PROPOSED LEGISLATIVE SOLUTIONS TO THE NON-PRACTICING ENTITY PATENT ASSERTION PROBLEM: THE RISKS FOR BIOTECHNOLOGY AND PHARMACEUTICALS

ABSTRACT

Plaintiffs who own patents, but do not practice or directly commercialize them, are asserting their patents in sharply increasing numbers. This surge in litigation by non-practicing entities ("NPEs," or so-called "patent trolls") has not affected all areas of industry and commerce equally. Recent empirical studies confirm anecdotal reports of a concentrated increase in patent suits in the computer, telecommunications, and information technology sectors. In contrast, the pharmaceutical industry has seen no spike in NPE assertions. Estimates that the direct cost of NPE assertions is $29 billion annually, and lobbying by affected industries, have caught the attention of Congress and the Obama administration, and resulted in legislative efforts to rein in NPE litigation.

Several bills directed at reforming the patent law, introduced during the current legislative session, explicitly or implicitly target NPEs. The Senate saw the introduction of the Patent Quality Improvement and Patent Abuse Reduction Acts, while the House considered the Saving High-Tech Innovators from Egregious Legal Disputes ("SHIELD"), End Anonymous Patents, and Innovation Acts. These bills would change significantly the way patent litigation is conducted, including adding heightened pleading requirements, limited discovery, and "loser-pays" fee shifting.

Pharmaceutical patents pose significantly different issues, in the context of infringement actions, from those posed by information technology patents. Several of the proposed reforms are targeted at issues which arise frequently in NPE cases, but rarely in pharmaceutical patent litigation. In the case of reforms directed at transparency of ownership, post-grant challenges of covered business method patents, enhanced pleading requirements, and suits brought against customers of accused infringers, little impact on litigation in pharmaceuticals is likely. Fee-shifting, or "loser pays" provisions, could result in marked changes to the risk calculus undertaken by parties before committing to litigation, which may have the desired effect in the case of NPE assertions, but would disrupt settled expectations in the pharmaceutical industry. Limitations on discovery, in terms of both amount and timing, would similarly disrupt settled practice in the pharmaceutical field and, moreover, tread on the independence of the judiciary.
TABLE OF CONTENTS

I. INTRODUCTION ........................................................................................................... 469
II. BACKGROUND ............................................................................................................ 469
III. ANALYSIS ................................................................................................................. 475
    A. Costs Imposed by NPE Litigation ........................................................................... 475
    B. NPE Lawsuits Have Affected Various Industry Sectors Disproportionately ....... 477
    C. What Are the Proposed Reforms? ........................................................................ 482
       1. The Patent Quality Improvement Act of 2013, Senate Bill 866 ....................... 482
       2. The Patent Abuse Reduction Act of 2013, Senate Bill 1013 ......................... 482
       3. The Saving High-Tech Innovators from Egregious Legal Disputes (SHIELD) Act of 2013, House Bill 845 ... 483
       4. The End Anonymous Patents Act, House Bill 2024 .............................. 484
       5. The Innovation Act, House Bill 3309 ...................................................... 484
    D. What Problems Are the Proposals Intended to Correct? .............................. 485
       1. Pleading Requirements .................................................................................. 486
       2. Discovery ...................................................................................................... 487
       3. Fee-Shifting ................................................................................................. 488
       4. Transparency of Ownership ........................................................................ 488
       5. Customer-In-Suit Exception ........................................................................ 489
       6. Covered Business Methods ......................................................................... 489
IV. EVALUATION .............................................................................................................. 490
    A. NPE Patent Assertion Claims Have Affected the Pharmaceutical and Information Technology Industries Differently ...... 490
    B. Potential Unintended Effects of the Proposed Reforms on an Industry Segment Which Is Not the Source of the Patent Assertion Problem ...... 492
V. CONCLUSION ............................................................................................................ 495
I. INTRODUCTION

Litigation by so-called "patent trolls" or non-practicing entities ("NPEs") has become a major concern over the last few years.\(^1\) Despite the recent enactment of patent reform legislation, new proposals for reform of the patent law, targeted at the alleged abuses of NPEs, are now being considered.\(^2\) This Note examines the impact of NPE litigation on particular industry sectors, and reviews proposed reforms and the particular practices those reforms are designed to address. NPE litigation primarily affects the information technology industry; pharmaceutical industry patents until now have largely been spared.\(^3\) The proposed reforms, though targeted at practices affecting the information technology sector, have the potential to affect the pharmaceutical sector significantly.\(^4\) In particular, proposals to implement "loser pays" fee shifting in patent infringement lawsuits, and to prescribe the scope and sequence of discovery in such actions, may have significant unintended consequences for litigation relating to pharmaceutical patents.\(^5\)

II. BACKGROUND

The amount of litigation in the realm of patent law has lately increased in dramatic fashion.\(^6\) Coupled with a rising number of lawsuits is a now widespread perception that a novel and particularly malignant kind of litigant has arrived on the national scene: the so-called "patent troll."\(^7\) The rise in frequency of patent suits has brought with it increased costs; commercial entities complain that they are expending huge sums defending against or settling patent infringement claims, and diverting resources away from arguably more productive purposes.\(^8\) Concern

\(^1\) See infra Part II.
\(^2\) See infra Part II, III.C.
\(^3\) See infra Part III.B.
\(^4\) See infra Part IV.B.
\(^5\) See infra Part IV.
\(^7\) Schwartz & Kesan, supra note 6, at 426.
\(^8\) See Garretson, supra note 6, at 66 (discussing how non-practicing entity lawsuits drain corporate resources).
about abusive litigation practices has expanded beyond industry, the bar, and the judiciary, capturing the imagination of the public at large.9 Mainstream news media reports concerning the phenomenon of patent trolls and their adverse effects on the economy and judicial system are now commonplace.10

Several factors contribute to the perception and reality of this increased litigation activity. First, the number of patents issued by the United States Patent and Trademark Office ("USPTO") has increased steadily over the past fifty years.11 Patents have a duration of effect now limited by statute to twenty years.12 There now are more patents currently in force, and therefore potentially enforceable, than at any previous time.13 The larger number of patents exposes industries, particularly in the computer and telecommunications areas where a given product may incorporate a large number of patented technologies, to a greater risk of infringement and resulting legal action.14 A second

---

9See, e.g., NPR All Things Considered: Taking the Battle Against Patent Trolls to the Public (NPR radio broadcast Aug. 30, 2013) (discussing ad campaign with the goal of raising the general public's awareness of patent trolls), archived at http://perma.cc/9FAH-Z4RP.
11See PAT. TECH. MONITORING TEAM, USPTO, EXTENDED YEAR SET - ALL TECHNOLOGIES (UTILITY PATENTS), REP. PART A1 (2013), archived at http://perma.cc/D2WP-GM4D (listing the increased number of patents granted and issued by year of patent grant).
13See USPTO, supra note 11. This assertion relies on the assumption that patents are not, on average, invalidated faster than they are granted. This is reasonable given the recent high rate of issuance, and the fact that relatively few patents are invalidated. See Mark A. Lemley, Rational Ignorance at the Patent Office, 95 Nw. U. L. REV. 1495, 1497 (2001) ("[T]he overwhelming majority of patents are never litigated or even licensed.").
14See U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-13-465, INTELLECTUAL PROPERTY: ASSESSING FACTORS THAT AFFECT PAT. INFRINGEMENT LITIGATION COULD HELP IMPROVE PAT. QUALITY 30-31 (2013), archived at http://perma.cc/LMU4-XSUZ (stating the high number of patents per product exposes stakeholders to liability because searching for all of the relevant patents is difficult); see also Mark A. Lemley, Are Universities Patent Trolls?, 18 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 611, 613 (2008) (stating the difficulty within the information technology industry is that with many patented components going into products, just one patent owner can sue for infringement and enjoin sales until a
potentially important factor is the possibly lower quality of many recently granted patents compared to earlier times.\textsuperscript{15} It is a common complaint today that the USPTO is understaffed and underfunded for the task before it.\textsuperscript{16} The backlog of patent applications is high,\textsuperscript{17} and the agency may be struggling to maintain a high quality of patent review in the face of relentless productivity pressure.\textsuperscript{18} Thus, many patents may be in force which do not give sufficient notice to the public of the rights they cover, or which present opportunities for assertion in ways not generally anticipated.\textsuperscript{19} A last, and ironic, observation is that a recent legislative reform\textsuperscript{20} aimed at limiting a particular patent litigation tactic—the practice of joining a large number of defendants who are related only by the allegation of infringement of a patent—may be having the side effect of increasing the number of patent assertion suits filed, as the defendants must now be pursued individually.\textsuperscript{21}


\textsuperscript{17}See \textit{Data Visualization Center: Patents Dashboard}, USPTO, archived at http://perma.cc/4FJ4-DBHH (last visited October 17, 2014).

