringement cases).

153. *See* Lemley & Shapiro, *supra* note 20, at 2009 (“The technology does not have any greater inherent value when used as part of an industry standard, but the patent holder can demand almost five times as much money once the industry has made irreversible investments.”).

seeking licenses ex post facto.¹⁵⁴

Patent hold up is the most successful troll tactic and is best utilized when a troll attempts to license ex post facto.¹⁵⁵ Ex post facto licensing occurs when a PAE waits until a product entity invests money and time in R&D of a product independently before it threatens the entity with an infringement lawsuit.¹⁵⁶ Ex post facto transactions are very lucrative, because the licensing negotiations are driven by the possible award in damages that may result from trial and not the value of the patent or commercial value.¹⁵⁷ Demanding these inflated prices “after-the-fact” can prevent or stall these products from coming to market.¹⁵⁸ More often than not, the product company adds an extra fee to products to make up for the royalties or licensing.¹⁵⁹

Empirical studies of PAE litigation show that the costs of PAE suits are generally wasteful, divert company funds allocated for R&D to pay for litigation, and do not increase innovative incentives.¹⁶⁰ Whatever the benefit, PAEs do more harm to product companies, innovation, and the public than good. In a survey of forty-six companies, Professors James Bessen and Michael J. Meurer from Boston University School of Law calculated that of the \$29 billion defendants paid in 2011 from

154. FTC REPORT, *supra* note 6, at 192 n.65; *see, e.g.*, *Broadcom v. Qualcomm, Inc.*, 543 F.3d 683, 704 (Fed. Cir. 2008) (delaying implementation of an injunction because immediate issuance would adversely affect those who use standard essential technology including the public, network carriers, and related manufacturers).

155. *See generally* Lemley & Shapiro, *supra* note 20, at 2009 (arguing that patent holdup is the most powerful weapon in the patent troll’s arsenal).

156. The FTC Report distinguishes NPEs from PAEs by their different licensing practices. FTC REPORT, *supra* note 6, at 40. Ex ante patent transactions, which occur before the purchaser obtains the technology, better promote the transfer of technology, “advancing innovation, creating wealth, and increasing competition.” *Id.*; *see id.* at 40 n.43 (differentiating ex post patent transactions, “which occur after the use of the technology has invested in its independent invention and development, without input from the patentee”); YEH, *supra* note 6, at 6 n.47 (illustrating that a development firm, like Qualcomm, focuses on R&D of technologies, not acquiring patents, and then pitches its patented technologies to licensees in advance); *see also* Love, *supra* note 32, at 1329–41 (finding that NPEs, along with product companies, practice their patents when the technology is new, rather than when the technology is ubiquitous).

157. *See eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 397 (2006) (Kennedy, J., concurring) (identifying the PAE business model which exploit defendants with patent holdup); FTC REPORT, *supra* note 6, at 57 (describing how ex ante licensing negotiations are driven by more realistic costs such as likely commercial value).

158. Rajec, *supra* note 10, at 474; *see* Lemley & Shapiro, *supra* note 20, at 1992–93 (pointing out that the PAE tactics enable them to charge higher royalty fees with the threat of injunctive relief and even higher litigation costs).

159. Additionally, companies will factor possible litigation costs into the final price of the product. *See* FTC REPORT, *supra* note 104, at 52–54.

160. *See infra* notes 161–65 (discussing the impact on innovation and incentive).

PAE suits,¹⁶¹ only 25% contributed to innovation, while 75% were categorized as “deadweight loss” to society.¹⁶² These costs of litigation or licensing fees subtract from opportunity costs likely spent on R&D to improve technology.¹⁶³ Bessen and Meurer categorize these costs to defend PAE suits as social losses—representing reduced incentives in innovation—that do not transfer in the form of royalty payments to small inventors as PAEs suggest.¹⁶⁴ The startups and innovative companies are less likely to invest in R&D, because they become “targets for litigation mainly when they introduce innovative products.”¹⁶⁵

Despite these statistics supporting the harmful effect of PAEs, their supporters argue that PAEs promote innovation by providing an incentive for independent inventors and small businesses. Heavily funded by investors, PAEs provide a litigation threat for small inventors who also lack the necessary resources to develop and market a product.¹⁶⁶ Additionally, the growing number of PAE firms offers a competitive market for large and small companies to sell their patent portfolios.¹⁶⁷ PAEs have an incentive to purchase these patents to sue

161. Bessen & Meurer, *supra* note 12, at 24. Direct costs include the cost of outside legal services, license fees, and other direct costs incurred in response to NPE litigation risk, excluding direct costs to a defendant’s business. *Id.* Indirect costs include diversion of resources; delays in new products; loss of market share; opportunity costs of legal, managerial, engineering, and scientific personnel; and innovative R&D. *Id.* at 24 n.3. The median decline in common stock of a PAE defendant is \$20.4 million. Bryant, *supra* note 8, at 693.

162. Bessen & Meurer, *supra* note 12, at 9, 20–22. Bessen and Meurer calculated deadweight loss as wasted resources to defense costs in litigation diverted from R&D of a product. *Id.* No more than 25% of direct spending by defendants promotes innovative activity. *Id.*

163. See YEH, *supra* 6, at 6–7 (“Faced with lower profit margins and uncertain but potentially significant risk, manufactures may find that some R&D projects, features, and product improvements are simply not worth doing, even if beneficial to customers.”); Mike Masnick, *Patent Trolls Causing Serious Problems for Startups*, TECHDIRT (Sept. 17, 2012, 8:01 PM), <http://www.techdirt.com/articles/20120915/01425620391/patent-trolls-causing-serious-problems-startups.shtml> [hereinafter Masnick, *Problems for Startups*] (quoting Professor Colleen Chien, stating, “[a] large percentage of [survey] responders reported ‘significant operational impact’: delayed hiring or achievement of another milestone, change in the product, a pivot in business strategy, shutting down a business line or the entire business, and/or lost valuation.”).

164. Bessen et al., *supra* note 121, at 5 (defining social loss).

165. Bessen & Meurer, *supra* note 12, at 22. Additionally, the high risk of PAE litigation deters startups from innovating because they cannot afford the high costs associated with litigation.

166. See Peter N. Detkin, *Leveling the Patent Playing Field*, 6 J. MARSHALL REV. INTELL. PROP. L. 636, 636 (2007) (“Small companies and individuals have few good options for licensing their patents or developing their inventions without interference from infringers.”).

167. See FTC REPORT, *supra* note 6, at 68 (explaining the emergence of the secondary market, where patents are bought, sold, and licensed more frequently); see also Myhrvold, *supra* note 67, at 44–45 (asserting that his company, and other PAEs, absorb the risk that would have

practicing entities, and therefore contribute to innovation by compensating small inventors to focus on continued development.¹⁶⁸ With incoming revenue from licensing or royalty payments, a struggling product company may assert patents for survival and to keep up with new technology.¹⁶⁹ For example, Kodak, a product company, exercised trolling techniques to raise funds for R&D.¹⁷⁰

Studies show that PAEs harm rather than help small businesses and startups. Additionally, PAEs have a much more detrimental impact on small to medium size companies than large companies.¹⁷¹ One study found that the median decline in common stock value of a defendant in a PAE lawsuit is \$20.4 million.¹⁷² Because the threat of PAE litigation is so commonplace, startups may face more difficulty raising funds from investors who anticipate such litigation costs.¹⁷³ In fact, investors have shifted funding to PAE firms as they offer greater returns than startups.¹⁷⁴

been borne by investors).

168. See FTC REPORT, *supra* note 6, at 68–69 (“Representatives of PAEs maintain that their patent purchases and assertions against operating companies promote innovation by compensating inventors who can then direct their energies toward making more inventions.”); see also Myhrvold, *supra* note 67, at 48 (promoting his company, Intellectual Ventures, as a resource for small inventors who “prefer to just hand off their invention to a licensee and move on to the next great idea”).

169. See Love, *supra* note 32, at 39–40 (finding that the product companies asserting patents at the end of the patent term practice troll tactics “hoping to keep their doors open just a little while longer”); see also Chien, *High-Tech Patents*, *supra* note 17, at 1585 (describing the product companies that use troll tactics as companies that “mount[] aggressive patent enforcement campaign[s] against other firms just prior to filing bankruptcy”).

170. PAEs include all entities using trolling techniques, including product companies asserting patents in efforts to keep afloat. Kodak, for example, adopted trolling techniques to “fund the transformation that the company [was] experiencing from analog manufacturing space to a digital space.” FTC REPORT, *supra* note 6, at 68 n.94. In recent years, Kodak “went on a patent binge” acquiring small startups and investing in patents to “beef up its digital imaging IP.” Love, *supra* note 32, at 40 n.12; see also Jones, *supra* note 96 (reporting how patent troll tactics spread to product companies, such as digital watermarking company Digimarc Corp., which sold the right to market and license its patent portfolio to Intellectual Ventures for \$36 million and 20% of the profits from Digimarc’s portfolio).

171. Bessen and Meurer’s study shows that the financial burden of PAE activity falls mostly on small- and medium-sized companies, accounting for 90% of defendants. Bessen & Meurer, *supra* note 12, at 24. Small inventors and startups are just as likely as large companies to be targeted. McBride, *supra* note 78.

172. Bryant, *supra* note 8, at 679; see Bessen et al., *supra* note 121, at 30 tbl.3, 31 (defining costs to include direct costs of legal fees, lost business, management distraction and diversion of resources, and reduction in expectation profits from future opportunities affected by the lawsuit).

173. See This American Life, *supra* note 4 (describing patent lawsuits as so common that “it’s hard to find even one semi-successful startup . . . that has not been hit with a suit”).

174. See Rajec, *supra* note 10, at 744 (“New business models included companies that, rather

B. Call for Reform and Efforts to Eliminate PAEs

The rise in abusive litigation initiated by PAEs and the effect on innovative companies did not go unnoticed. Over the past decade, courts, Congress, and government agencies have voiced concerns and attempted to combat the trolling tactics. In *eBay v. MercExchange L.L.C.*,¹⁷⁵ the Supreme Court specifically identified PAEs and articulated their unique business model for asserting patents.¹⁷⁶ In his concurring opinion, Justice Kennedy—joined by Justices Stevens, Souter, and Breyer—reasoned that new situations arising in court may call for new analysis before granting injunctions to PAEs.¹⁷⁷ In Justice Thomas’ opinion for a unanimous Court, the Court explained that NPEs and PAEs should not be classified together, but that the patent system should reform to limit PAE bargaining power.¹⁷⁸

than practicing the technology themselves, made a business of buying patents from startups or others and aggressively enforcing their exclusive rights”); see also YEH, *supra* note 6, at 7 n.59 (citing *The International Commission and Patent Disputes: Hearing Before the H. Subcomm. on Intellectual Prop., Competition, & the Internet*, 112th Cong. (2012); *Oversight of the Impact on Competition of Exclusion Orders to Enforce Standard-Essential Patents, Hearing Before the S. Judiciary Comm.*, 112th Cong. (2012) (statement of Connie V. Chien)) (stating that investors realized PAEs offer better returns on investment than many startups, and have shifted their funds to PAEs).

175. 547 U.S. 388, 390–96 (2006).

176. *Id.* at 393; see Rajec, *supra* note 10, at 749–50 (noting that the Supreme Court in *eBay* warned against using broad classifications of patent holders to grant injunctions).

177. *eBay*, 547 U.S. at 396–97 (Kennedy, J., concurring). Justice Kennedy’s concurrence had the most influential effect on the district courts as he explains patent holdup and PAE leverage:

An industry has developed in which firms use patents not as a basis for producing and selling goods but, instead, primarily for obtaining licensing fees. . . . For these firms, an injunction, and the potentially serious sanctions arising from its violation, can be employed as a bargaining tool to charge exorbitant fees to companies that seek to buy licenses to practice the patent. 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 infringement and an injunction may not serve the public interest. . . . [It] should be recognized that district courts must determine whether past practice [of granting injunctions] fits the circumstances of cases before them.

Id.

178. In the Court’s opinion, Justice Thomas warns against broad classifications of NPEs in granting injunctions:

[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. Such 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.

Id. at 393 (majority opinion); see Rajec, *supra* note 10, at 750 (arguing that the Court suggested in *eBay* that PAEs may be less entitled to injunctive relief, and that the courts should consider “the nature of the patent being enforced” and the economic intent of the patent holder).

After *eBay*, PAEs no longer obtained injunctions as easily through the district courts,¹⁷⁹ and consequently turned to the International Trade Commission (“ITC”)¹⁸⁰ as a forum to obtain exclusion orders.¹⁸¹ PAEs seek exclusion orders to bar a party from importing a product into the United States which infringes on some intellectual property.¹⁸² Because so much technology is manufactured internationally, PAEs found the ITC to be a useful forum for their high-tech patents.¹⁸³ If a PAE fails in federal court, it can file at the ITC to seek an exclusion order.¹⁸⁴

179. See Chien & Lemley, *supra* note 43, at 19 fig.3 (plotting research findings to show a drop of injunction grants in the district courts post *eBay*); cf. Streur, *supra* note 178, at 67–68 (finding that the district courts have returned to applying broad rules for granting injunctions).

180. The ITC is charged with investigating unfair imports of products to protect domestic industries from unfair methods of competition and patent infringement. See Thomas Yeh, *The International Trade Commission and the Nonpracticing Entity: Reviving the Injury Requirement for Domestic Industries Based on Licensing*, 80 GEO. WASH. L. REV. 1574, 1576 (2012) [hereinafter Yeh, *The ITC and the NPE*]. Following section 337 for patent infringement or other intellectual property rights, the ITC divides NPE cases into two categories: (1) NPEs including manufacturers who do not practice their asserted patents; inventors who built a prototype or invested in R&D, but have not yet manufactured or practiced the patent; startups that possess IP rights but do not yet manufacture a product that practices a patent; universities and labs that do not make products but license and (2) PAEs whose business model primarily focuses on purchasing and asserting patents. U.S. INT’L TRADE COMM’N, FACTS AND TRENDS REGARDING USITC SECTION 337 INVESTIGATIONS (June 18, 2012) [hereinafter USITC Report]. Congress amended 19 U.S.C. § 1337 in 1988 to allow NPEs to obtain remedies through the ITC. See Yeh, *The ITC and the NPE*, *supra*, at 1576. Congress named only groups mentioned above that were “equally entitled to section 337 relief as . . . manufacturing industries.” 132 CONG. REC. H1784 (daily ed. Apr. 10, 1986) (statement of Rep. Kastenmeier).

181. The ITC holds in rem subject matter jurisdiction over imported goods that infringe a U.S. patent. 19 U.S.C. § 1337(a)(1)(B)(i) (2012); see Chien & Lemley, *supra* note 43, at 20, 21 fig.4 (noting that since *eBay*, NPE cases have increased from 7% to 25%); Ryan Davis, *Cisco, Others Tell Lawmakers to Keep NPEs Out of ITC*, LAW360 (July 18, 2012, 5:27 PM), <http://www.law360.com/articles/360428/cisco-others-tell-lawmakers-to-keep-npes-out-of-itc> [hereinafter Davis, *Out of ITC*] (reporting that from 2010 to 2012, NPEs brought more than one-fourth of all section 337 patent cases at the ITC, and almost half of the respondents at the ITC were there because of cases initiated by an NPE). But see USITC Report, *supra* note 180 (stating that the number of 337 investigations increased over 530% from 2000 to 2011, but that NPE investigations have not sufficiently increased since *eBay*).

182. See 19 U.S.C. § 1337. The ITC can grant three different types of injunctive relief, often in the form of an exclusion order: a limited exclusion order, a general exclusion order, and a cease and desist order. Chien & Lemley, *supra* note 43, at 6 n.16. An exclusion order is considered an “all-or-nothing” solution as a company must pull all its products from the market and redesign them to comply. *Id.* at 4.

183. In 2011, major Smartphone manufacturers, including Apple Inc., Samsung, Song, LG, Nokia, Motorola, and RIM, were investigated under section 337 by the ITC. *Id.* at 4–5 n.12.

184. The ITC cannot award damages; it can only grant exclusion orders. *Id.* at 5. The ITC also does not adjudicate the merits of an alleged infringement. *Id.* at 17 (“[T]he ITC neither hears counterclaims nor recognizes certain defenses to infringement . . .”). Therefore, a PAE without a valid patent, or a weak patent, would most likely be successful to obtain an exclusion order in the ITC. *Id.* at 17 (“Congress has relaxed the domestic industry requirement, nearly every

Section 337 of the Tariff Act of 1930 governs the ITC in unfair practices in import trade.¹⁸⁵ Unlike how federal courts act to protect the rights of private parties, the ITC excludes products to protect United States domestic markets.¹⁸⁶ Under section 337, the complainant has the burden to prove that a domestic market exists in the United States to obtain an exclusion order.¹⁸⁷ The complainant must show that the import would harm the U.S. market if permitted into the United States. The domestic market exists in relation to an intellectual property right if there is (1) significant investment; (2) significant employment; and (3) substantial investment in its exploitation, including engineering, R&D, or licensing.¹⁸⁸ Similar to the four-factor test for the issuance of an injunction, the ITC considers four public interest factors when deciding whether to grant an exclusion order if a domestic market exists: (1) the public health and welfare; (2) competitive conditions in the U.S. economy; (3) production of like or directly competitive articles in the United States; and (4) the effect on United States consumers.¹⁸⁹ The ITC historically has been fairly lenient in granting exclusion orders to PAEs.¹⁹⁰

In the Matter of Certain Liquid Crystal Display Devices (“LCD Displays”),¹⁹¹ a recent case involving a PAE before the ITC, may make

patentee can bring an ITC complaint and nearly every accused infringer is a potential ITC defendant, converting the ITC into a mainstream venue in which to file patent grievances.”).

185. The ITC is governed by the Tariff Act, 19 U.S.C. § 1337(a)(1)(A) (“Unfair methods of competition . . . in the importation of articles . . . in the United States, or in the sale of such articles by the owner, importer, or consignee, the threat or effect of which is (i) to destroy or substantially injure an industry, (ii) prevent the establishment of such an industry, (iii) or to restrain or monopolize trade and commerce in the United States.”).

186. *Id.*; Yeh, *ITC and the NPE*, *supra* note 180, at 1582 (noting that the purpose behind the ITC was to protect the U.S. economy from imports that would harm U.S. markets, not to strengthen IP rights).

187. 19 U.S.C. § 1337(a)(1)(B)(i) (“The Commission shall notify the Secretary of Treasury of its action . . . directing such exclusion from entry”); *see also* USITC Report, *supra* note 180 (providing background information about the 337 investigations).

188. An exclusion order bars entry of infringing goods. 19 U.S.C. § 1514(a)(419); *id.* §§ 1337(a)(3)(A)–(C).

189. *Id.* § 1337(d)(1) (“Exclusion of articles from entry, (1) if the Commission determines, as a result of an investigation under this section, that there is a violation of this section, it shall direct that the articles concerned, imported by any person violating the provision of this section, be excluded from entry into the United States, unless, after considering the effect of such exclusion upon the public health and welfare, competitive conditions in the United States economy.”).

190. *See* Chien & Lemley, *supra* note 43, at 22–31 (finding that the ITC has denied public interest arguments against exclusion orders only three times in history).

191. *In re* Certain Liquid Crystal Display Devices, Including Monitors, Televisions, and Modules, and Components Thereof, Inv. No. 337-TA-749, USITC Pub. 4383 (July 6, 2012) [hereinafter LCD Devices].

establishing the existence of a domestic market more difficult for PAEs.¹⁹² The opinion finally clarified the inadequacy of licensing-based evidence to establish a PAE's "domestic market."¹⁹³ The claimant attempted to prove with evidence of its "investment in the exploitation through licensing" that the infringing import would harm a domestic industry.¹⁹⁴ The ITC found that the mere ownership of a patent or acquisition of a patent portfolio does "not warrant consideration in evaluation of satisfying the domestic industry requirement."¹⁹⁵ Further, the ITC reasoned that Congress did not intend for the mere acquisition of a patent to substantiate a domestic requirement claim: Congress made clear that a claimant must provide substantial proof that he actively engaged in steps leading to the exploitation of the invention to meet this requirement.¹⁹⁶ The parties in this case eventually dismissed and settled after the ITC issued the opinion.¹⁹⁷ Although the ITC took steps to increase the burden to prove

192. *Id.* at 111 (evaluating PAE licensing activities and whether the activities satisfied the domestic industry requirement); see *Raising the Bar of NPEs to Establish Domestic Industry*, LAW360 (Aug. 8, 2012, 1:26 PM), <http://www.law360.com/articles/366060/raising-the-bar-for-npes-to-establish-domestic-industry> [hereinafter *Raising the Bar*] (reporting that *LCD Devices* clarified the law surrounding licensing-based domestic industries). *But see* Chien & Lemley, *supra* note 43, at 17 (noting that Congress relaxed the domestic industry requirement, providing a lenient forum for NPEs); Yeh, *The ITC and the NPE*, *supra* note 180, at 1589 ("To establish a licensing domestic industry, the complainant need only demonstrate a nexus between the licensing activity and the asserted detail.").

193. *LCD Devices*, *supra* note 191, at 110–14. The ITC in this case found that the PAE's motivation exploited the patent for financial gain, and that therefore, the PAE would need more proof to show a domestic industry. *Id.* at 111.

194. 19 U.S.C. § 1337(a)(3)(C). The claimant, as a PAE, could not prove a domestic market by a significant investment in plant and equipment. See *id.* § 1337(a)(3)(A); *LCD Devices*, *supra* note 191, at 111 (providing evidence of litigation fees, patent acquisition fees, and licensing costs).

195. 19 U.S.C. § 1337(a)(3)(C) (requiring "[s]ubstantial investment in its exploitation, including engineering, research and development, or licensing"); *LCD Devices*, *supra* note 191, at 110–11 (applying section 337 to the facts of the case).

196. See *LCD Devices*, *supra* note 191, at 110–11 (articulating the intent of Congress); *Raising the Bar*, *supra* note 192 (interpreting the Commission's opinion that because the act of filing a lawsuit did not meet the substantial proof of exploitation requirement of section 337(a)(3)(C), then PAEs would be limited in proving the domestic industry requirement in the future); see also *LCD Devices*, *supra* note 191, at 116 ("[W]e see no reason to believe that Congress intended the domestic industry to be established only on the basis of licenses covering individual patents."). Additionally, litigation expenses for an underlying 337 investigation do not establish a domestic industry either. *Id.* at 113. See generally S. REP. NO. 100-71, at 130 (1987) ("The mere ownership of a patent or other form of intellectual property rights would not be sufficient to satisfy this test. The owner of the property right must be actively engaged in steps leading to the exploitation of the intellectual property, including application engineering, design work, or other such activities.").

197. *Raising the Bar*, *supra* note 192 (emphasizing the progress of the ITC despite the

a domestic market for PAEs, it could not go much further than the limits set by Congress.

Congress, especially within the past few years, expressed the need to reform the patent system to address PAEs.¹⁹⁸ The Leahy-Smith America Invents Act (“AIA”) was passed in 2011 and is the first major reform to U.S. patent law since 1952.¹⁹⁹ The AIA has enacted and will continue to implement gradual changes to improve the efficiency of patent prosecution and to keep the USPTO in line with current technology.²⁰⁰ The increase in PAE activity was one of the driving factors of the AIA.²⁰¹ In one provision, the AIA effectively limits PAEs from joining multiple defendants in one suit; instead of joining sometimes dozens of defendants because they allegedly infringe the same patent, the AIA requires the plaintiff to provide another basis for joinder.²⁰² By limiting joinder, PAEs can no longer easily transfer

successful outcome for a PAE).

198. See *America Invents Act: Hearing on H.R. 1249 Before the Subcomm. on Intellectual Prop., Competition, & the Internet of the H. Comm. on the Judiciary*, 112th Cong. 56 (2011) (statement of Hon. Steve Bartlett, President and Chief Executive Officer, The Financial Services Roundtable) (emphasizing the importance of the AIA to “address this problem of nonpracticing entities that we believe exploit flaws in the current patent system”); 157 CONG. REC. H4420-06 (2011) (statement of Mr. Goodlatte) (stating that the Procedural Matters in Patent Cases provision, section 19(d), was to “end[] the abusive practice of treating as codefendants parties who make completely different products and have no relation to each other” except that they allegedly infringe the same patent). For a summary of Legislative efforts to reduce PAE litigation, see Jason J. Keener, *10 Ways Congress Tried to Address NPE Litigation in 2013*, LAW360 (Jan. 2, 2014, 6:04 PM), <http://www.law360.com/articles/494834/10-ways-congress-tried-to-address-npe-litigation-in-2013> [hereinafter Keener, *10 Ways*].

199. Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011); see Bryant, *supra* note 8, at 680 n.44 (explaining that the AIA is the first major reform in almost sixty years; the last being the Patent Act of 1952, Pub. L. No. 82-593, 66 Stat. 792); see also YEH, *supra* note 6, at 1 (discussing Congress’ interest in PAEs by (1) requiring further study of PAE litigation in the AIA and (2) holding House and Senate hearings regarding patent disputes in the ITC since the passage of AIA).