\textsuperscript{18}See \textit{Note}, \textit{supra} note 15, at 2337-38 (emphasizing the large number of patent applications and the high expense of detailed review).

\textsuperscript{19}See \textit{U.S. Gov’t Accountability Office}, \textit{supra} note 14, at 30 ("[M]any overly broad or vague patent claims do not sufficiently identify the scope of the patent’s coverage. This lack of notice makes it difficult for entities to identify relevant existing patents and prior art before developing new products . . . ."); see also James Bessen & Michael J. Meurer, \textit{The Direct Costs from NPE Disputes}, 99 \textit{Cornell L. Rev.} 387, 420 (2014) (demonstrating how a vague patent can allow its patent holder to share in the success of a product falling within its broad scope, without actually contributing anything).

\textsuperscript{20}35 U.S.C. § 299(b) (2011) ("[A]ccused infringers may not be joined in one action as defendants or counterclaim defendants, or have their actions consolidated for trial, based solely on allegations that they each have infringed the patent or patents in suit.").

\textsuperscript{21}See Sara Jeruss, Robin Feldman, & Joshua Walker, \textit{The America Invents Act 500: Effects Of Patent Monetization Entities On US Litigation}, 11 \textit{Duke L. & Tech. Rev.} 357, 380 (2013) (discussing how patent monetization entities have been circumventing the joinder rules by filing separate suits against defendants, which has resulted in an increase of patent assertion suits); see also Garretson, \textit{supra} note 6, at 73 (explaining how patent trolls file multiple suits against multiple defendants in the same jurisdiction, and then move to consolidate the actions, leaving things exactly where they were before the reforms). See generally Tracie L. Bryant, \textit{Note}, \textit{The America Invents Act: Slaying Trolls, Limiting Joinder}, 25 \textit{Harv. J.L. & Tech.} 687,
Yet, probably the most controversial factor contributing to the rise in patent litigation is the role of the "patent troll." Patent troll is a now-popular and pejorative term that refers broadly to litigants who seek to assert rights under patents which they own, but who do not practice or otherwise commercialize an invention associated with the patent. This behavior has been characterized as an abuse of the patent system and federal courts, an unproductive or even unconstitutional use of the patent grant, and an economic burden on society. Frequently, the result of "non-practicing" assertions is the extraction of a licensing fee or a nuisance settlement to avoid the cost of going to trial.

Closer examination reveals several subsets of litigants within the broad class of patent claimants who may be more interested in exploiting their patent enforcement rights than in commercializing their inventions, some of which should be singled out for more opprobrium than others, namely, non-practicing entities ("NPEs"), patent-assertion entities ("PAEs"), patent monetization entities ("PMEs"), and patent

---


23"Patent troll" is not so pejorative a term as to prevent its use in court. See Bessen & Meurer, supra note 19, at 2 n.2.

24See Bessen & Meurer, supra note 19, at 2 n.2 (describing entities that solely assert patents rather than play some other role in the market for patent rights and technology); Tony Dutra, Obama Joins Campaign Against Patent Trolls; Directs PTO Rulemaking, Suggests Legislation, 86 PATENT, TRADEMARK & COPYRIGHT J. (BNA) 274, 274 (Jun. 7, 2013) (reporting on President Obama's characterization of patent trolls as extortionists that do not produce anything themselves). But see Lemley, supra note 14, at 630 (explaining why universities are not trolls in the author's view).

25See McDonough, supra note 22, at 196-97 (discussing commentators who have characterized NPEs as parasites that abuse the patent system); Dutra, supra note 24, at 274; Sannu K. Shrestha, Note, Trolls or Market-Makers? An Empirical Analysis of Nonpracticing Entities, 110 COLUM. L. REV. 114, 119 (2010) (discussing costs to society).

26See Anup Malani & Jonathan S. Masur, Raising the Stakes in Patent Cases, 101 GITO. L.J. 637, 677 (2013) ("[NPEs] simply own patents and use those patents to secure licensing fees or litigation judgments against productive commercial firms."); Garretson, supra note 6, at 66 (explaining how business leaders have complained about NPEs extracting licensing fees and nuisance settlements without actually making productive contributions to society); Shrestha, supra note 25, at 115 ("NPEs are firms that rarely or never practice their patents, instead focusing on earning licensing fees."); Colleen Chien, Patent Trolls by the Numbers, PATENTLY-O (Mar. 14, 2013), archived at http://perma.cc/F4LE-29K2 (defining patent trolls as firms that do not produce or sell goods, but simply extract licensing fees).

27Non-practicing entity ("NPE"), a less-pejorative designation than the term "patent troll," is often applied to members of a heterogeneous group of patent holders comprised of "universities, individual inventors, failed businesses, and speculators who purchase patents from others," that bring infringement actions but do not manufacture products themselves. Schwartz & Kesan, supra note 6, at 426.

28The term patent assertion entity ("PAE") is attributed to Colleen Chien and identifies
aggregators. A useful product of this sub-categorization is the recognition that there are, at least occasionally, important and valid reasons for parties who own patents, but do not practice the patented inventions, to assert their property rights. Regardless of the label applied to the plaintiffs, recent research mainly supports the perception that the recent large increase in patent suits is, in major part, a result of the actions of patent holders who do not practice the inventions covered by their patents.

This controversial and expensive change in the patent litigation landscape has led, probably inevitably, to a legislative backlash.
firms, mainly in the areas of information technology, telecommunications, and software, are pushing back hard against the rising tide of patent assertion lawsuits by lobbying for legislative and administrative action to reduce their exposure.\textsuperscript{34} Despite recent reform of the patent law under the America Invents Act,\textsuperscript{35} the House and Senate have seen the repeated introduction of proposed legislation targeted, either explicitly or implicitly, at the perceived patent assertion problem.\textsuperscript{36} The potential for more changes to the patent law raises two issues: first, whether the changes will have their intended effects; and second, what unintended consequences will accompany these proposed reforms?

The latter issue is the subject of this Note. Unintended consequences should by now be expected as a by-product of any complex legislative act; however effective and appropriate reform legislation may be to solve a problem, it is bound to affect some aspect of the legal system or marketplace in an unexpected way, or open an avenue for exploitation that did not formerly exist.\textsuperscript{37} This Note will examine the costs imposed by patent assertion litigation,\textsuperscript{38} the differential effects of this litigation on important industry segments,\textsuperscript{39} and the current legislative proposals directed at these issues,\textsuperscript{40} with an eye towards the potential side effects of the legislative proposals on an industry segment.
which does not appear to be suffering from the effects of the patent assertion explosion—pharmaceuticals and biotechnology.41

III. ANALYSIS

A. Costs Imposed by NPE Litigation

The impetus for reform is derived from the cost of NPE litigation: businesses targeted by NPEs frequently pay licensing fees that amount to "nuisance" settlements to avoid the cost of litigation, and are lobbying Congress for relief.42 Aside from the obvious direct costs to the targets of litigation, other costs that result from NPE litigation warrant consideration. Many defendants in NPE suits are productive firms, and the costs incurred from NPE suits are ultimately passed on to their customers.43 At least one analysis of the costs of NPE disputes suggests that there are costs to society as a result of lost progress, in addition to monetary transfers between the parties to the suits.44 If NPE assertions really are a "tax on innovation" and a detriment to progress,45 an argument can be made for reform to protect the Constitution's goal of promoting progress in science and the useful arts.46