200. H.R. REP. NO. 112-98, pt. 1, at 38–39 (2011), reprinted in 2011 U.S.C.C.A.N. 67, 68. President Obama signed the AIA into law on September 16, 2011, and the Act was fully implemented on March 16, 2013. U.S. PATENT & TRADEMARK OFFICE, AMERICA INVENTS ACT: EFFECTIVE DATES (2011). This legislation also implemented a change to the “first-to-file” system, Leahy-Smith America Invents Act § 3, and a post-grant review of patents for reasons other than prior art. *Id.* §§ 6(d), 321–29. See generally Bryant, *supra* note 8, at 688–91.

201. YEH, *supra* note 6, at 13; see, e.g., *Patent Trolls: Fact or Fiction?: Hearing Before the Subcomm. on Courts, the Internet & Intellectual Prop. of the H. Comm. on the Judiciary*, 109th Cong. (2006) (statement of Eric Smith, President, International Intellectual Property Alliance) (discussing the complaints about “trolling [which] heightened public interest in patent reform”); see also Bryant, *supra* note 8, at 688–92 (analyzing the possible impact of the AIA for PAE litigation).

202. A PAE litigation strategy is to save litigation costs for separate suits and choose favorable venue by joining multiple alleged infringers in one suit. Bryant, *supra* note 8, at 677–

venue to choose their forum, and cannot join parties simply because of a common link to a patent.²⁰³ In another provision, Congress requested further research on PAE litigation to determine if further legislation was necessary.²⁰⁴

In August 2012, Representatives Peter DeFazio and Jason Chaffetz proposed the Saving High-Tech Innovators from Egregious Legal Disputes Act (“Shield Act”)²⁰⁵ specifically to minimize “patent troll” litigation involving weak patents.²⁰⁶ Representative DeFazio introduced the bill, stating that “[pa]tent trolls don’t create new technology, and they don’t create American jobs. They pad their pockets by buying patents on products they did not create and then suing the innovators who did the hard work and created the product.”²⁰⁷ The Shield Act proposes a fee-shifting regime, specifically for high-tech patent holders who bring meritless lawsuits against alleged infringers.²⁰⁸ In a loser-pay regime, the court awards a full recovery of

78. Often, the defendants are unrelated and from separate industries. See James Pistorino, *Concentration of Patent Cases in Eastern District of Texas Increases in 2010*, 81 BNA PAT. TRADEMARK & COPYRIGHT J. 803, 805 tbl.1 (2011) (finding that in 2010, 647 patents cases were filed against 4522 defendants).

203. See Bryant, *supra* note 8, at 681–82 (“Section 19(d) of the AIA abrogates rulings in a minority of district courts that interpreted Federal Rule of Civil Procedure 20 to allow defendants who were tenuously connected to each other to be joined in the same suit.” (citing H.R. REP. NO. 112-98, pt. 1, at 55 n.61); see, e.g., This American Life, *supra* note 4 (explaining how FotoMedia, a PAE, named 130 companies in one lawsuit, including large photo-sharing companies like Flickr and Shutterfly).

204. See Leahy-Smith America Invents Act § 34 (instructing the Government Accountability Office (“GAO”) to study PAE litigation and report costs, benefits, consequences, and possible remedies to limit negative impact). See generally Jeruss et al., *supra* note 98, at 1 (reporting on the direction of the GAO).

205. Saving High-Tech Innovators from Egregious Legal Disputes (SHIELD) Act of 2012, H.R. 6245, 112th Cong. (2012) (adding new 35 U.S.C. § 285A(a)). For more detail describing the Shield Act, see YEH, *supra* note 6, at 14–15.

206. H.R. 6245 § 2(a). Weak patents generally do not have a reasonable likelihood of succeeding. See Megan Leonhardt, *Congressmen Push Bill to Deter “Patent Troll” Suits*, LAW360 (Aug. 2, 2012, 4:32 PM), <http://www.law360.com/articles/366115/congressmen-push-bill-to-deter-patent-troll-suits> (announcing the introduction of the bill to stop PAEs “from lodging meritless suits, which costs U.S. technology companies more than \$29 billion, by forcing the loser to pay litigation costs”).

207. See Ryan Davis, *Patent Troll Bill May Be Too Vague, Narrow to Rein in Suits*, LAW360 (Aug. 8, 2012, 10:33 PM), <http://www.law360.com/ip/articles/368023/patent-troll-bill-may-be-too-vague-narrow-to-rein-in-suits> [hereinafter Davis, *Patent Troll Bill*] (arguing that the “reasonable likelihood of success” standard is too vague for courts to follow). Although the bill does not mention PAEs or patent trolls, the subject matter of this statement likely infers that PAEs are the subject of the bill.

208. H.R. 6245 § 2(a); see YEH, *supra* note 6, at 14 (explaining that the Shield Act includes a “rule of construction” section verifying that this section would not “amend[] or interpret[]

litigation costs to the prevailing party as a punitive measure to discourage PAEs “from filing baseless lawsuits.”²⁰⁹

More recently, in December 2013, the House of Representatives approved and passed the Innovation Act, a bill also created to crack down on “patent trolls.”²¹⁰ Although H.R. 3309 is not the first bill designed to limit PAEs, it is the first to get through committee, be passed by the House, and move on to the Senate.²¹¹ House Judiciary Committee Chairman, Bob Goodlatte, sponsored the bill to address abusive patent suits that damage the U.S. economy.²¹² On the House floor, Representative Goodlatte said that PAEs cause “tens of billions of dollars spent on settlements and litigation expenses . . . which represent[s] truly wasted capital.”²¹³ Supported by the Obama administration, the Innovation Act aims to reveal the nature of such abusive lawsuits and limit the costs associated with such suits.²¹⁴ H.R. 3309 discourages litigants from hiding behind shell companies by requiring them to reveal the identity of the parent entity, requires more details regarding infringement allegations in all patent complaints, limits discovery initially to what is necessary for claim construction, and includes a loser-pay provision, which requires the non-prevailing party to pay their opponents’ litigation costs unless the losing party’s conduct was “reasonably justified.”²¹⁵

Despite these efforts and proposed solutions to limit trolling tactics, PAEs continue to make headlines and command a growing presence in business and popular culture. The following Part will analyze the

categories of patent-eligible subject matter”).

209. The bill aims to “ensure[] that American tech companies can continue to create jobs, rather than waste resources.” Press Release: DeFazio Introduces SHIELD Act to Protect American Innovation, Jobs (Aug. 1, 2012), *available at* http://defazio.house.gov/index.php?option=com_content&view=article&id=792:defazio-introduces-shield-act-to-protect-american-innovation-jobs&catid=69:2012-press-releases; *see infra* Part IV (analyzing the Shield Act and its possible impact on PAEs).

210. Stewart Bishop, *Bill Targeting ‘Patent Trolls’ Sails Through House*, LAW360 (Dec. 5, 2013, 4:22 PM), <http://www.law360.com/articles/493431/bill-targeting-patent-trolls-sails-through-house> [hereinafter Bishop, *Bill Targeting Trolls*].

211. *See* Keener, *10 Ways*, *supra* note 198 (discussing ten proposals introduced by Congress to limit NPE litigation).

212. *See* Bishop, *Bill Targeting Trolls*, *supra* note 210; Henry Ford, *Patent Trolling, & the Innovation Act: A Patent Reform Primer*, YOUTUBE (Dec. 2, 2013), <http://www.youtube.com/watch?v=uSEH7nYTRh4>.

213. Bishop, *Bill Targeting Trolls*, *supra* note 210.

214. *Id.*

215. The Innovation Act, H.R. 3309, 113th Cong. (2013) (adding new 35 U.S.C. §§ 290(b), 281A, 299A, 285). The Innovation Act also adds a provision that shields consumers of allegedly infringing technology from being sued for patent infringement. *Id.* §2.

impacts of PAEs, and the effects of efforts made by Congress, the ITC, and the legal community.

III. ANALYSIS

Although many problems plague patent laws, public attention has inflated PAEs into one of the patent system's most significant issues. The coercive and trolling techniques and business models are identifiably opportunistic as they leech off the success and progress of others.²¹⁶ Even after recent patent legislation, the patent system needs further reform because PAEs continue to affect innovation and the public's interest.²¹⁷ This Part asserts that PAEs' negative effects on innovation directly contradict the intent of the Framers and the purpose of the patent system as set forth in the Constitution. Despite the efforts of the legislative, judicial, and executive branches to salvage the fundamental purpose of patent law, PAEs continue to successfully reap the benefits of their exclusionary rights. This Part analyzes the shortcomings of these efforts and discusses various proposals aimed at solving the PAE problem.

A. PAEs Run Afoul of the Purpose of the Patent System, Yet Enjoy Exclusive Rights

Change in technology has shaped patent law over the years; from its origins during the Industrial Revolution to today's Information Age.²¹⁸ Patentable subject matter warranting protection today certainly would not have been eligible in the 1790s.²¹⁹ To adapt to modern technology by changing patentable subject matter, the Supreme Court has continuously considered the Framers' intent and the foundational purpose of the Patent Act.²²⁰ And although software patents are

216. See *Merges*, *supra* note 56, at 1590–91 (discussing opportunism generally, and how trolls are opportunistic in today's patent system).

217. See Posner, *Too Many Patents*, *supra* note 19 (discussing the “general problems posed by the structure and administration of our current patent laws, a system that warrants reconsideration by our public offices”).

218. See *Bilski v. Kappos*, 130 S. Ct. 3218, 3227–28 (2010) (explaining that a useful test for patentability in the Industrial Age no longer applies to valid patents of the Information Age).

219. 35 U.S.C. § 101 (2012) (“Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefore”); see *Bilski*, 130 S. Ct. at 3227 (discussing arguments that “well-established principles of patent law probably would have prevented the issuance of a valid patent on almost any conceivable computer program” (internal quotations omitted)).

220. In *Bilski*, the Court evaluated whether a method for hedging risks in commodities trading was patentable by considering patent history and the Framers' intent in constructing the Progress Clause in the Constitution and the first patent law. See *Bilski*, 130 S. Ct. at 3227.

(arguably) a legitimate unintended byproduct of the Framers, PAEs are not analogously legitimate.²²¹

With roots in English Law, the U.S. patent system is intended to protect the discoveries of artisans and inventors while promoting progress in technology for the public good. The Framers intended for the patent system to benefit the public and protect individual inventors.²²² Exclusive patent rights “fuel the fire” of creativity by providing incentive to invest in development and commercialization of inventions.²²³ In accordance with the Supreme Court’s opinion in *Blonder-Tongue Laboratories, Inc. v. University of Illinois Foundation*, a patent is a privilege because it is conditioned for a public purpose.²²⁴

The Framers intended for the public to benefit from not just disclosure of a patent, but also the patented technology developed and brought to the public.²²⁵ The language of the Constitution implies that inventions will be pursued for the “Progress of Science.”²²⁶ The Progress Clause in the Constitution is among the other enumerated rights established by Congress that protect the public.²²⁷ Nestled next to the power to establish post offices and postal roads and creating

221. Courts have yet to explicitly state that PAEs are a legitimate unintended consequence of the patent system, as courts have stated in reference to software patents. The legitimacy of patenting software, however, is highly controversial, and many do not believe that it warrants patent protection. Posner, *Too Many Patents*, *supra* note 19.

222. The Supreme Court in *Motion Pictures* articulated the “patent bargain” intended by the Framers:

A restriction which would give to the plaintiff such a potential power for evil over an industry which must be recognized as an important element . . . of the nation. . . would be gravely injurious to that public interest, which we have seen is *more favorite of the law than is the promotion of private fortunes.*

Motion Pictures Patents Co. v. Universal Film Mfg., 243 U.S. 502, 519 (1917) (emphasis added).

223. See Abraham Lincoln 2d Lecture, *supra* note 3.

224. 402 U.S. 313 (1971); see Tokic, *supra* note 48, at 2 n.9 (noting that antitrust law and patent law are complementary, as both share the common goal of “promoting innovation and enhancing consumer welfare”).

225. See Rajec, *supra* note 10, at 734–35 (“The 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 access to the technology before the patent expires.”); see also McFeely, *supra* note 1, at 290 (“[T]he statutory requirement for a patent holder to disclose its innovation is not enough alone to justify the extent of patent rights granted—society too must be allowed to benefit by getting access to the fruits of the innovation as they become available.”).

226. U.S. CONST. art. I, § 8, cl. 8 (“To promote the Progress of Science and useful Arts, by securing for limited Times to . . . Inventors the exclusive Right to their . . . Discoveries”); see Rajec, *supra* note 10, at 734–35.