There is very little empirical data available that describes the costs of litigation generated by NPE patent assertions, as these are a relatively recent development.47 Recently, three studies designed to measure the costs of NPE suits have been published.48 Two of the studies used

---

41 See infra Part IV.
42 Garretson, supra note 6, at 66.
43 See USGAO, supra note 14, at 3 ("[I]mposing high costs on firms that are actually developing and manufacturing products . . . .").
45 U.S. CONST. art. I, § 8, cl. 8. See generally, Schwartz & Kesan, supra note 6, at 427 (noting the divergent opinions over whether NPEs promote progress in science and the arts).
46 Bessen & Meurer, supra note 19, at 391.
47 See id. at 388 (presenting evidence that NPE litigation imposes costs on innovation while providing few offsetting benefits); James Bessen, Jennifer Ford, & Michael J. Meurer, The Private and Social Costs of Patent Trolls, 34 RUTG. 26, 26 (Winter 2011-12) (finding NPE lawsuits are associated with billions of dollars of lost wealth); Catherine Tucker, Patent Trolls and Technology Diffusion 2 (March 26, 2013), archived at http://perma.cc/65KT-VDEP (exploring empirically how NPE lawsuits have affected the market for medical imaging technology).
indirect measures to estimate the costs of NPE suits. Catherine Tucker examined the case in which Acacia, a large patent-assertion entity, acquired two previously unlicensed patents and then sued multiple companies which manufactured and sold medical imaging storage technology. Tucker found that sales of the products covered by the patents in suit declined during litigation whereas sales of the defendants' other products did not, demonstrating a measurable negative cost impact on the defendants outside of the direct results of the litigation. In a much larger study using an indirect measure of costs, James Bessen and his colleagues estimated costs of NPE litigation to publicly traded companies based on changes in the share prices of companies that were parties to patent suits. They estimated an average annual cost of $80 billion for the four-year period ending in 2010.

In the most recent study of NPE assertion costs available, Bessen and his colleagues measured the direct costs of patent suits to defendants, in a degree of detail not previously achieved. The study included small and privately held firms, and using a proprietary database of NPE patent litigation, developed information about patent licensing fees and other costs where assertions did not progress to trial. The authors estimated the direct costs of NPE assertions to the sample of companies studied to be $29 billion in 2011 alone, compared to research and development expenditures for the same group of $247 billion. This study has garnered the attention of the Obama administration and members of Congress, who cite it as evidence of the need for patent reform. Critics

---

49Bessen et al., supra note 48, at 26; Tucker, supra note 48, at 2.
50Tucker, supra note 48, at 3.
51Id. at 21.
52Many of the defendants incurred direct costs as well; they paid licensing fees to Acacia rather than proceeding to trial. Id. at 10-11, 14.
53Bessen et al., supra note 48, at 26.
54Id.
55Bessen & Meurer, supra note 19, at 389.
56Id. at 395. The database owner, RPX, is a defensive patent aggregator firm. Hagiu & Yoffie, supra note 30, at 56.
57See Bessen & Meurer, supra note 19, at 389 (noting that licensing agreements and settlements are often secret).
58Id. at 422 ("This figure does not include indirect costs to the defendants' businesses such as diversion of resources, delays in new products, and loss of market share.").
of the study point out that it may suffer from selection bias and other validity problems\textsuperscript{61} and that the data for the study were obtained from a firm with ties to the patent defense bar.\textsuperscript{62} Though there is a shortage of empirical evidence,\textsuperscript{60} the available data, however limited, suggest that the costs of NPE assertions are substantial and growing rapidly.\textsuperscript{64}

B. NPE Lawsuits Have Affected Various Industry Sectors Disproportionately

The telecommunications, computer technology, and software industries appear prominently in most analyses of the patent assertion issue.\textsuperscript{65} Recently published empirical studies of patent suits brought by NPEs identify telecommunications, computer technology, and software as the patent subject matter most often in controversy.\textsuperscript{66} In addressing the question of an increase in the incidence of suits and whether the increase affects all industry segments, it is important to recognize the increasing number of patents in these industry segments.

\textsuperscript{61}Schwartz & Kesan, supra note 6, at 433-34 (noting among other things that the Bessen & Meurer estimate is based on a small sample).
\textsuperscript{62}That firm is RPX, a for-profit, publicly traded firm since May 2011. Hagiu & Yoffie, supra note 30, at 56. Aside from access to data, the study was not directly supported by commercial patent defense interests. See Bessen & Meurer, supra note 19, at 414-15 ("We have not received any compensation from RPX or any other source to carry out this research."). Representatives of the NPE plaintiff's bar disparage the data. See, e.g., Tony Dutra, GAO's Report on NPE Litigation Late and BNA Webinar Panelists Show Why Issue Difficult, 85 PAT. TRADEMARK & COPYRIGHT J. (BNA) 855, 876 (Apr. 12, 2013) ("[Rembrandt's Chairman], noting that RPX has never released the underlying data behind that survey, called that figure 'scientific fraud.'").
\textsuperscript{63}See Schwartz & Kesan, supra note 6, at 427 ("We believe that data is critical to evaluating broad trends in patent litigation and patent-related behavior. Yet there is little hard data, and much of the data that exists is mixed or inconclusive. A much more thorough empirical analysis of the issue is needed.").
\textsuperscript{64}See Bessen & Meurer, supra note 19, at 412 ("We have not read anyone who seriously disputes that NPE patent litigation has exploded."); Jeruss et al., supra note 21, at 380 (noting recent increases in NPE suits filed); see also EXEC. OFFICE OF THE PRESIDENT, supra note 59, at 9; Bessen & Meurer, supra note 19, at 420-21; Garretson, supra note 6, at 66.
\textsuperscript{65}See Bessen & Meurer, supra note 19, at 413 ("We have not read anyone who seriously disputes that NPE litigation is concentrated in business method, software, and computer technologies . . . ."); Garretson, supra note 6, at 66 (computing and software industries); Love, supra note 32, at 1342-43 (computer, electronics, software, and other high-technology); Malani & Masur, supra note 26, at 680-81 (certain technical fields, excluding industries such as pharmaceuticals, machinery, and optics).
\textsuperscript{66}See Love, supra note 32, at 1343-45 (noting high-tech patents make up an outsized percentage of patent claims); Michael Risch, Patent Troll Myths, 42 SETON HALL L. REV. 457, 477-78 (2012) ("40% of the NPE patents are high technology . . . ."); USGAO, supra note 14, at 22 (noting the high percentage of software-related patent suits).
The rate of issuance of patents in these fields has exploded: the annual number of patents granted by the USPTO in the telecommunications segment has risen from 7,865 in 1999 to 26,391 in 2012; the total number of such patents granted in that period was 215,384. By contrast, the total number of chemical classes patents granted—750,398—was greater than the previous two segments combined, but the rate of growth in chemical classes was minimal in comparison: 43,071 patents were granted in 1999 and 49,325 in 2012. By these measures, patent issuance in the telecommunications and computer area has increased three-to-four-fold since 1999, whereas issuance of chemical patents has scarcely changed.