227. U.S. CONST. art. I, § 8, cl. 8.

tribunals,²²⁸ the Progress Clause establishes the “patent bargain” to benefit both society and the individual.²²⁹ To claim that disclosure of a patent alone is the intended “benefit” to society is to overlook the original intent of the Framers.²³⁰

The Framers did not intend for the “benefit” conferred on the public to be the disclosure of obscure patent claims as it is today. The Framers intended for the public to benefit by receiving either (1) an educational description of an invention capable of spurring ingenuity and novel improvements or (2) public access to the actual useful product or invention available for use by the public.²³¹ Upon finding that PAEs neither disclose useful information nor facilitate the public’s access to technology, Congress can limit PAEs.

A PAE describes more than just a class of patent holders, and encompasses anyone who implements trolling tactics as a business practice.²³² PAEs are an unfortunate and opportunistic byproduct of the patent system. Following the words and interpretation of the Constitution, PAEs do not “promote the science and the useful arts.”²³³ *Useful* implies that the Framers did not intend for patent rights to be granted without utility, meaning benefitting the public in education or invention. The fact that a patent later proves to be useless or cannot be brought to market because a small inventor lacks funds, does not mean

228. *Id.* § 8, cls. 7, 9.

229. *See* *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 151 (1989) (explaining that the patent system creates a “carefully crafted bargain”—a mutual beneficial exchange of disclosure of technology for exclusive patent rights).

230. *See supra* note 225 (arguing that disclosure is not enough in most cases).

231. *See* *Bilski v. Kappos*, 130 S. Ct. 3218, 3227–28 (2010); *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 480 (1974) (explaining that exclusive patents rights incentivize inventors whose “productive effort thereby fostered will have a positive effect on society through the introduction of new products and processes of manufacture into the economy”); *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 607 (1950) (identifying that the “disclosure of inventions” was “one of the primary purposes of the patent system”).

232. NPEs, as the Court stated in *Continental Paper Bag Co. v. Eastern Paper Bag Co.*, may not practice a patent because it may not be a wise business choice. 210 U.S. 405, 429 (1908). Universities that clearly promote progress in technology and the dissemination of education, are not necessarily equipped to manufacture an invention. Independent inventors who assert their patent should not be lumped into the PAE category because their practices do not run counter the purpose of the Constitution. *See also* *Love*, *supra* note 32, at 40–41 (describing troll tactics adopted by product firms); *Merges*, *supra* note 57, at 1611 (“Trolling, to put it simply, is a matter of behavior rather than a status.”).

233. U.S. CONST. art. I, § 8, cl. 8; *see* *McFeely*, *supra* note 1, at 304 (“The patent troll’s failure to uphold its end of the ‘carefully crafted bargain’ . . . suggests that that it should not enjoy the powerful rights granted under the U.S. patent system.” (internal citations omitted)); *Kessler*, *supra* note 114 (proposing that Congress focus on emphasizing the words of the Constitution to limit patent trolls).

that the patent is not useful. However, when a patent holder makes no effort to bring a *useful* product to market, the negative implication of the utility theory should hold true—the patent holder should have no right to enforce it. In fact, PAEs impede efforts to bring products to market. Because they create a barrier to public access to technology, PAEs should not have a right to enforce their patents.²³⁴

There is nothing equitable about trolling business practices, yet PAEs and practicing entities are equally protected under the law. PAEs do not seek to enforce their constitutional rights to protect a product, because they do not have a product to protect nor do they want to create a product.²³⁵ They are only interested in the economic benefits of threatening practicing entities into paying licensing fees or settlement costs.²³⁶ PAEs practice identifiable trolling techniques, further separating their conduct from that of practicing entities. For one, PAEs assert their patents in the final years of the patent term; PAEs account for 92% of NPE suits ongoing within the last three years of the patent's term.²³⁷ By waiting so long, the alleged infringers have much to lose at that point and are likely to settle rather than litigate. In contrast, practicing entities assert their patent rights early in the patent term, when the technology is most valuable.²³⁸ But, because PAEs have enormous leverage, defendants are easily convinced to settle or to pay unreasonably high royalties regardless of the patent's validity.

Opportunistic entities inequitably derive a greater benefit from the laws than those the laws are intended to protect.²³⁹ A Patent Litigation Study conducted by PricewaterhouseCoopers LLP determined that courts award PAEs significantly higher damages than practicing entities.²⁴⁰ The study defies common logic because PAEs have a

234. See Harkins, *supra* note 1, at 426 (explaining that PAEs do not promote progress, as the Constitution intends, because they essentially inhibit access to technology).

235. See Love, *supra* note 32, at 9 (noting that PAEs value patents for their “usefulness in extracting royalties and damages from product-producing companies”).

236. See *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 400 (2006) (Kennedy, J., concurring) (differentiating between an NPE and a PAE, and noting that a PAE's sole business strategy is to make a profit from litigation); LCD Devices, *supra* note 193, at 111–14 (discussing the business model of a PAE).

237. Love, *supra* note 32, at 33, 41–47 (proposing that Congress limit the patent term because PAEs, in contrast to practicing entities, assert their patents late in the patent term).

238. See *id.* at 8 (explaining that product companies value patents for their exclusionary power and tend to “file suit (if at all) soon after their patents issue to fend off competitors developing or introducing similar products”).

239. See *American as Apple Pie*, *supra* note 4 (noting how U.S. patent laws enforced to protect small inventors actually benefit PAEs).

240. Davis, *Higher Damages*, *supra* note 125 (reporting that between 2006 and 2011, the

disproportionately small amount of damages and costs already in their favor. Because they have no product to protect, PAEs accumulate limited discovery costs, minimal actual damages, and are immune to a retaliatory counterattack of infringement.²⁴¹ For these reasons, PAEs do not come to court with “clean hands.”

B. PAE Detrimental Effects on Innovation

PAEs slow innovation, target startups and small companies, harm global competitiveness, and impose costs on innovators and the public. Though PAEs categorically file the greatest number of lawsuits, they ironically rarely prevail at trial.²⁴² PAEs initiate infringement suits for profit, depending on their prey to cave in and settle because of pressures from investors and from the high costs of litigation.²⁴³

The high litigation costs exemplify the heavy burden patent litigation places on innovation and the competitive market. From 2004 to 2009, PAE infringement lawsuits jumped by 70%, and licensing demands increased by 650%.²⁴⁴ The risk of getting sued by a PAE became more likely than not, especially for startups.²⁴⁵ Larger companies started to factor in the likelihood of PAE litigation when making investment decisions.²⁴⁶ These expectations deterred innovation by raising costs

median damages award was \$6.9 million for NPEs and \$3.7 million for practicing entities).

241. It costs \$1.5 million for discovery where \$1 to \$25 million is at stake. YEH, *supra* note 6, at 11 n.98 (citing AM. INTELLECTUAL PROP. LAW ASS'N, *supra* note 59). And for suits where over \$25 million is at stake, discovery costs \$3 million. *Id.*; *see also id.* at 13 (explaining that PAEs take on little risk when initiating a law suit).

242. *See Tokic, supra* note 48, at 1 (finding that NPEs rarely succeed on the merits at trial, and that a majority settle); *see also Porter, supra* note 1 (“Regardless of legitimacy of their claims, the aggressive litigation could have a devastating effect on society as a whole, short-circuiting innovation.”).

243. *See Tokic, supra* note 48, at 7 (explaining how RIM and NTP settled their dispute due to the pressure from investors and worried customers).

244. This American Life, *supra* note 4.

245. Bessen & Meurer, *supra* note 12, at 20–22; *see also* FTC REPORT, *supra* note 6, at 54–60 (explaining that in the absence of clear notice, PAEs are able to sue unsuspecting infringers); Merges, *supra* note 57, at 1590–91 (discussing the manner in which PAEs take advantage of the element of surprise by (1) secrecy of patents during prosecution, (2) the enormous number of patents in a given industry, and (3) the uncertainty of the scope of ambiguous and broad claims); *see also* YEH, *supra* note 6, at 16 (proposing that the patent system improve notice which would minimize the effects of PAEs).

246. FTC REPORT, *supra* note 6, at 52–54; *see Rajec, supra* note 10, at 747; *see also* Kessler, *supra* note 82 (“Clearly we’d be better off having Microsoft, Apple and Google spending \$1 billion on developing new products rather than buying up patents as an insurance policy so they or their partners can battle trolls and keep selling phones. How enlightening if we could see government actually promote progress as the Founders envisioned.”).

and risk for companies to bring products to market.²⁴⁷ Moreover, the costs inherent in patent litigation are essentially wasted: if a defendant prevails, considerable time and money is still diverted from beneficial economic activity, such as new R&D.²⁴⁸ And if the plaintiff prevails, the court awards the PAE significant damages, in turn negatively impacting the public as the costs for damages will result in increased price of the product.

According to Bessen and Meurer, smaller companies pay more in direct PAE litigation costs relative to their size than do larger companies.²⁴⁹ By intimidating startups with threatened litigation, PAEs are able to set a royalty rate that is just large enough to induce the company to settle rather than litigate. An entrepreneur discussed a personal encounter with a patent troll in an episode of *This American Life*, called “When Patents Attack.”²⁵⁰ The entrepreneur created a photo-sharing startup, but was soon contacted by a patent troll for allegedly infringing three patents that the patent troll held.²⁵¹ The letter requested that the entrepreneur contact the sender immediately to arrange a settlement, or else the patent troll would take legal action.²⁵² The entrepreneur felt that he had no bargaining power, no control over the situation, and “no choice but to settle.”²⁵³ The original patentee in this case actually disapproved of the troll’s tactics against the entrepreneur.²⁵⁴ By selling his invention, he intended that his invention would be put on the market, not used as leverage to shake down

247. Considering these risks in making their decisions, it is less likely that a company will bring products into the market. FTC REPORT, *supra* note 6, at 42–43.

248. See Bessen & Meurer, *supra* note 12, at 6 (discussing a study that found medical imagining software companies who were targeted by PAEs and whose sales dropped by one third because of a “lack of incremental product innovation during the period of litigation”).

249. See *id.* at 13 (calculating costs relative to the size of companies by analyzing the companies’ size, reported revenue, settlement amounts, and average litigation costs); see also Masnick, *Problems for Startups*, *supra* note 163 (reporting that patent trolls are increasingly pursuing startups, the biggest creator for new jobs).

250. In the interview, a PAE victim described his experience settling a dispute with a PAE:

It feels like they’re not reasonable . . . as I’m talking about it now, it’s kind of raising my heartbeat a little bit because I just remember how I personally felt. Just the huge amount of anxiety and lack of control over the whole situation. It was just an awful feeling.

This American Life, *supra* note 4.

251. *Id.*

252. *Id.*

253. *Id.* (explaining that the settlement amount was “just enough to put [the small business] in danger, but not to close [it]”).

254. *Id.*

infringers.²⁵⁵ Ultimately, the entrepreneur settled with the PAE for an undisclosed amount, putting the entrepreneur's business in serious danger.²⁵⁶ This story is unfortunately common.

Nathan Myhrvold's company, Intellectual Ventures, exemplifies the manipulative and corrupt business practices of a PAE.²⁵⁷ Claiming to "invest[] in invention,"²⁵⁸ Intellectual Ventures instead has generated \$2 billion in revenue since 2000 by asserting patents to extract licensing fees.²⁵⁹ Intellectual Ventures has an "invention lab" where it claims to create "new and useful technologies," such as the world's most high-tech mosquito zapper which senses mosquitoes from hundreds of feet away by detecting the speed of their wings.²⁶⁰ Twelve years since its opening in 2000, *This American Life* reported that Intellectual Ventures had yet to commercialize a product for public use (such as the mosquito zapper), and instead simply added to the increasing prices of consumer products.²⁶¹

C. Legislative Efforts to Limit PAE Litigation

Congress made considerable efforts to limit PAEs in today's patent system by passing the AIA and proposing the Innovation and Shield

255. *See id.* (interviewing the inventor of the photo-sharing patents, who thought by selling his company and patents, the buyer "would expand [his] company and make it prosper").

256. *See id.* (noting that the settlement agreement with the patent troll was kept confidential, and that therefore, the exact license fees are undisclosed).

257. Because of its aggressive trolling, this company has also been called a "Troll on Steroids." *Id.*; *see* Timothy B. Lee, *Nathan Myhrvold's Evil Genius*, BOTTOM UP (Sept. 8, 2009), timothyblee.com/2009/09/08/nathan-myhrvolds-evil-genius ("[Intellectual Ventures] illustrates in a way that no law review article could the extent to which the patent system punishes firms that actually produce useful products."). One scholar noted that PAEs and practicing entities are fundamentally different, as they have "asymmetrical incentives, since trolls are only interested in exacting payments whereas commercializers often resolve infringement disputes without commercializers through cross-licensing arrangements." Daniel A. Crane, *Intellectual Liability*, 88 TEX. L. REV. 253, 286 (2009).

258. *FAQ*, INTELL. VENTURES, <http://www.intellectualventures.com/index.php/about/faq> (last visited Mar. 21, 2014).

259. *This American Life*, *supra* note 4.

260. *Id.*; *see* Lee, *supra* note 257 (criticizing Intellectual Venture's business model in that it "produce[s] no innovative products, spend[s] minimal amounts on R&D, and make[s] a profit by compelling firms that are producing products and investing in R&D to pay up"). Intellectual Ventures generated \$700 million in revenue in 2010, compared to Google's \$8.505 billion. Pascal-Emmanuel Gobry, *Intellectual Ventures Generated \$ 700 Million in Revenues in 2010*, BUS. INSIDER (Mar. 7, 2011, 5:32 AM), www.businessinsider.com/intellectual-ventures-2010-revenue-2011-3; *Google's Income Statement Information: 2012 Financial Tables*, GOOGLE INVESTOR REL., investor.google.com/financial/tables.html (last visited Mar. 20, 2014).

261. *This American Life*, *supra* note 4; *see* Kessler, *supra* note 82 (discussing the effect of the *BlackBerry* case and the extra cost which passed on to the consumer).

Acts. Congress passed the AIA to eliminate two trolling tactics: forum shopping and suing multiple parties at once.²⁶² The AIA limits joinder by requiring the plaintiff to connect the defendants more substantially, rather than claiming that the defendants simply infringe the same patent.²⁶³ Because PAEs will have the burden of proving a sufficient nexus to join multiple parties, this will likely lead to more suits filed to avoid this rule.²⁶⁴ On the other hand, filing separate lawsuits could lead to significant increases in litigation expenses for PAEs and provide more opportunities for parties to challenge the validity of asserted patents.²⁶⁵ The AIA may in fact discourage PAEs from filing lawsuits for fear of losing their bargaining power.

The Shield Act also attempts to directly target PAEs.²⁶⁶ The Act includes a loser-pay regime that forces plaintiffs to prove that they are asserting a valid patent in good faith.²⁶⁷ The loser-pay regime is a punitive measure for plaintiffs who assert invalid patents in bad faith. With the threat of paying the defendant's legal fees, the Shield Act aims to discourage PAEs from pursuing baseless lawsuits or seeking to enforce invalid patents. Similarly, the Innovation Act requires that the loser-pay the opponents' litigation costs unless there was a justifiable reason for initiating the lawsuit.²⁶⁸ Currently, when a PAE loses an infringement case, the defendant cannot recover the costs of litigation except "in exceptional cases."²⁶⁹ In a loser-pay regime, the court requires the plaintiff to pay the defendant's legal fees for a baseless action. Considering the high costs of defending an infringement suit, PAEs may hesitate before filing suit to enforce weak or invalid patents.²⁷⁰ The loser-pay regime would effectively widen the court's

262. See Chien & Lemley, *supra* note 43, at 18 fig.2 (showing the decline in filed lawsuits in district courts following the enactment of the AIA).

263. See Bryant, *supra* note 8, at 682–83; Jeruss et al., *supra* note 98, at 29.

264. See Mark Lemley, *Things You Should Care About in the New Patent Statute* ¶ 7 (Stanford Pub. Law Research Paper Series, Working Paper No. 1929044, 2011), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1929044.

265. The statutory filing fee for a patent infringement suit is \$350. 28 U.S.C. § 1914(a) (2012); see YEH, *supra* note 6, at 13.

266. Shield Act, H.R. 6245, 112th Cong. (2012) (adding new 35 U.S.C. § 285A(a)).

267. *Id.* Often "good faith" is equated with "reasonable likelihood of success." Davis, *Patent Troll Bill*, *supra* note 207 (summarizing the provisions in the proposed bill and arguing that the "reasonable likelihood of success" standard is too vague to apply); cf. YEH, *supra* note 6, at 25 n.120 (rebutting the criticism that "reasonable likelihood of success" is vague).

268. The Innovation Act, H.R. 3309, 113th Cong. (2013) (adding new 35 U.S.C. §285).

269. 35 U.S.C. § 285 (2012) ("The court in exceptional cases may award reasonable attorney fees to the prevailing party).

270. PAEs, unlike their targets, have nothing to lose and "much to gain" in infringement

ability to find “exceptional circumstances.”²⁷¹

The Shield Act narrowly targets PAEs’ favorite technology: high-tech patents in the hardware and software industries.²⁷² However, Trade-Related Aspects of Intellectual Property Rights (“TRIPS”),²⁷³ an international trade agreement of 157 member countries, prohibits any patent legislation that discriminates against a certain industry of technology.²⁷⁴ The Shield Act only applies to asserting high-tech patents, therefore excluding other areas of technology prohibited by TRIPS. Additionally, the Shield Act applies to an industry, not a type of patent holder and would consequently apply to NPEs as well—which should not be affected by this legislation. The most concerning problem, however, is that the bill does not affect those who settle with PAEs—the most common resolution for PAE suits.

The Innovation Act, on the other hand, may limit the number of PAE settlements by limiting discovery costs.²⁷⁵ This provision limits the cost of discovery to only what is necessary for claim construction by the court.²⁷⁶ This essentially prevents a PAE from using the high costs of discovery to force a settlement. Unlike the Shield Act, the Innovation Act does not discriminate between fields of technology. In fact, the provisions of the Innovation Act would apply to all patent cases. Representatives John Conyers and Mel Watt fear that the Innovation

litigation.

271. The Patent Act currently provides the courts the power to award reasonable attorney fees in exceptional circumstances. *Id.* But the Innovation Act would make this option available where the reason for litigation is “unjustifiable.”

272. Shield Act, H.R. 6245, 112th Cong. (2012) (adding new 35 U.S.C. § 285A(a)). PAEs own patents mostly, if not entirely, within the high-tech industry.

273. TRIPS is an international agreement administered by the World Trade Organization (“WTO”) requiring that all member countries implement standard intellectual property regulations. Agreement on Trade-Related Aspects of Intellectual Property Rights art. 27.1, Apr. 15, 1994, 108 Stat. 4809, 1869 U.N.T.S. 299 [hereinafter TRIPS Agreement]; *see also* YEH, *supra* note 6, at 24–25 (discussing the possible conflict with the Shield Act and TRIPS provisions); Davis, *Patent Troll Bill*, *supra* note 207 (noting the discrepancies of the Shield Act).

274. *See* YEH, *supra* note 6, at 15–16 (arguing that the Shield Act may be in tension with TRIPS because the Shield Act only applies to high-tech patents). According to the TRIPS agreement, all patents must “be available and patent rights enjoyable without discrimination as to the . . . field of technology.” TRIPS Agreement, *supra* note 273, art. 27.1. However, a provision in TRIPS includes an exception permitting differentiation from different fields of technology for “legitimate reasons.” *Id.*

275. The Innovation Act, H.R. 3309, 113th Cong. §3 (2013) (adding 35 U.S.C. §299A). The Innovation Act addresses some solutions proposed in the Shield Act, as well as other legislation proposed in Congress in early 2013. *See* Keener, *10 Ways*, *supra* note 198.

276. *See* Bishop, *Bill Targeting Trolls*, *supra* note 210.

Act encroaches on judicial autonomy and case management.²⁷⁷ Congressman Conyers staunchly opposed the bill's wholesale changes to the patent system, but agrees that something must be done to mitigate PAE abuses.²⁷⁸

D. Courts' Efforts to Approach PAEs Equitably

The judiciary preceded Congress in taking action against PAEs. The Court's decision and Justice Kennedy's concurrence in *eBay* has greatly influenced the way district courts decide permanent injunctions for PAEs.²⁷⁹ Since 2005, district courts rarely grant injunctions to PAEs in infringement suits.²⁸⁰ Soon after the *eBay* decision, district courts began to distinguish NPEs from PAEs. For PAEs, courts looked to whether the plaintiff competed with the defendant and the amount of market shares the plaintiff possessed.²⁸¹ Following Justice Kennedy's concurrence, courts began denying injunctions to non-competitors who did not have a market share, presumably because they did not practice the patent.²⁸² Although *eBay* took away a PAE's powerful weapon of the threat of injunctive relief, PAEs still effectively compel defendants to settle before making it to court and seek out exclusion orders in the ITC.

E. ITC Efforts to Limit PAEs from Obtaining Exclusion Orders

The ITC's lenient policy on exclusion orders provided an effective forum for PAEs to maintain leverage in the wake of the *eBay* case.²⁸³

277. *Id.*

278. *Id.*

279. *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 400 (2006) (Kennedy, J., concurring).

280. Chien & Lemley, *supra* note 43, at 11 (finding that district courts have lowered their rate of granting injunctions by 20% since *eBay*, and PAEs have been denied injunctions 75% of the time). *But see generally* Robin M. Davis, *Failed Attempts to Dwarf the Patent Trolls: Permanent Injunctions in Patent Infringement Cases Under the Proposed Patent Reform Act of 2005 and eBay Inc. v. MercExchange, L.L.C.*, 17 CORNELL J.L. & PUB. POL'Y 431, 434-35 (2008) ("Although praiseworthy, the new standard for issuing injunctions established by *eBay, Inc.* is not as effective of a limit on the activities of patent trolls . . .").

281. *See, e.g., Ltd. P'ship v. Microsoft Corp.*, 598 F.3d 831, 862 (Fed Cir. 2010) (affirming the district court's decision that granted an injunction to a competitor who showed a loss of market share as a result of infringement); *see Rajec, supra* note 10, at 750-52 ("[I]njunctions are denied to non-competitors who have no market share, presumably because they neither produce nor market the patented product.").

282. *See e.g., Praxair, Inc. v. ATMI, Inc.*, 479 F. Supp. 2d 440, 444 (D. Del. 2007); *see also* Rajec, *supra* note 10, at 752 ("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.").

283. The ITC does not challenge or question patent validity in 337 investigations, thus, PAEs

The ITC's opinion in *LCD Devices* evaluated whether a PAE's acquisition and exploitation of a patent portfolio warrants an exclusion order under section 337 of the Tariff Act.²⁸⁴ The ITC identified the claimant's business model and held that purchasing a patent portfolio does not merit protection as a domestic market.²⁸⁵ The opinion focuses on congressional intent and states that Congress did not intend for section 337 to protect the individual rights of PAEs but rather "universities and small businesses."²⁸⁶

The domestic market requirement, in theory, compels a complainant to establish the necessity of public protection, rather than protection of the individual's rights. The equitable considerations of the public interest in *LCD Devices* reflect the intent of Congress' amendment: NPEs, not PAEs whose business model is solely to extract fees, may establish a domestic market.²⁸⁷ Additionally, the domestic market requirement is meant to protect injury to an industry, and a PAE, which does not have an industry (other than acquiring and asserting patents), therefore cannot claim an injury under this statutory provision.²⁸⁸

Ryan Davis of Law360 suggests that the domestic industry requirement be amended so "it only covers licensing that promotes the adoption and use of patented technology to create new products."²⁸⁹ In

trying to assert weak patents will not fear losing the patent if challenged. *See* Chien & Lemley, *supra* note 43, at 3; *see e.g.*, *Spansion, Inc. v. ITC*, 629 F.3d 1331 (Fed. Cir. 2010) (holding that "eBay does not apply to Commission remedy determinations under Section 337").

284. *See* *LCD Devices*, *supra* note 191, at 111 ("[W]e agree with the ALJ that [claimant]'s motivation is similar to most patent owners, who acquire patents, either through prosecution or purchase, for the purpose of exploiting them for financial gain.").

285. *See id.* (asserting that Congress did not intend to support the licensing business model of a PAE); *see also* Yeh, *ITC and the NPE*, *supra* note 180, at 1586–87 (explaining the reasons why Congress amended the Tariff Act—for example, so that universities and research institutions could prove that a domestic industry existed).

286. *See* *LCD Devices*, *supra* note 191, at 114 ("Permitting complainants to rely on these activities and investments to establish a domestic industry, would be inconsistent with the statute and legislative history which imposes an affirmative requirement of demonstrating the domestic industry . . .").

287. Congress amended 19 U.S.C. § 1337 in 1988, recognizing that the "United States' economic strength was transitioning from manufacturing to technology and innovation." Yeh, *The ITC and the NPE*, *supra* note 180, at 1586–87. Congress amended the statute by (1) expanding the domestic industry to cover licensing activities, and (2) eliminating the requirement that complainants demonstrate substantial injury. These amendments intended to protect entities engaged in "innovation-driven activities," such as universities and small businesses. 132 CONG. REC. H1784 (daily ed. Apr. 10, 1986) (statement of Rep. Kastenmeier).