Patents asserted by NPEs are disproportionately concentrated in the areas of information technology, telecommunications, and software. Several authors have recently published analyses of patent litigation, which highlight this subject-matter concentration. Brian Love conducted an empirical analysis of the relative ages of patents litigated by practicing and non-practicing entities. Love found that NPEs "overwhelmingly assert high-tech patents." Specifically, Love found that "about 65% of NPE-asserted patents cover computer- or electronics-related inventions, and almost 40% cover the narrower category of software-related inventions," whereas the comparable figures for non-

---

69 U.S. PATENT & TRADEMARK OFFICE, CHEMICAL CLASSES (12-31-2012, rev 1), tbl. A1-1a, archived at http://perma.cc/A8NZ-F88A (last modified July 3, 2013). In fact, there is not even a clear growth trend for chemical patents in the relevant period like there is for telecommunications and data processing, electrical computer, digital processing, information security, and error/fault handling systems. See supra notes 67-68 and accompanying text.
70 See U.S. PATENT & TRADEMARK OFFICE, supra note 67; U.S. PATENT & TRADEMARK OFFICE, supra note 68.
71 See, e.g., Garretson, supra note 6, at 66.
73 Love, supra note 32, at 1321.
74 Id. at 1313.
NPE (or "product company") assertions were 40% and 25%, respectively.\textsuperscript{75} When expressed in terms of the number of suits or assertions brought, the data were even more striking: "The share of high-tech litigation by product companies is roughly the same whether measured by patent, by suit, or by assertion. However, for NPEs, high-tech litigation accounts for a substantially higher 82% of suits and 80% of assertions."\textsuperscript{76} Other research corroborates this finding, in the sense that NPEs often sue repeatedly on the same patent, creating multiple suits or assertions on a per-patent basis.\textsuperscript{77}

John Allison and his colleagues conducted a study of the frequency of litigation of individual patents.\textsuperscript{78} Using the Stanford IP Litigation Clearinghouse database,\textsuperscript{79} the authors "identified every patent that has been litigated eight or more times between 2000 and 2007" and compared them to a randomly selected control group of patents that had been litigated only once.\textsuperscript{80} The patents were classified with respect to technology area, relevant industry, and the type of plaintiff asserting the patent, in order to measure the association between frequent litigation and these factors.\textsuperscript{81} The authors' findings relevant to this Note are as follows: (1) the most-litigated patents by technology area are software patents;\textsuperscript{82} (2) the most-litigated patents by industry area are computer and communications-related (information technology) patents;\textsuperscript{83} and (3) "more than 80% of the most-litigated-patent suits are filed by NPEs."\textsuperscript{84}

Sannu Shrestha published an analysis of NPE litigation data, also relying on the Stanford IP Litigation Clearinghouse database.\textsuperscript{85} The

\textsuperscript{75} Id. at 1342.
\textsuperscript{76} Love, supra note 32, at 1342-43. Product-company actions brought over software infringement ranged from approximately 22% to 26% whether measured by patent, by suit, or by assertion; comparable product-company figures for high-technology infringement averaged about 16% of actions. Id. at 1344.
\textsuperscript{77} See Allison et al., supra note 72, at 26 ("Nonpracticing entities are a small share of once-litigated patents, but they thus represent an overwhelming share of the suits filed on the most-litigated patents.").
\textsuperscript{78} Id. at 3.
\textsuperscript{80} Allison et al., supra note 72, at 5.
\textsuperscript{81} Id. at 5-6.
\textsuperscript{82} Software patents represented 72% of the frequently-litigated patent set; by contrast, biotechnology and chemistry patents made up 19% of the frequently-litigated set and 18% of the once-litigated set. Id. at 18.
\textsuperscript{83} Id. at 18-19.
\textsuperscript{84} Allison et al., supra note 72, at 26.
\textsuperscript{85} Shrestha, supra note 25, at 144.
The definition of NPE used for this study was narrower than that employed by Allison’s study and therefore probably identified fewer NPEs. The data set encompassed 287 patents owned by 51 NPEs, most of which were granted in the 1990s. Despite these limitations, Shrestha’s findings largely anticipated those of the Allison and Love studies: “Most of the NPE patents are in high technology areas such as consumer electronics, computing, and telecommunications.”

The pharmaceutical industry, it is now routinely asserted, does not incur the NPE assertions now suffered by the technology industries. The three empirical studies of NPE litigation cited above support this argument. In Love’s study of patent litigation timing, out of 421 patents examined, no patents on pharmaceuticals or biotechnology were asserted by NPEs. Allison’s study found that biotechnology was only negligibly present among frequently litigated patents. Shrestha’s study does not

---

**Footnotes:**

86 Shrestha used a keyword search in Lexis to locate references to the firms in news media identified the NPEs for the analysis. Shrestha, supra note 25, at 159 (“The fifty-one firms . . . do not comprise the universe of NPEs, but rather represent the more famous and controversial firms which have borne the brunt of the criticism for troll-like behavior.”).

87 Allison employed twelve categories: Of the twelve entity classes, only one . . . involves enforcement by a patent owner that actually makes products. The remainder are different types of "nonpracticing entities" . . . . Rather than take a position on what, if any, nonpracticing entities should be considered "trolls," we classify each patent owner and let the reader decide. Allison et al., supra note 72, at 11 (footnotes omitted). As a result, Shrestha’s method likely identified far fewer entities as NPEs.

88 The study may also have identified relatively fewer NPEs and assertions than the other studies because of its timing; NPE assertions have increased sharply in number since 2008. Compare Allison et al., supra note 72, at 5, 22 tbl. 6, 23-24, and Love, supra note 32, at 1344 tbl. 8, with Shrestha, supra note 25, at 145. See also Jeruss et al., supra note 21, at 361 (“Specifically, lawsuits filed by monetizers increased from 22% of the cases filed five years ago to almost 40% of the cases filed in the most recent year.”).

89 Shrestha, supra note 25, at 145.

90 See, e.g., Engey Elrefaie, Injunctive Relief Post eBay and the Various Applications of the Four-Factor Test in Differing Technological Industries, 2 HASTINGS SCI. & TECH. L.J. 219, 240 (2010) (referring to how the needs of the biotechnology and software industries differ); Malani & Masur, supra note 26, at 679 (“One could consider awarding enhanced rewards only to victorious patent plaintiffs who hold patents in industries and technical fields that do not involve significant activity by trolls: pharmaceutical drugs, biotechnology, medical devices, chemicals, optics, machinery, and the like.”); Andrew Moody, Comment, Patently Obvious: A Dual Standard Solution to the Diverging Needs of the Information Technology and Pharmaceutical Patent Industries, 39 GOLDEN GATE U.L. REV. 71, 83 (2008) ("[B]ig pharmaceutical companies are primarily plaintiffs in infringement lawsuits . . . .").

91 See supra note 72 and accompanying text.

92 Love, supra note 32, at 1321, 1347.

93 See Allison et al., supra note 72, at 18-19 (showing that biotechnology patents make up only 1% of the most-litigated patents).
even separately identify pharmaceutical or biotechnology patents as present in the NPE litigation group. It is suggested that the nature of pharmaceutical research and products are so distinctly different from those in information technology that NPEs would have great difficulty profitably asserting pharmaceutical patents. Moreover, it appears that the pharmaceutical industry, unlike the communications technology and software industries, remains largely opposed to reform efforts.

---

94 See Shrestha, supra note 25, at 151. In summarizing NPE-litigated patents by technical class, approximately 32% of the patents studied are labeled "Other" and not identified with any more detail. Id. Presumably, any pharmaceutical or biotechnology patents encountered were included in this group, which was considerably smaller than the group of high-technology patents litigated by the NPEs. See id.

95 See Malani & Masur, supra note 26, at 680-81: However, it is extremely difficult—if not impossible—for patent trolls to take up residence within another industry or technical field. The reason has nothing to do with the expertise within those firms or the types of patents owned by trolls. If those were the barriers, trolls could simply hire experts in other technical areas and purchase other patents. Rather, some industries are simply more conducive to predatory patent behavior than others. The reason appears to be that it is easier in some fields than others to specify an invention for purposes of a patent. In the pharmaceutical and chemical industries, for instance, a patentee can specify a drug or chemical with a great deal of precision by describing the molecule involved. Any given invention is usually covered by only a small number of significant patents—hence the principle "one molecule covers one drug." Consequently, old patents can rarely be reinterpreted in broad fashion to cover new inventions. The opportunities for trolls are greatly limited. It is for this reason that these industries—and others, such as machinery and optics—are not generally thought to have many trolls currently operating. If trolls could gain a foothold litigating in these fields, they would already have done so; there is no reason for them to have artificially confined their activity to certain industries. The relative absence of troll-like behavior is therefore best understood as a function of the way in which patents interact with and describe the relevant technology. See also Moody, supra note 90, at 92-93 ("[T]he pharmaceutical industry has little to fear from 'patent trolls' because the high costs of research and development and low quantity of patents in the field make trolling behavior significantly less profitable.").

96 See Love, supra note 32, at 1314 ("On the issue of patent reform, a civil war of sorts divides the technology community."). In the debate leading up to the passage of the America Invents Act, the "patent troll" issue was already in play and various reforms targeting it were proposed and supported by the information technology industry. See Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (passed on September 16, 2011); Robert Greene Sterne et al., Patent Office Litigation § 1:17 (2014), available at WestlawNext 1 Patent Office Litigation § 1:17. Greene described the debate as follows: The pro-change forces were centered in Silicon Valley with large electronic companies and emerging information technology companies, and in New York with large financial institutions on Wall Street, in coalition with "public domain" advocates from the computer programming community. Through an effective and well-funded effort, they were able to achieve substantial changes
C. What Are the Proposed Reforms?

Multiple bills directed at patent reform have been introduced and are currently being considered in Congress. The following is intended to summarize the elements of the various proposals and relate each element to a corresponding NPE-related problem.

1. The Patent Quality Improvement Act of 2013, Senate Bill 866

Senate Bill 866 was introduced on May 6, 2013, by Sen. Charles Schumer of New York. The bill would do the following:

a. extend the America Invents Act’s covered business method challenge option beyond financial methods to any management patent;

b. eliminate the eight year sunset provision of the AIA.

2. The Patent Abuse Reduction Act of 2013, Senate Bill 1013

Senate Bill 1013 was introduced on May 22, 2013 by Sen. John Cornyn of Texas. The bill would do the following:

both in the courts and through the AIA.

On the other hand, many others were and continued to be opposed to many of the AIA’s changes to U.S. patent law. In particular, there are the biotechnology and brand name pharmaceutical enterprises that need strong patent protection for their business model and are less impacted by NPE litigation because they have less of a "stacking patent" situation.

Id.; see also Tom Abate, Bush Staff, Tech Titans Split Over Patent Bill, SFGATE, (Feb. 5, 2008, 4:00 AM), archived at http://perma.cc/MX7K-C4GD ("Biotech industry leaders feel particularly threatened by proposed changes [in the Patent Reform Act].").


See S. 866; Dutra, Schumer Seeks, supra note 60, at 71.

See S. 866 § 2; see also Dutra, Schumer Seeks, supra note 60, at 71 ("[S. 866] makes changes to the ‘covered business method’ transitional program created by the America Invents Act that would appear to apply to any patent on administration or management . . . .").

See S. 866 § 2; see also Dutra, Schumer Seeks, supra note 60, at 71 ("The bill further does away with a sunset provision—the [covered business method] transitional program is scheduled to end in eight years.").
a. define detailed pleading requirements for patent infringement complaints, require the revision of Form 18, and require the identification of parties in interest to the patent in suit;\textsuperscript{102}

b. define the limits and sequence of the discovery process in civil actions involving patents, and provide for shifting of the costs of discovery;\textsuperscript{103} and

c. provide for "loser pays" fee and cost-shifting.\textsuperscript{104}

3. The Saving High-Tech Innovators from Egregious Legal Disputes (SHIELD) Act of 2013, House Bill 845

The SHIELD Act was reintroduced on Feb. 27, 2013, by Reps. Peter A. DeFazio of Oregon and Jason E. Chaffetz of Utah.\textsuperscript{105} The bill would do the following:

a. create a "loser pays" cost- and fee-shifting provision for civil disputes involving patents, in which a defendant could assert that the plaintiff is a "patent troll" and receive fees and costs if prevailing;\textsuperscript{106} and

b. identify specific conditions under which the "patent troll" designation and fee-shifting could not apply.\textsuperscript{107}

\textsuperscript{102}See S. 1013 § 2; see also Dutra, Newest Anti-Troll Bill, supra note 101, at 230.

\textsuperscript{103}See S. 1013 § 4; see also Dutra, Newest Anti-Troll Bill, supra note 101, at 230.

\textsuperscript{104}See S. 1013 § 5; see also Dutra, Newest Anti-Troll Bill, supra note 101, at 230.

\textsuperscript{105}See Saving High-Tech Innovators from Egregious Legal Disputes Act of 2013, H.R. 845, 113th Cong. (2013); see also Tony Dutra, Broadened, Detailed Shield Act Enforcing 'Loser Pays' on Patent Trolls Reintroduced, 85 PAT., TRADEMARK & COPYRIGHT J. (BNA) 572, 573 (Mar. 1, 2013) [hereinafter Dutra, Shield Act]. The previous bill (H.R. 6245) was limited to patents covering computer hardware or software and made no attempt to define patent trolls, whereas the SHIELD Act does not limit the type of patent and defines "patent trolls" by exclusion. See id.

\textsuperscript{106}See H.R. 845 § 2; see also Dutra, Shield Act, supra note 105, at 573.

\textsuperscript{107}See H.R. 845 § 2(d); see also Dutra, Shield Act, supra note 105, at 573 (noting three exceptions to the patent troll label).
4. The End Anonymous Patents Act, House Bill 2024

House Bill 2024 was introduced on May 16, 2013 by Rep. Theodore E. Deutch of Florida.\textsuperscript{108} The bill would require patentees to disclose the real parties in interest to patent rights when the following events occur:

\begin{itemize}
  \item[a.] the patent is issued;
  \item[b.] maintenance fees are paid; and
  \item[c.] transfers of ownership occur.\textsuperscript{109}
\end{itemize}

5. The Innovation Act, House Bill 3309

House Bill 3309, which was introduced on October 23, 2013 by Rep. Robert W. Goodlatte of Virginia and five co-sponsors, consolidates provisions from six other bills previously introduced.\textsuperscript{110} The bill would do the following:

\begin{itemize}
  \item[a.] mandate a list of detailed elements required for pleading civil cases involving patents,\textsuperscript{111} thereby incorporating some aspects of the Patent Abuse Reduction Act;\textsuperscript{112}
  \item[b.] provide for shifting of costs and attorney's fees to the non-prevailing party ("loser pays"),\textsuperscript{113} incorporating aspects of both the Patent Abuse Reduction Act and the SHIELD Act.\textsuperscript{114}
\end{itemize}


\textsuperscript{110} Dutra, \textit{Goodlatte Introduces}, supra note 33, at 1275.

\textsuperscript{111} Innovation Act, H.R. 3309, 113th Cong. § 3 (2013); Dutra, \textit{Goodlatte Introduces}, supra note 33, at 1275-76.


\textsuperscript{113} See H.R. 3309 § 3; Dutra, \textit{Goodlatte Introduces}, supra note 33, at 1276.

\textsuperscript{114} See S. 1013 § 5 (indicating that the costs and expenses will be shifted to the non-prevailing party unless certain conditions are met); Saving High-Tech Innovators from Egregious Legal Disputes Act of 2013, H.R. 845, 113th Cong. § 2 (2013) (stating that, absent "exceptional circumstances," recovery of litigation costs is awarded to the prevailing party).
c. provide for joinder of real parties in interest on the plaintiff side;\textsuperscript{115}

d. limit the scope and define the sequence of discovery in civil cases involving patents, subject to some judicial discretion;\textsuperscript{116}

e. direct the USPTO to update real party in interest records upon the filing of a lawsuit involving a patent,\textsuperscript{117} but not otherwise incorporate aspects of the End Anonymous Patents Act;\textsuperscript{118}

f. provide for a "customer-in-suit" exception to permit stays of litigation against customers of manufacturers accused of infringement;\textsuperscript{119} and

g. direct the Judicial Conference of the United States to implement rules and procedures for patent litigation.\textsuperscript{120}

D. What Problems Are the Proposals Intended to Correct?

Several of the current proposed reforms directly targeting abusive litigation practices were under discussion before the passage of the America Invents Act, but did not end up in the law.\textsuperscript{121} The following summarizes the principle elements of the proposed bills and links those elements to the litigation practices which they are intended to limit.

\textsuperscript{115}See H.R. 3309 § 3; Dutra, Goodlatte Introduces, supra note 33, at 1276.

\textsuperscript{116}See H.R. 3309 § 3 (stating that there are some circumstances during which there is judicial discretion regarding the scope of discovery); Dutra, Goodlatte Introduces, supra note 33, at 1276.