288. 19 U.S.C. § 1337(a)(1)(A) (2012).

289. Davis, *Out of ITC*, *supra* note 180 (discussing how *LCD Devices* will make it more difficult for PAEs to establish an exclusion order which enables holdup). *But see* Yeh, *The ITC and the NPE*, *supra* note 180, at 1583 (proposing a change because the ITC is apparently too

fact, this proposal would be in line with congressional intent as explained in *LCD Devices*. Davis' amended requirement would not encompass the licensing activities of a PAE, as those private rights are not worthy of protection if they are detrimental to the public.²⁹⁰ Although the ITC's opinion stepped towards defeating PAEs' success in obtaining exclusion orders, the PAE in *LCD Devices* established a domestic market by citing evidence of activities relating to licensing, including employee time, facility use, travel, and other expenditures.²⁹¹ In the future, PAEs may utilize the reasoning of the ITC's opinion to satisfy this loose requirement.²⁹²

F. Other Proposals to Keep Patent Trolls Out of Pocket

U.S. patent law is far from perfect; and individuals, ranging from bloggers to law professors, propose patent reform to improve the inherent flaws of the patent system. Where the efforts of Congress, the courts, and the ITC fall short, others interested in the field propose solutions to combat PAEs.

Some propose limiting PAEs by enforcing an expanded misuse doctrine. Daniel McFeely, J.D. from Arizona State University, proposes that the misuse doctrine applies to a patent holder who fails to license or practice the patent, effectively rendering the patent temporarily useless.²⁹³ McFeely's solution defines an entity's failure to practice a patent as misuse and suggests that the patent holder cannot

lenient in allowing PAEs to obtain an exclusion order on a foreign import).

290. What I mean by this is that a PAE can get the ITC to exclude an import by claiming patent infringement. Essentially, ITC suits with PAE claimants may actually prevent useful and beneficial products from entering the U.S., thus harming the public on an international level. For example, PAEs may be able to establish that their licensing activities and business may meet the 337 requirements to establish a domestic industry. However, these licensing activities do not promote innovation or create new products like a university or a R&D firm.

291. 19 U.S.C. § 1337(a)(3)(C); see *LCD Devices*, *supra* note 191, at 115 (finding that a domestic market was established, but holding that certain licensing activities were not sufficient).

292. *But see* Davis, *Out of ITC*, *supra* note 181 (asserting that the Commission's language and opinion, regardless of the ultimate finding, will make it harder for PAEs to establish the domestic market requirement).

293. See McFeely, *supra* note 1, at 304–12 (arguing that his proposal would be “readily justified on the grounds” of fundamental fairness, protecting innovation, protecting industry, and protecting society from social and economic harm). *But see* Rajec, *supra* note 10, at 777 n.240 (“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 licensing fees through the threat of litigation—cannot be addressed with a finding of patent misuse, despite the fact 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.’” (quoting *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 396–97 (2006) (Kennedy, J., concurring))).

exercise its rights unless it practices the patent or licenses to a practicing entity.²⁹⁴ This proposal does not distinguish between NPEs and PAEs, because it applies to anyone who fails to practice a patent. This would be unfair to certain NPEs, such as small inventors, who do not have the means to market their patents. Another issue with this proposal is that a PAE would lose its patent only temporarily until the misuse is purged. This remedy is too lenient because a PAE can circumvent the nonuse with “proof” of practicing the patent, just as patent holders have done in the past.²⁹⁵ For example, a PAE, like Intellectual Ventures, may easily prove that it “practices a patent” by inventing without legitimately making efforts to release the product to the public.²⁹⁶ University of Iowa Law Professor Christina Bohannon proposes a more specific evaluation for courts by looking to the patent holder’s conduct and determining whether the conduct “forecloses competition, future innovation, or access to public domain” in determining misuse.²⁹⁷

Other literature proposes a public-interest-centered equitable test for granting injunctions.²⁹⁸ Law Professor Sarah R. Wasserman Rajec from George Washington University proposes that courts focus more on the public interest requirement of the four-factor test for the issuance of a preliminary injunction because market share does not accurately distinguish NPEs from PAEs.²⁹⁹ Following her proposal, courts would

294. See McFeely, *supra* note 1, at 304 (overstepping the legality of nonuse in the Patent Act); *supra* note 56 and accompanying text (noting that a patent holder does not need to use its patent); see also Posner, *Too Many Patents*, *supra* note 19 (proposing that Congress enforce abandonment (i.e., if a patent holder does not practice a patent, then he will effectively “abandon” his rights to exclude)).

295. “Using” or practicing a patent would not necessarily be difficult to show for a patent holder because they have the ability to do any of the following: make, use, sell, offer to sell, and import. 35 U.S.C. § 154(a)(1) (2012). In the case of a computer program, for instance, running the program would be considered “use.”

296. Intellectual Ventures has a research lab focusing on frivolous inventions. This American Life, *supra* note 4. Intellectual Ventures could easily follow each step of a process patent or create an invention in their massive lab—considered a “playground for scientists and engineers.” *Id.*

297. Bohannon, *supra* note 14, at 478.

298. See Rajec, *supra* note 10, at 773–83 (proposing that courts use market share critically, thus focusing on the public interest prong for granting injunctive relief); see also Lemley & Shapiro, *supra* note 20 (showing that a stay of the issuance of injunctive relief to allow design-arounds would reduce holdups). A design-around is an alternative to granting an injunction. Lemley & Shapiro, *supra* note 20. A defendant, rather than being barred from production, can alter the design so that it no longer infringes. *Id.*

299. See generally Rajec, *supra* note 10, at 763–73 (explaining the limits of markets share as an indicator of irreparable injury and inadequacy for money damages for determining injunctions); see also Chien & Lemley, *supra* note 43, at 32–35 (proposing that the ITC take a more flexible approach when considering the public interest for ordering exclusions).

focus on the public interest prong by considering the following interests: (1) granting sufficiently strong rights to incentivize innovation; (2) gaining access to an invention through patent disclosure and eventual dedication to public domain; and (3) gaining earlier access to invention through its market availability by the patentees or its licensee.³⁰⁰ Focusing on these interests, courts would better determine the intent of the patent holder and whether the patent holder deserves a preliminary injunction.³⁰¹ This proposal, however, focuses on the issue of preliminary injunctions, and does not solve a defendant's overwhelming litigation costs or PAEs' tactic to settle.

Law Professor Brian J. Love from Santa Clara University proposes that Congress decrease the patent term or increase the frequency and magnitude of maintenance fees in the latter half of the patent term.³⁰² Love's studies suggest that PAEs, and those that utilize PAE techniques, enforce their patent rights in the last years of the patent term.³⁰³ Specifically, PAEs account for 92% of NPE suits ongoing within the last three years of the disputed patent's term.³⁰⁴ Love argues that reducing the patent term would insulate practicing entities without harming incentive for other industries.³⁰⁵ Love bases his reasoning on a random sample of asserted patents, analyzed in relation to the age of the specific patent.³⁰⁶ Many patents that avoid litigation, and did not appear in his studies, could lose three years of market protection without detriment.³⁰⁷ However, Love notes that just as opportunists change strategies with time, a PAE would assimilate to the shorter patent term by enforcing their patents sooner.³⁰⁸ While this would minimize the loss of "sunk costs" of victims of ex post licensing, Love's proposal does not stop PAEs from asserting patents altogether.

Shifting focus from the federal courts to the ITC, Law Professors Colleen Chien from Santa Clara University and Mark Lemley from

300. Rajec, *supra* note 10, at 775–83. Professor Rajec articulates this bargain: incentive to innovate (exclusive patent rights), in exchange for disclosure and access to technology by the public. *Id.*

301. *Id.*

302. *See generally* Love, *supra* note 32, at 1 (suggesting that his proposal would enhance innovation by shortening the patent term).

303. *Id.* at 33.

304. *Id.*

305. *Id.* at 42–43.

306. *Id.*

307. *See id.* (arguing that the pharmaceutical industry, and others, would not be significantly impacted).

308. *Id.*

Stanford suggest that the ITC adopt a flexible approach to consider public interests for exclusion orders.³⁰⁹ Under section 337, the ITC must consider public health and welfare and competitive conditions as the “overriding considerations in the administration of this statute.”³¹⁰ Historically, however, the ITC rarely denies exclusion orders for public interest reasons.³¹¹ Chien and Lemley propose that the ITC use its discretion to adjust remedies in an infringement case.³¹² For example, the ITC must evaluate whether the value of the claimant’s patent is small compared to the value of the product as a whole and “craft” a remedy according to the impact on the consumer and the market.³¹³ The ITC can modify *what* the exclusion will cover (rather than the whole product); *when* to implement the exclusion order (instead of immediate implementation); and set a *bond* to allow imports for a royalty fee.³¹⁴ This proposal properly focuses on the intent of Congress and the flexibility allotted to an administrative agency. Unfortunately, this affects the ITC rather than federal courts and does not distinguish between NPEs and PAEs.

Thomas Yeh, J.D. from George Washington University, proposes amending the domestic market requirement to limit PAEs.³¹⁵ Yeh suggests that Congress change back the domestic industry provision to the pre-1988 amendment, requiring complainants to demonstrate “the effect or tendency of the importation and sale of the infringing articles [would] destroy or substantially injure the domestic licensing

309. See Chien & Lemley, *supra* note 43, at 32–46 (proposing that the ITC adjust the remedy grants of exclusion orders to limit PAE power of holdup, while providing equitable remedies less severe than an exclusion order).

310. 19 U.S.C. § 1337(a)(1)(A) (2012). Initially, Congress intentionally considered public interest factors including competitive conditions in the U.S.:

Should the Commission find that issuing an exclusion order would have a greater adverse impact on the public health and welfare; on competitive conditions in the United States economy; on production of like or directly competitive articles in the United States; or on the United States consumer, than would be gained by protecting patent holder then the Committee feels that such exclusion order should not be issued.

Chien & Lemley, *supra* note 43, at 29 n.86 (quoting S. REP. NO. 93-1298, at 197 (1974)).

311. The ITC only found that public interest trumped exclusion in three cases involving human health or some other nationally recognized policy. Chien & Lemley, *supra* note 43, at 23; see, e.g., *In re* Certain Automatic Crankpin Grinders, Inv. No. 337-TA-60, USITC Pub. 1022 (Dec. 17, 1979) (denying an exclusion order because the public interest in fuel efficiency outweighed other factors).

312. Chien & Lemley, *supra* note 43, at 34–36.

313. *Id.*

314. *Id.* at 36.

315. Yeh, *The ITC and NPEs*, *supra* note 180, at 1593–99 (proposing that the ITC amend the domestic industry requirement, requiring PAEs to satisfy a higher standard).

industry.”³¹⁶ Additionally, this amendment would eliminate the presumption of injury for licensing industries, raise the standard for PAEs to establish a domestic industry, and further benefit section 337 investigations.³¹⁷ Yeh’s proposed amendment would not affect the capacity of NPEs, such as a university or small business, to show a substantial injury.³¹⁸ An NPE could establish that an import affects or has affected its licensing negotiations and royalty rates.³¹⁹ PAEs, on the other hand, could not rely on the presumption of injury allowed in the past.³²⁰ Without this presumption, PAEs would need more evidence to establish a significant injury related to the patent.³²¹ Yeh’s proposal is simple, and seemingly easy to implement. However, the ITC can effectively distinguish NPEs from PAEs without amending the statute by strictly following the opinion in *LCD Devices*.

Other proposals include improving notice requirements,³²² enforcing claim definiteness,³²³ restricting patentability of business methods and software patents,³²⁴ supervising patent damage awards proportionate to the value of the patented technology,³²⁵ enforcing a time-limit for practicing the patent,³²⁶ requiring that patent holders use the patent,³²⁷ and implementing a fee-shifting regime.³²⁸ One recent study even goes so far to propose that the U.S. patent system be eliminated

316. See Tariff Act of 1922, ch. 356, § 316(a), 48 Stat. 858, 943 (repealed 1930); see also Yeh, *The ITC and NPEs*, *supra* note 180, at 1593.

317. Yeh, *The ITC and NPEs*, *supra* note 180, at 1593–99.

318. *Id.*

319. *Id.*

320. *Id.* at 1594–95; see *supra* note 284 and accompanying text (noting that in *LCD Devices* the Commission did not consider patent ownership or legal fees sufficient activity for the domestic industry requirement).

321. Under sections 337(a)(3)(A) and (B), a complainant must assert a nexus between the asserted patent and the licensing activities, not the injury. Yeh, *The ITC and NPEs*, *supra* note 180, at 1594–95.

322. Bessen & Meurer, *supra* note 12, at 23 (suggesting that improving notice is a top priority of the patent system and will “make the patent system perform more like an idealized property system”).