\textsuperscript{117}See H.R. 3309 § 4; Dutra, Goodlatte Introduces, supra note 33, at 1276.

\textsuperscript{118}See End Anonymous Patents Act, H.R. 2024, 113th Cong. § 2 (2013) (asserting that real party in interest records are required to be updated with the USPTO upon the issuance of new patents, the payment of maintenance fees, and the transfer of ownership).

\textsuperscript{119}See H.R. 3309 § 5; Dutra, Goodlatte Introduces, supra note 33, at 1276.

\textsuperscript{120}See H.R. 3309 § 6; Dutra, Goodlatte Introduces, supra note 33, at 1276.

\textsuperscript{121}See Dutra, Goodlatte Introduces, supra note 33, at 1275 ("While the AIA paved the way for higher quality patents on the front end, there were a few issues that were left on the cutting room floor during the last Congress that could help go more directly to the immediate issues surrounding abusive patent litigation . . . "). (quoting Rep. Goodlatte).
1. Pleading Requirements

Currently, district courts must evaluate complaints alleging direct infringement by reference to Form 18 of the Appendix of Forms to the Federal Rules of Civil Procedure ("Form 18"). As it relates to accused products, Form 18 only requires identification of a general category of products, for example "electric motors." It is a common complaint that NPEs draft minimal and nonspecific complaints to leverage the relatively modest requirements for pleading infringement and expose defendants to a lopsided risk of discovery costs, which defendants may pay a licensing fee in order to avoid. To counteract this problem, the proposed legislation would eliminate or force the revision of Form 18, and introduce particular and stringent requirements for pleading a civil complaint involving a patent.

---

122 See K-Tech Telecommns., Inc. v. Time Warner Cable, Inc., 714 F.3d 1277, 1283 (Fed. Cir. 2013) (describing the requirements for a direct patent infringement complaint by way of reviewing the sample provided in Form 18).

123 See FED. R. CIV. P. Form 18.

124 See Tina M. Nguyen, Lowering the Fare: Reducing the Patent Troll’s Ability to Tax the Patent System, 22 FED. CIR. B.J. 101, 114 (2012) ("When a patent troll identifies a potential defendant, it has the litigation costs in mind and will offer a license rate that is less than the cost of litigating the claim. By paying the licensing fee, the defendant [can] avoid the risks involved in litigation with less monetary expense."); see also Dutra, Goodlatte Introduces, supra note 33, at 1275-76 ("Goodlatte addressed the perceived litigation abuse of filing a complaint with minimal information so as to require the alleged infringer to incur significant discovery costs just to determine exactly which products are alleged to infringe exactly which patent claims.").

125 Particularized requirements for pleading a complaint under Section 3 of the Innovation Act include:

(1) An identification of each patent allegedly infringed.
(2) An identification of each claim of each patent identified under paragraph (1) that is allegedly infringed.
(3) For each claim identified under paragraph (2), an identification of each accused process, machine, manufacture, or composition of matter (referred to in this section as an ‘accused instrumentality’) alleged to infringe the claim.
(4) For each accused instrumentality identified under paragraph (3), an identification with particularity, if known, of—
   (A) the name or model number of each accused instrumentality; or
   (B) if there is no name or model number, a description of each accused instrumentality.
(5) For each accused instrumentality identified under paragraph (3), a clear and concise statement of—
   (A) where each element of each claim identified under paragraph (2) is found within the accused instrumentality; and
   (B) with detailed specificity, how each limitation of each claim identified
2. Discovery

The Innovation Act and the Patent Abuse Reduction Act, both provide for new procedures controlling the sequence and timing of discovery during civil trials of patent issues.**126** Discovery is a major contributor to the expense of patent litigation.**127** It is not uncommon for patent cases to turn on issues of patent claim construction, which are ordinarily resolved at a *Markman* hearing.**128** The traditional case schedule often puts considerable emphasis on discovery before the *Markman* hearing and "presents Defendants with a Hobson's choice: spend more than the settlement range on discovery, or settle for what amounts to cost of defense, regardless of whether a Defendant believes it has a legitimate defense."**129** The proposed legislation would delay discovery unrelated to claim construction, except in unusual circumstances, until after a *Markman* hearing, and grant the trial judge more discretion in limiting discovery.**130**

---

under paragraph (2) is met by the accused instrumentality.

(6) For each claim of indirect infringement, a description of the acts of the alleged indirect infringer that contribute to or are inducing the direct infringement.

(7) A description of the authority of the party alleging infringement to assert each patent identified under paragraph (1) and of the grounds for the court's jurisdiction.

(8) A clear and concise description of the principal business, if any, of the party alleging infringement.

(9) A list of each complaint filed, of which the party alleging infringement has knowledge, that asserts or asserted any of the patents identified under paragraph (1).

(10) For each patent identified under paragraph (1), whether a standard-setting body has specifically declared such patent to be essential, potentially essential, or having potential to become essential to that standard-setting body, and whether the United States Government or a foreign government has imposed specific licensing requirements with respect to such patent.

H.R. 3309 § 3.

**126**See H.R. 3309 § 3 (requiring limited discovery be performed prior to a claim construction hearing); Patent Abuse Reduction Act of 2013, S. 1013, 113th Cong. § 4 (2013).

**127**See Nguyen, *supra* note 124, at 114 ("Bringing a case through discovery alone can cost $1 million and bringing a case all the way to trial usually costs $2 million.").


**129**Parallel Networks LLC v. AEO, Inc., et al., No. 6:10-cv-00111, slip. op. at 6 (E.D. Tex. Mar. 15, 2011); *see also* Uniloc USA, Inc. v. Sony Corp. of Am., 2011 WL 1980214, at *1 (E.D. Tex. May 20, 2011) (reiterating the prevalence of the Hobson's choice).

**130**See H.R. 3309 § 3; S. 1013 § 4.
3. Fee-Shifting

The creation of "loser pays" fee-shifting in patent cases has been discussed for some time.\(^1\) When two producing enterprises engage in patent litigation, the defending party often has the opportunity to assert a counterclaim, such as invalidity of the patent or infringement of one of the defendant's patents by the plaintiff, which balances the financial risks of the two parties in the litigation.\(^2\) When an NPE sues a producing company, the risks can be lopsided, as the NPE (1) does not have production value "sunk" in the patented technology; (2) cannot be harmed by an injunction; and (3) often has minimal discovery costs relative to the defendant.\(^3\) This imbalance of financial risk allows some NPEs to obtain settlements or licensing fees on patent assertions that would likely fair poorly at trial, without risk of penalty if the defendants decline to settle and the assertions fail.\(^4\) The imposition of "loser pays" fee-shifting, as outlined in three of the proposed bills, is intended to change the balance of risks between NPE plaintiffs and defendants, thereby reducing the incidence of NPEs bringing complaints for nuisance value.\(^5\)

4. Transparency of Ownership

The End Anonymous Patents Act would require patent owners to update USPTO records of patent ownership to include any real parties in

---

\(^1\) See S. 3818, 109th Cong. § 5(b) (2006) (including language that would suggest the "loser pays" concept); see also H.R. 3309 § 3 (providing almost the exact language as S. 3818, 113th Cong. § 5(b) regarding payment of fees and litigation expenses).

\(^2\) See Philip S. Johnson, Patent Reform Legislation: An Introductory Note, SM024 ALI-ABA 47, 63 (2006) ("Patent enforcement suits brought by patent speculators appear to present special concerns for manufacturers and service providers. If one manufacturer or service provider commences litigation against another, the defendant can often counter with its own claims of patent infringement against the plaintiff.").

\(^3\) See id. ("Because patent speculators do not otherwise participate in the marketplace, however, they are immune to such counterclaims. This asymmetry in litigation positions reportedly reduces the bargaining power of manufacturers and service providers and exposes them to harassment.").

\(^4\) See Chen, supra note 128, at 358 (quoting Lemley, supra note 12, at 1517) ("[I]n nuisance suits, a patent owner files a patent infringement claim 'seeking to license even clearly bad patents for royalty payments small enough that licensees decide it is not worth going to court.'").