323. FTC REPORT, *supra* note 6, at 95; YEH, *supra* note 6, at 16 (arguing that improved notice would limit PAEs’ ability to conduct surprise attacks and would improve the alleged infringers’ awareness of the existing patent).

324. Bessen & Meurer, *supra* note 12, at 23.

325. *Id.*

326. See Love, *supra* note 32, at 1; Kessler, *supra* note 82; Posner, *Too Many Patents*, *supra* note 19.

327. See McFeely, *supra* note 1, at 310; Kessler, *supra* note 82 (“It’s time to require patent holders to actually make or sell products before citing infringement.”).

328. Bessen & Meurer, *supra* note 12, at 23–24 (suggesting that an “aggressive fee-shifting regime” would diminish a troll’s bargaining power).

completely.³²⁹ Each proposal addresses some PAE factors, but not all.

IV. PROPOSAL³³⁰

PAE activity undermines the purpose of the patent system as set forth in the Constitution and directly harms public interests by permitting opportunistic legal entities to take advantage of the patent system. The harm that PAEs cause the public and the patent system greatly outweighs any benefits PAEs may provide to small inventors. This Comment proposes an equitable approach to prevent the negative effects of PAE litigation. With the public's interest as the key underlying factor, this Part proposes a combination of ideas and themes inherent in patent law and existing doctrines to expand the inequitable conduct doctrine. This proposal aims to extinguish exclusive rights of PAEs and arm defendants with an equitable affirmative defense to combat trolls quickly and cheaply. The expanded inequitable conduct doctrine contorts existing law to obtain an equitable solution to protect innovation and the public from PAEs.³³¹ This Part discusses the advantages and disadvantages of implementing this proposal. Finally, this Part describes existing hurdles in solving the PAE problem.

A. Expanding the Inequitable Conduct Doctrine to Protect Public Interest

The inequitable conduct doctrine grants courts wide discretion to evaluate the *nature* of the individual's conduct, rather than forcing courts to adhere strictly to the technicalities of patent law. In an age where the law cannot keep up with the changes in technology, courts appropriately focus on equity.³³² Currently the doctrine imposes a duty of good faith and candor during the patent prosecution process.³³³ It is

329. Michele Boldrin & David K. Levin, *The Case Against Patents* (Fed. Reserve Bank of St. Louis Working Paper Series, Working Paper No. 2012-035A, 2012), available at <http://research.stlouisfed.org/wp/2012/2012-035.pdf>; see also Richard Stallman, *Patent Law Is, At Best, Not Worth Keeping*, 45 LOY. U. CHI. L.J. 389 (2013).

330. This proposal only attempts to mitigate the problem of PAEs. It does not address vague patents, paper patents, notice, and expensive infringement lawsuits among competing practicing entities—which also harm the public indirectly.

331. “Obtaining the ‘correct’ result has sometimes demanded slight legal contortions.” Rajec, *supra* note 10, at 761; see, e.g., *Commonwealth Sci. & Indus. Research Org. v. Buffalo Tech. Inc.*, 492 F. Supp. 2d 600 (E.D. Tex. 2007) (finding that the NPE was entitled to an injunction, without a showing of market share, because it relied on licensing funds for research).

332. See *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 400 (2006) (Kennedy, J., concurring) (focusing on equitable solutions, instead of adhering strictly to the law).

333. 37 C.F.R. §1.56(a) (2013).

not unreasonable, however, to expect that the patent holder, once issued a patent, should uphold a derivative duty to the public to act in good faith when asserting those rights.³³⁴ The duty of clean hands required during the prosecution process should extend to cover the conduct and use of the patent *throughout* the patent term.

Like the “candor and good faith” requirement, the defendant may raise inequitable conduct as an affirmative defense to an infringement action. Following the theory that the benefit to the public “is more favorite of the law than is the promotion of private fortunes,”³³⁵ a patent holder has a duty, when enforcing its patent, to ensure that the best interests of the public are also being served.³³⁶ Otherwise, PAE litigation would continue to solely promote the private fortunes of PAEs and their investors. When a PAE asserts a patent in a manner that is contrary to public interest, the court should render the patent permanently unenforceable because such activity is contrary to the constitutional basis for the patent system.³³⁷

334. Judge Aldrich’s dissent in *Continental Paper Bag* discussed the importance of the public interest in the context of a competitor’s nonuse of a patent for anti-competitive purposes. *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 suggests that such nonuse 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.” *Id.* Judge Aldrich suggested that the equitable remedy of an injunction was inappropriate in the interest of the public:

[T]he 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 [T]he right to equitable relief in aid of the abstract right is forfeited.

Id. at 751; see Eduardo Porter, *Tech Suits Endanger Innovation*, N.Y. TIMES, May 29, 2012, <http://www.nytimes.com/2012/05/30/business/economy/tech-lawsuits-endanger-innovation.html> (“Patents on inventions . . . are not granted to be fair to their creators. Their purpose is to encourage innovation, a broad social good, by granting creators a limited monopoly to profit from their creations.”)

335. Goldman, *supra* note 42, at 38 (quoting *Motion Pictures Patents Co. v. Universal Film Mfg.*, 243 U.S. 502, 518–19 (1917)).

336. See *Vitamin Technologists, Inc. v. Wis. Alumni Research Found.*, 146 F.2d 941, 944 (9th Cir. 1944) (“It is now well established that a patentee may not put his property in the patent to a sue contra to public interest. The grant of a patent is the grant of a special privilege . . . conditioned by a public purpose.”); see also *Virginian Ry. Co. v. Sys. Fed’n No. 40*, 300 U.S. 515, 552 (1937) (“Courts of equity may, and frequently do, go much farther both to give and withhold relief in furtherance of public interest than they are accustomed to go when only private interests are involved.”).

337. Typically, courts find that ruling in favor of strong patent rights is in the public’s best interest. Rajec, *supra* note 10, at 741–42; 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”). Courts must “consider” the public interest in the four-factor test when

By equipping defendants with an appropriate affirmative defense, Congress would reduce PAEs' leverage and bargaining power over their vulnerable targets. Supplemented with precedent, court opinions, the Patent Act, and relevant equitable tests, the expanded inequitable conduct doctrine provides a proper course of action for troll victims. This proposal rests on the foundation of the following three tenets from patent law and precedent. First, Justices Kennedy and Thomas identified the differences between NPEs and PAEs, and explained in *eBay* that a general rule applying to all NPEs would be improper.³³⁸ This proposal recognizes this reality. Second, to address PAEs, the solution cannot discriminate among fields of technology proposed in the Shield Act; but should not burden NPEs, for example. Third, a court cannot force a patent holder to use or license a patent. From this foundation, the court will apply the Progress Factors derived from the domestic market requirement from section 337, the evaluative intent component of the inequitable conduct doctrine, and elements of the Innovation Act.³³⁹ Following these guidelines, the court can apply an equitable test that effectively distinguishes NPEs from PAEs and other trolling plaintiffs with "unclean hands."

This proposal grants the courts wide discretion to determine public interests surrounding each case. However, as outlined below, the court should weigh several factors—Progress Factors, which look to good faith, promotion of progress and innovation, and business model—in judging the plaintiff's equitable conduct in asserting the patent.

1. Procedural Standard and Preliminary Hearing

Once the defendant asserts the expanded inequitable conduct defense, the court should conduct a hearing to determine whether there is genuine cause for asserting the affirmative defense.³⁴⁰ The expedited

determining if a permanent injunction is warranted. Rajec, *supra* note 10, at 741. However "the operating assumption was that in *rare* cases, the public interest in access to a particular innovation is strong enough that these access interests trump the right to exclude." *Id.* at 741–42, 742 n.31 (emphasis added) (citing *MercExchange, L.L.C. v. eBay Inc.*, 401 F.3d 1323, 1338–39 (Fed. Cir. 2005), *vacated*, 547 U.S. 388). In very few cases, courts have denied a patent holder an equitable remedy in the name of public interest. *Id.* at 778. Historically, the courts only use the public interest to deny a permanent injunction for public health reasons. *Id.* at 776; *see also* Chien & Lemley, *supra* note 43, at 23 (finding that the ITC has only denied exclusion orders in cases of public health and welfare, improved fuel efficiency, and nuclear physics research).

338. *See supra* notes 175–78 and accompanying text (discussing the Kennedy concurrence in *eBay* which influenced courts to treat NPEs and PAEs differently).

339. *See supra* notes 205–15 and accompanying text (discussing the Shield Act, the Innovation Act, and unique provisions to prevent PAE litigation).

340. The Citizen Participation Act of Illinois ("CPA") protects individuals from Strategic

hearing avoids the costs of the early stages of discovery, which tend to be very expensive for the defendant. Like the Innovation Act's loser-pay regime, the court will force the PAE to pay the defendant's legal fees upon a finding of inequitable conduct.

Before considering whether there is liability for infringement, the court will first determine whether the affirmative defense is invoked against a proper plaintiff. If the court finds the plaintiff practices, or has significantly invested in marketing or implementing, the patent for public access, then the affirmative defense is dismissed and the infringement case proceeds to discovery.³⁴¹ Alternatively, upon finding that the plaintiff neither practices nor intends to practice the patent, the court must evaluate the plaintiff's conduct using the Progress Factors.

2. Progress Factors to Consider Patent Assertion with Clean Hands

Similar to the Shield Act, which shifts the burden to prove patent validity onto the plaintiff, this affirmative defense similarly shifts the burden to the plaintiff to prove that it meets the Progress Factors.³⁴² To defeat the affirmative defense, a plaintiff must provide clear and convincing evidence that it is a *fair competitor*, acting in *good faith* for the benefit of the public, and that it is not acting in a *mischievous* manner toward the public. The first of the Progress Factors is an evaluation of the plaintiff's cause of action with respect to the Constitution and the intent of the Framers. The second element looks to the plaintiff's good faith and whether the plaintiff filed the suit with "clean hands." Finally, the court considers the business of the plaintiff and whether the parties are competitors. None of these factors are dispositive, and the court has discretion to weigh the factors of each case.³⁴³

Lawsuits Against Public Participation ("SLAPP") suits. 735 ILL. COMP. STAT. 110/15 (2012). A SLAPP suit is used to suppress grassroots movements by filing baseless lawsuits. *Id.* The Illinois Anti-SLAPP Statute allows a defendant to counter a SLAPP suit quickly and economically. *Id.* The statute allows for a defendant to file a special motion to strike or dismiss a complaint based on "[a]cts in furtherance of the constitutional rights to petition, speech, association, and participation in government." *Id.* Discovery halts until the court determines the legitimacy of the claim. *Id.* The court must conduct a hearing and render a decision on the motion within ninety days, and if the court finds in favor of the defendant, the court will dismiss the case early and award the defendant attorneys' fees and court costs. *Id.*

341. This will effectively weed out practicing entities or NPEs licensing to product companies by delving deeper than the transparency requirement in the Innovation Act.

342. *See supra* notes 205–15 and accompanying text (introducing the Shield Act and the Innovation Act).

343. In trademark infringement cases, the courts approach each case by considering eight factors to determine whether the use of one mark created a likelihood of confusion with another

i. Promote Progress of Science, Transfer Technology, or Encourage Innovation

The first factor looks to the foundational purpose of patent law and whether the plaintiff exercised its patent according to the “carefully crafted bargain.”³⁴⁴ The plaintiff must establish that it made significant and good faith efforts to use the patent to promote progress of science, transfer technology,³⁴⁵ or promote innovation. The plaintiff must establish that asserting the patent does not keep a useful product from the public or pass any additional costs onto the consumer. The Framers intended for the patent system to encourage progress and innovation, and the first factor should not impose undue hardship for the plaintiff to prove. Thus, if an NPE wishes to enforce its constitutional right of exclusion, then it has the burden to prove that it deserves protection.

The plaintiff cannot assert a patent solely to make a profit without showing substantive benefit to the public. Applying this factor to super-troll, Intellectual Ventures, illustrates the “patent bargain.” Intellectual Ventures’ slogan is that it funds innovation by paying inventors for valuable patents, thereby returning the “inventors” back to the drawing board to create more inventions.³⁴⁶ Additionally, it may point to its frivolous “invention lab” as a research facility, thus promoting progress of the science in the arts.³⁴⁷ The court can consider each of Intellectual Ventures’ pieces of evidence and weigh the first factor as merely one item of evidence. Or, the court can look at the plaintiff more generally by evaluating the research lab, the type of research, and whether the general public can benefit from Intellectual Ventures’ work (i.e.,

mark. *LOREN & MILLER*, *supra* note 7, at 590–700. The court uses its discretion to determine which factors are dispositive since each case is different. *See, e.g.*, *Kellogg Co. v. Toucan Golf, Inc.*, 337 F.3d 616 (6th Cir. 2003) (weighing the first three of the following eight factors: (1) strength of the mark, (2) relatedness of the goods or services, (3) similarity of the marks, (4) any evidence of actual confusion, (5) marketing channels used by the parties, (6) probable degree of purchaser care and sophistication, (7) defendant’s intent, and (8) likelihood of either party expanding its product line using the marks).

344. *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 151 (1989) (explaining that the purpose of the patent system is to create a mutual beneficial exchange of disclosure of technology for exclusive patent rights).

345. *See* FTC REPORT, *supra* note 6, at 229 (asserting that R&D firms (considered NPEs) suffer “as a result of infringement” which “can be analogous to that suffered by manufacturing patentees, including loss of customer base, industry disregard of its patent rights, and harm to reputation as an innovator”).

346. *See* Shrestha, *supra* note 117, at 128 (“By selling the rights to their invention, the inventors could focus their attention and resources in the pursuit of inventive activity instead of spending time and energy trying to commercialize their invention.” (internal quotations omitted)).

347. *See* *This American Life*, *supra* note 4.

whether the high-tech mosquito zapper will prove successful in the market).

ii. Good Faith

The good faith requirement examines the intent of the plaintiff in asserting the patent.³⁴⁸ A court can determine a plaintiff's good faith by looking at its business model, knowledge of infringing activity, and the time of patent assertion.³⁴⁹ For example, if a court were to evaluate the good faith of Intellectual Ventures, the super-troll would likely fail the good faith test. First, Intellectual Ventures is one of the largest patent acquisition firms, with proof from financial records that most of its revenue comes from licensing fees.³⁵⁰ Even if it pointed to patents it owns or accumulates, the court looks to the specific patent and whether the plaintiff is asserting it for profit or actual commercial use. Second, Intellectual Ventures admittedly buys patents after finding a product company using patented technology, and then seeks ex post facto licenses.³⁵¹ A court would easily recognize Intellectual Ventures' knowledge of infringement before buying the patent, and determine

348. Although courts evaluate good faith by determining "reasonable likelihood of success," this requirement in patent cases looks to the plaintiff's patent. *See* YEH, *supra* note 6, at 15 n.20. This factor is one of the four factors examined when determining whether to issue a permanent injunction, and looks to the validity of the patent and whether the defendant infringed. *Id.* Because this proposal is meant to be expedited, the court will not use the same evaluation for good faith. *See supra* note 267 (discussing the good faith requirement in the Shield Act and its criticisms); *see also supra* notes 144–50 (discussing the criticism that PAEs frequently bring baseless lawsuits).

349. PAEs utilize many tactics, but ex post facto licensing in particular characterizes a PAE. A PAE acquires patents, looks for possible infringement, and waits to assert the patents until very late in the patents' term. These characteristics can be easily detected, and may distinguish a PAE from an NPE. *See supra* Parts II.B, III.A (explaining troll tactics of ex post facto licensing where a PAE acquires patents in a popular technological field, waits for possible infringement, and then demands license fees or royalty rates). Courts also look to a plaintiff's intent and knowledge to determine inequitable conduct, i.e., whether a patent holder knew about and withheld material information with the intent to mislead the patent office. *See, e.g.,* Therasense, Inc. v. Becton, Dickinson & Co., 649 F.3d 1276, 1290 (Fed. Cir. 2011) (en banc) (stating that the specific intent to deceive must be the most reasonable inference drawn from evidence); *see also supra* Part II.A.3 (discussing inequitable conduct). Copyright infringement is another area of intellectual property law where the courts look to the intent of a party. Like patent law, copyright infringement is a strict liability offense. LOREN & MILLER, *supra* note 7, at 407. However, for contributory infringement courts will look to a party's knowledge of certain activity, intent to act, and business model to determine liability. *See, e.g.,* MGM Studios Inc. v. Grokster Ltd., 545 U.S. 913, 926 (2005) (finding copyright infringement because the "business model[] employed by Grokster . . . confirm[s] that their principal object was use of their software to download copyrighted works.").

350. *See supra* note 259 and accompanying text.

351. *See supra* notes 259–61 and accompanying text.

whether the patent covers standard technology. Finally, the court could simply look at the time left in the patent's term as an indicator of a PAE.

iii. Fair Competitor

The final factor ensures that an industry beneficial to the public, rather than private patent rights, is protected.³⁵² Rather than look to market share, section 337(a)(A)–(C) of the Tariff Act provides a helpful guide to ensure the plaintiff meets the fair competitor standard.³⁵³ The plaintiff must prove the following: (1) significant investment; (2) significant employment; and (3) substantial investment in the exploitation of the patent, including engineering, R&D, or licensing for early access of the product for public use.³⁵⁴ As in *LCD Devices*, a plaintiff cannot use litigation expenses, or mere patent ownership, to satisfy the third prong.³⁵⁵ Although closely related to the clean hands factor, the fair competitor standard only evaluates the plaintiff's business activities.

As envisioned by the Framers, the exclusive right to sue for infringement is an essential tenet of patent law.³⁵⁶ However, if a patent troll asserts a patent, the court will weigh the interests of the public against the interests of the patent troll using the Progress Factors. As discussed above, a “PAE” describes conduct and does not merely label a type of business. Accordingly, some patent holders may pass certain Progress Factors, yet fail others. Ultimately, the courts must weigh these factors—as they do in other areas of law—to determine whether

352. See Yeh, *The ITC & NPEs*, *supra* note 180, at 1582 (explaining that the domestic industry requirement in ITC infringement cases ensures that the Commission protects “industries rather than private patent rights”).

353. 19 U.S.C. §§ 1337 (a)(3)(A)–(C) (2012).

354. *Id.* The domestic industry requirement states:

For purposes of paragraph (2), an industry in the United States shall be considered to exist if there is in the United States, with respect to the articles protected by the patent, copyright, trademark, mask work, or design concerned: (A) significant investment in plant and equipment; (B) significant employment of labor or capital; or (C) substantial investment in its exploitation, including engineering, research and development, or licensing.

Id.

355. See *LCD Devices*, *supra* note 191, at 110–11 (finding that PAE licensing activities did not satisfy the “substantial exploitation” requirement, in contrast to the ITC’s lenient history).

356. See 35 U.S.C. § 271(a) (2012) (“Except as otherwise provided in this title, whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States, or imports into the United States any patented invention during the term of the patent therefore, infringes the patent.”).

they should “appropriately withhold their aid” in finding infringement when a patent holder asserts its rights with unclean hands.³⁵⁷

B. Advantages and Disadvantages to the Proposal

Courts have leeway and discretion when considering the public interest and inequitable conduct.³⁵⁸ In *Morton Salt Co. v. Suppiger*, the Court stated 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.”³⁵⁹ Following this principle, courts could easily apply the expanded inequitable conduct doctrine by evaluating whether the plaintiff has clean hands.

This proposal will effectively distinguish NPEs, such as universities and independent inventors, from patent trolls. The Progress Factors provide a method for courts to determine whether a patent holder mutually contributes a benefit to society for the exchange of exclusive rights. A university, for example, could show that it promotes progress in education and research. Similarly, universities license exclusively to practicing entities, promoting the technology for actual use and dissemination.³⁶⁰ The court would dismiss the affirmative defense in the expedited hearing suit brought against a university or independent inventor.³⁶¹

357. See *Morton Salt Co. v. Suppiger Co.*, 314 U.S. 488, 492 (1942) (emphasizing the public interest factors when finding patent misuse).

358. The Patent Act grants district courts the discretion to issue injunctions, damages, and attorneys’ fees, following rules of equity. 35 U.S.C. §§ 283–285; see, e.g., *Rite-Hite Corp. v. Kelley Co.*, 56 F.3d 1538, 1547 (Fed. Cir. 1995) (en banc) (“Accordingly, courts have in rare circumstances exercised their discretion to deny injunctive relief in order to protect the public interest”).

359. *Morton Salt*, 314 U.S. at 492; see, e.g., *City of Milwaukee v. Activated Sludge, Inc.*, 69 F.2d 577, 593 (7th Cir. 1934) (denying permanent injunction after finding patent infringement because granting relief would have “close[d] the sewage plant, leaving the entire community without any means for the disposal of raw sewage . . . endangering the health and lives of that and adjoining communities”); see also *Broadcom v. Qualcomm, Inc.*, 543 F.3d 683, 704 (Fed. Cir. 2008) (delaying implementation of injunction because an immediate injunction would adversely affect the public, network carriers, and related manufacturers).

360. Love, *supra* note 32, at 19 (noting that all university-owned patents in his study sample “were at the time of assertion exclusively licensed to product companies that acted as plaintiffs”). Often, however, universities can license patents to a PAE. See Masnick, *University of CA, supra* note 62 (criticizing the University of California for its affiliation with Eolas, a PAE). In this case, the court would look not just to the university but also to the licensee and its business model.

361. NPEs, including independent inventors and universities, are not PAEs, despite what some critics might say. Love, *supra* note 32, at 27. According to Love, independent inventors do not sit on their patents like a PAE would. *Id.* (drawing from empirical studies that individual

PAEs can attribute much of their success to settlements, but with this affirmative defense as an equitable option, defendants may be more willing to fight back. This proposal could empower defendants to deny the settlement offer and decide to go to trial. Equipping the defendant with a shield, the PAE who would likely sheath its weapons³⁶² for fear of losing the patent altogether at trial. Supplemented with the affirmative defense, a defendant with a strong case may not hesitate to fight a PAE, and the PAE would be forced to pay the defendant's costs if the court found inequitable conduct.

Following *eBay* and TRIPS, this proposal does not discriminate against the plaintiff or industry. Because this affirmative defense gives courts flexible discretion to evaluate good faith and business models, any person or entity practicing troll techniques will be affected.³⁶³ Unlike other solutions, this proposal would identify the troll tactics of product companies and could stop inequitable conduct quickly, and much more cheaply, for a defendant.

Implementation of the expanded inequitable conduct doctrine may be arduous for two reasons. First, good faith may be difficult to quantify in a patent case, as it looks to the subjective conduct of the patent owner and its business. Courts may believe that a good faith test is too vague or discriminatory and may be reluctant to implement such a test without further direction from Congress. Second, determining whether a company is a competitor may be objectively difficult in complex or segmented markets. Although courts have done so in the past, using market share data can provide false positives in determining the plaintiff's status as a competitor.³⁶⁴ Despite these issues, however, the expanded inequitable conduct doctrine has the potential to decrease the negative impact of PAEs.

inventors, in contrast to PAEs, “file suit quickly on almost the exact same timeline as product companies”). Studies illustrate that PAEs, rather than NPEs, have a negative effect on innovation. *Id.* at 5, 26 (noting that universities and independent inventors did not greatly impact the NPEs in his studies).

362. See Tokic, *supra* note 48, at 9 (illustrating that PAEs use the threat of seeking an injunction and allegations of willful infringement as ‘weapons’); Duhigg & Lohr, *supra* note 113 (chronicling how patent holders use patents as a ‘weapon’); This American Life, *supra* note 4 (describing defensive patenting as “the old mutually assured destruction. Except instead of arsenals of nuclear weapons, it’s arsenals of patents”).

363. Many failing practicing entities have adopted troll tactics in efforts to save a dying business. Love, *supra* note 32; see *supra* notes 169–70 and accompanying text.

364. See Lemley & Shapiro, *supra* note 20, at 2037–39 (finding that a patented product that forms a small part of a complex invention may distort the actual value of market share); Rajec, *supra* note 10, at 765 (noting that many PAEs may establish considerable market power in their licensing royalty demands).

CONCLUSION

U.S. patent law is far from perfect, and this Comment covers only one issue of many inherent in the current patent system. While the Constitution is adaptable, the intent of the Framers in the creation of patent law is not irrelevant or obsolete today. However, the utilitarian foundation has been lost in recent years among trolls and patent wars. PAEs clearly do not promote the constitutional purpose of the patent system set forth by the Framers. Their tactics are legal under today's patent system, yet they impede rather than promote the "progress of science and the arts."³⁶⁵ Courts have identified PAEs as problematic, and Congress has attempted to limit their destructive impact, yet efforts have proven unsuccessful. An expanded proposal of inequitable conduct, while not addressing every patent troll tactic, will distinguish PAEs from other patent holders, and permanently purge their unconstitutional tactics from the courts.

365. U.S. CONST. art. I, § 8, cl. 8. When a PAE "holdup" causes the final price of the end product to rise beyond its true economic value, the 'progress of Science' is significantly impeded. Progress in technology creates jobs and increases the standard of living. Any inequitable manipulation of the patent system undermines the constitutional purpose.