\(^5\) See id. at 351 ("Creating an exception to the American Rule by transferring the burden of the winning party's legal fees to the shoulders of the losing party based on the outcome of litigation will effectively deter filings of questionable merit and other abusive litigation practices which escalate the cost of defense.").
interest upon issuance, payment of maintenance fees, or transfer of ownership. Similarly, under the Innovation Act an update would be required upon filing a suit involving the patent. The problems these proposed changes target arise when potential infringers are unable to identify whether a competitor holds exclusive rights to a product or technology, or "[m]ore significantly, [when] some [NPEs] place ownership of related patents into different subsidiaries." In such a situation, 

5. Customer-In-Suit Exception

The Innovation Act also attempts to address another increasingly common NPE litigation tactic: assertions directed at the customers of manufacturers of allegedly infringing products, rather than the manufacturers themselves. The bill would first permit customers to join the manufacturer as a defendant, and second permit the courts to stay actions against customers while the action against the manufacturer proceeded.

6. Covered Business Methods

Both the Schumer Senate bill and the Innovation Act would eliminate the sunset provision currently in force for the America Invents Act's provisions for post-grant opposition to covered business methods patents. The Schumer bill goes further by expanding the definition of methods covered. Covered business method patents are often

136 "Real parties in interest" under the Act are defined as "(A) any entity that has the legal right to enforce the patent through an infringement action; (B) any ultimate parent entity of an entity described in subparagraph (A); and (C) any entity that has a controlling interest in the enforcement of the patent, including any ultimate parent entity not included under subparagraph (A) or (B)." End Anonymous Patents Act, H.R. 2024, 113th Cong. § 2 (2013)
137 Id.
139 Dutra, House Bill, supra note 108, at 177.
140 Id.
141 Id. § 5 ("Customer-Suit Exception").
142 Id.; see also Dutra, Goodlatte Introduces, supra note 33, at 1276.
143 Dutra, House Bill, supra note 108, at 177.
software-related and favored for assertion by some NPEs; the proposals would increase opportunities for accused infringers to defend against assertions by instituting post-grant challenges with the USPTO.145

IV. Evaluation

A. NPE Patent Assertion Claims Have Affected the Pharmaceutical and Information Technology Industries Differently

Patents in pharmaceuticals and biotechnology pose significantly different issues, in the context of infringement actions, from those posed by information technology patents.146 As they can be precisely described by their distinct molecular structures, pharmaceutical patents often attract a relatively small number of infringement claims.147 The investment required to produce pharmaceutical patents is often very large.148 The process of bringing pharmaceutical products to market is highly regulated.149 As a result of these factors, pharmaceutical patents tend to be highly valued throughout their lifespans, and litigation over these patents tends to take place in the setting of disputes between large manufacturing companies, often involving the process of introducing generic drugs in conformance with the Hatch-Waxman Act.150

Information technology, by contrast, may involve large numbers of claims or patents which are "stacked" together in covering a marketed product.151 The rate of development in the information technology

145See Dutra, Goodlatte Introduces, supra note 33, at 1277-78.
146See Garretson, supra note 6, at 71-72; Malani & Masur, supra note 25, at 680-81.
147See Malani & Masur, supra note 26, at 681 ("[A] patentee can specify a drug or chemical with a great deal of precision by describing the molecule involved."); Elrefaie, supra note 90, at 229 (describing how biotechnology patent infringement cases normally involve a patent with one component, as opposed to patents with multiple components common in the software industry); Moody, supra note 90, at 92 (distinguishing the pharmaceutical from the Information Technology ("IT") field).
148See Moody, supra note 90, at 88, 92 (describing costs to develop IT inventions as relatively small compared to the costs to develop pharmaceuticals).
149See Lemley, supra note 14, at 623 (characterizing the regulatory process of getting an invention to market as long and expensive).
151See U.S. GOVT ACCOUNTABILITY OFFICE, supra note 14, at 31 ("[A] typical smartphone uses from 50,000 to 250,000 patented technologies because such devices incorporate technologies from digital cameras, global positioning systems, and wireless
industry is higher, and product turnover correspondingly faster, than in the pharmaceutical industry. The investment needed to produce patented technologies in the information technology field is often less than that needed for other types of patents. Information technology is also less constrained by regulatory requirements. These factors combine to produce patents that often do not hold their value for their full lives, and are often not highly valued. There are also strong suggestions that as a class, these patents are weak in terms of their "notice" function—they can be relatively ambiguous in terms of the breadth of the right to exclude that they convey.

These distinctions underlie the observation, detailed previously, that NPE assertion activity almost never involves pharmaceutical patents. NPE patent assertion activity is largely focused in the information technology area, because the characteristics of the patents in that area make them suitable for assertion. The "stacking" of many patented technologies within a given marketed product make manufacturers of those products easy targets for "patent holdup" through the threat of injunction. The low value of many information technology patents makes them easy to acquire in quantity, and minimizes the financial risk to the owner in the event of invalidation. The low "notice" quality of these kinds of patents makes defense of

---

152 See Garretson, supra note 6, at 71-72 ("[Pharmaceutical patent litigation] is different from litigation involving software, in which a product's lifecycle in much shorter and an older patent may no longer be practiced.").

153 See Moody, supra note 90, at 88 (noting that the investment needed to develop IT patents is relatively small compared to other types of patents).

154 See id. ("[Information technology inventions] face[] little to no quality regulation."); see also Garretson, supra note 6, at 72 ("With respect to pharmaceuticals, FDA and regulatory counseling issues also occur during the case and complicate the litigation process.").

155 See Kelce Wilson, The Four Phases of Patent Usage, 40 CAP. U. L. REV. 679, 679 (2012) (describing the declining value trajectory of high-technology patents); see also Moody, supra note 90, at 88 ("[T]he cost of the average IT invention is relatively small in comparison to the costs in fields like pharmaceuticals . . . .").

156 See Bessen & Meurer, supra note 19, at 394, 418 (discussing the lack of notice that many information technology patents provide).

157 See supra Part III.B.

158 See Malani & Masur, supra note 26, at 680-81 ("[S]ome industries are simply more conducive to predatory patent behavior than others.").

159 See id. at 679-80 (citing eBay Inc. v. Mercexchange, L.L.C., 547 U.S. 388 (2006)) (discussing the holdup problem); see also STERNE ET AL., supra note 96, at §1:17 (noting that pharmaceutical and biotechnology businesses have less of a "stacking patent" problem).

160 Cf. Moody, supra note 90, at 88 (noting investment needed to develop IT patents is relatively small); Clarisa Long, Our Uniform Patent System, FED. LAW., February 2008, at 45 (emphasizing how pharmaceuticals rely on a few very valuable patents, making invalidation of any one very risky).
infringement actions costly in the context of current discovery and pleading practices.\footnote{See Bessen & Meurer, supra note 19, at 394, 417-18 (noting the patents asserted in NPE suits often do not provide much by way of notice and are very costly).} The legislative reforms previously discussed are a response to the litigation activity associated with a particular technology sector, and not the broader landscape of the entire patent law.\footnote{See supra Part II.C.}

B. Potential Unintended Effects of the Proposed Reforms on an Industry Segment which Is Not the Source of the Patent Assertion Problem

Ideally, the effects of reforms directed at problematic industry segments or practices would be confined to those areas. Experience, however, counsels that "ideal" results are rarely obtained.\footnote{See Note, supra note 14, at 2337-38 (noting the issues with the Patent Trade Office ("PTO") that prevent it from operating ideally).} The proposed reforms, if passed into law, will operate on all parties, although they may operate on some with greater force, depending on the nature of the patents they own and assert.\footnote{Cf. Moody, supra note 90, at 73 (illustrating the differences between the information technology industry, in which patents are plentiful, and the pharmaceutical industry, in which they are not).} Unexpected effects are possible: the unintended consequences for pharmaceuticals and biotechnology may arise from several directions.

Several of the proposed reforms are targeted at issues or practices which are faced rarely or not at all by the pharmaceutical industry, and are therefore unlikely to be a source of problems.\footnote{See Scott J. Bornstein & Barry J. Schindler, A Look at the Past, Present, and Future of Patent Reform, in UNDERSTANDING PATENT REFORM IMPLICATIONS 51, 61 (2009). Bornstein and Schindler's article reinforces the idea that patent troll regulation does not affect pharmaceutical companies because of how long it takes for a drug patent to be issued. Id. The long process eliminates the opportunity to attack drug patents successfully. Id.} The provisions for post-grant challenges of covered business method patents are unlikely to affect the pharmaceutical industry, because that industry is not in the habit of obtaining such patents.\footnote{See id. The data from the empirical analyses of the subject matter of NPE litigation published by Love, see supra note 32, Allison et al., see supra note 72, and Shrestha, see supra note 25, do not suggest significant overlap between CBM patents and the pharmaceutical and biotechnology industry segments.} The transparency of ownership provisions are less relevant to pharmaceuticals and biotechnology, because the high value of those types of patents and the desire of their owners for strong, lasting protection under their patent grants already
create an incentive for those owners to disclose their interests fully.\textsuperscript{167} There is no evidence readily available to suggest that suits against customers of allegedly infringing pharmaceutical manufacturers are occurring.

More stringent pleading requirements present a more nuanced question. Although direct adverse effects on the pharmaceutical industry would likely be few, judicial dissatisfaction with the “fixes” might be another matter.\textsuperscript{168} Enhanced pleading requirements are intended to limit plaintiffs' ability to bring vague complaints on the basis of patents that may turn out to have uncertain scope.\textsuperscript{169} Most pharmaceutical patents, in contrast to the information technology patents often asserted by NPEs, tend to possess strength and clear scope.\textsuperscript{170} The detailed and particularized pleading requirements envisioned by the Innovation Act might present an additional layer of drafting complexity for pleadings in pharmaceutical patent actions, but the underlying nature of these patents would likely make compliance with the requirements easy.\textsuperscript{171}

The proposed reforms with greater potential significance for the pharmaceutical and biotechnology sector are those directed to fee-shifting and discovery. The SHIELD Act proposes to make "loser pays" cost shifting the standard in patent actions, except under certain conditions.\textsuperscript{172} Pharmaceutical patents are, as a group, highly valued.\textsuperscript{173}

\textsuperscript{167}See Bornstein & Schindler, supra note 165, at 61 (discussing the pharmaceutical industry's opposition to patent-law reform).

I am afraid about some of the 'fixes' that have been proposed, and that are now pending in Congress, to address concerns regarding the way the patent system is operating and the way patent litigation functions. I am concerned that those fixes are directly intruding upon the independence of the judiciary and that you are not exercising sufficient caution when advocating for these legislative proposals; I am concerned that you are ignoring the long-term danger posed to our form of government from these "fixes."

\textsuperscript{169}See supra Part II.D.1.

\textsuperscript{170}See Moody, supra note 90, at 91-93 (stating that drug companies produce nonobvious and strong patents because drug development costs are so high and companies must protect their investments).

\textsuperscript{171}See Innovation Act, H.R. 3309, 113th Cong. § 3 (2013); see also Malani & Masur, supra note 26, at 680-81 (describing how pharmaceutical patents are relatively easy to define, as they are defined by precise molecular structures).

\textsuperscript{172}SHIELD Act of 2013, H.R. 845, 113th Cong. § 2 (2013); see supra note 107 and accompanying text.

\textsuperscript{173}See Allison et al., supra note 72, at 31 ("[T]here are unquestionably pharmaceutical patents whose value exceeds that of any patent in the IT industry.").
Litigation of these patents is complex, generating very high legal fees and costs.¹⁷⁴ Whereas the precise effects of shifting costs in this area of litigation cannot be predicted, it is virtually certain that changes in expectations about the distribution of such large sums of money will result in changed behavior.¹⁷⁵ The risk calculus involved in making a decision to take an issue to trial depends in part on the potential expense of an undesired outcome—transferring the entire cost of litigation to the loser in these cases is likely to tip the scales away from a trial of the merits and in favor of settlement. The exceptions provided by the proposed law, particularly the allowance for patent holders who can demonstrate "exploitation of the patent," may provide plaintiffs with an escape hatch, but in the process will likely require numerous court battles to arrive at a suitable construction of the meaning of the exception language.¹⁷⁶ Fee-shifting in pharmaceutical patent cases would create great uncertainty for the industry, which, understandably, has consistently opposed such a change.¹⁷⁷

Changes in discovery rules or sequencing raise some issues which are similar to those found in fee-shifting. Discovery is a principal driver of litigation expense, and delaying portions of discovery until after the Markman hearing, as proposed in the Innovation Act, favors defendants if litigation concludes without additional discovery.¹⁷⁸ Delay of discovery also risks prolonging litigation, which is particularly undesirable in the realm of pharmaceutical patents.¹⁷⁹ The Innovation Act explicitly acknowledges this problem, as it includes an optional exception to discovery delays in the case of litigation under the Hatch-

¹⁷⁴ See Bessen & Meurer, supra note 19, at 399-400 (presenting data on litigation costs).
¹⁷⁶ See H.R. 845 § 2(d); see also Dutra, Shield Act, supra note 105, at 573: The patent owner can escape the label if it meets one of three conditions: [1] It was an original inventor or original assignee of the patent; [2] It has made a "substantial investment . . . in the exploitation of the patent through production or sale of an item covered by the patent"; and [3] It is a university or technology transfer organization.
¹⁷⁷ Bornstein & Schindler, supra note 165, at 61.
¹⁷⁹ See supra note 152 and accompanying text.
The presence of the exception language confirms the damaging potential of the reform, and further, by its discretionary nature, would open the door to additional dispute through the appellate process. Dictation of the scope and sequence of discovery by Congress would not only incense the judiciary, it would likely disrupt the settled expectations of parties to litigation under the Hatch-Waxman Act.

V. CONCLUSION

Costly NPE litigation has expanded significantly, and Congress is considering reforms to target practices in the context of this litigation which many consider abusive. NPE litigation disproportionately affects the information technology industry, which has seen dramatic growth over the last decade in the number of patents granted. The pharmaceutical and biotechnology industries have until now been largely spared by NPEs. The proposed reforms contain several provisions which are either irrelevant to the pharmaceutical sector, or in the cases of transparency of ownership and heightened pleading requirements, appear to be innocuous. On the other hand, proposals to create "loser pays" fee shifting and to dictate new rules for the scope and timing of

---

180See Innovation Act, H.R. 3309, 113th Cong. § 3 (2013):
(b) DISCRETION TO EXPAND SCOPE OF DISCOVERY.—(1) TIMELY RESOLUTION OF ACTIONS.—If, under any provision of Federal law (including the amendments made by the Drug Price Competition and Patent Term Restoration Act of 1984 (Public Law 98-417)), resolution within a specified period of time of a civil action arising under any Act of Congress relating to patents will necessarily affect the rights of a party with respect to the patent, the court may permit discovery, in addition to the discovery authorized under subsection (a), before the ruling described in subsection (a) is issued as necessary to ensure timely resolution of the action.

181See Michael Rosen, A Closer Look at Patent Troll Legislation: Limits on Discovery, TECH POLICY DAILY (Dec. 16, 2013, 6:00 AM) (discussing the potentially harmful delay from the new discovery rules), archived at http://perma.cc/MTM7-DCDX; see also supra notes 126-30 and accompanying text.

182See O'Malley, supra note 168, at 10:
Discovery burdens - if you are concerned about discovery abuses and burdens, do not propose that Congress eliminate discovery before Markman hearings. Anyone who has ever tried cases or presided over a Markman hearing knows that, in most cases, discovery is extraordinarily useful to the claim construction process. Those proposals are silly.


184See supra Part II.A.

185Bornstein & Schindler, supra note 165, at 61.

186See supra Part IV.
discovery have the potential to disrupt and to alter significantly the course of patent litigation relating to pharmaceuticals.\textsuperscript{187}

\textit{Thomas H. Kramer}

\textsuperscript{187} \textit{See supra} Part II.D.3.