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Quick Decisions in Patent Cases

PAUL R. GUGLIUZZA*

Patent litigation is notoriously expensive and time consuming. In the past decade, however, patent law has changed in many ways that expedite resolution of infringement disputes. This Article identifies and evaluates this trend toward quick decisions in patent cases. Balancing the savings in litigation costs against the potential for error, the Article defends many recent and controversial developments, including the Supreme Court's invigoration of the patent eligible subject matter requirement, the new administrative proceedings created by the America Invents Act, and changes in the requirements for pleading patent infringement. These developments permit defendants to obtain rulings of invalidity or noninfringement before discovery begins, which was previously impossible. Prediscovery rulings cost relatively little and can discourage low-merit litigation. But resolving complex questions of validity or infringement on a thin factual record may increase the risk of error, so the Article suggests additional reforms to help ensure that quick decisions are also accurate decisions.

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* Associate Professor, Boston University School of Law. © 2018, Paul R. Gugliuzza. For comments and helpful discussions, thanks to Jonas Anderson, Jack Beermann, Jeremy Bock, Bob Bone, Kris Collins, Stacey Dogan, Rochelle Dreyfuss, John Duffy, Becky Eisenberg, Wendy Gordon, Mike Harper, Tim Holbrook, Keith Hylton, Rebecca Ingber, Dmitry Karshedt, Megan La Belle, Gary Lawson, Mark Lemley, Mike Madison, Naomi Mann, Dustin Marlan, Mike Meurer, Andrew Michaels, Fran Miller, Joe Miller, Tejas Narechania, Jonathan Nash, Sean Pager, Laura Pedraza-Fariña, Arti Rai, Jason Rantanen, Rachel Rebouché, Greg Reilly, David Schwartz, Andy Sellars, David Taylor, David Walker, Melissa Wasserman, and the editors of *The Georgetown Law Journal*. Thanks also to participants at the Intellectual Property Scholars Conference at Stanford Law School, the Works-in-Progress Intellectual Property Colloquium at Boston University School of Law, the Junior Scholars in Intellectual Property Workshop at Michigan State University College of Law, the Junior Intellectual Property Scholars Association Workshop at the University of New Hampshire School of Law, a faculty workshop at Boston University School of Law, a symposium on the PTO and the courts organized by the *Boston University Journal of Science and Technology Law*, and discussion groups on civil procedure and intellectual property law at the Southeastern Association of Law Schools Annual Meeting. Finally, thanks to Kris Hansen for valuable research assistance.

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INTRODUCTION

In the past decade, the U.S. patent system has been transformed. Before Congress passed the America Invents Act (AIA) in 2011, the validity of issued patents was decided almost exclusively in litigation in the federal courts. Although the Patent and Trademark Office (PTO) offered proceedings to reexamine a patent's validity, those proceedings were not terribly popular, and they rarely ended in a decision of invalidity.¹ Thanks to procedures created by the AIA, however, the number of filings at the PTO has doubled in the past few years, increasing from about a thousand per year as recently as 2010 to about two thousand per year today.² Although there are many ways to parse the data,

1. See generally Paul R. Gugliuzza, *(In)valid Patents*, 92 NOTRE DAME L. REV. 271, 279–85 (2016) (providing an overview of post-issuance proceedings at the PTO).

2. See U.S. PATENT & TRADEMARK OFFICE, EX PARTE REEXAMINATION FILING DATA 1 (Sept. 30, 2016), https://www.uspto.gov/sites/default/files/documents/ex_parte_historical_stats_roll_up.pdf [<https://perma.cc/5Z7T-XAV9>] [hereinafter EX PARTE REEXAMINATION FILING DATA]; U.S. PATENT & TRADEMARK OFFICE, INTER PARTES REEXAMINATION FILING DATA 1 (Sept. 30, 2016), https://www.uspto.gov/sites/default/files/documents/inter_parte_historical_stats_roll_up.pdf [<https://perma.cc/6KSL-K7PY>] [hereinafter INTER PARTES REEXAMINATION FILING DATA]; U.S. PATENT & TRADEMARK OFFICE, PATENT TRIAL & APPEAL BD., TRIAL

the new proceedings are perceived to invalidate patents much more frequently than those in place before the AIA.³

The Supreme Court has changed patent law, too. Less than a decade ago, the patentable subject matter requirement of section 101 of the Patent Act was an afterthought, with the Court having suggested that “anything under the sun that is made by man” is eligible for patenting.⁴ In four decisions in the past seven years, however, the Court has invigorated the eligibility requirement, using it to invalidate patents on computer software,⁵ medical diagnostics,⁶ human gene sequences,⁷ and financial risk management techniques.⁸

Other changes in patent law abound. To mention just a few: The Supreme Court has made it easier to invalidate a patent as obvious⁹ or indefinite,¹⁰ increased courts’ discretion to award attorneys’ fees to the prevailing party,¹¹ and reworked the law of induced infringement.¹² Congress adopted several other reforms in the AIA, including changing the rules for determining priority among competing patent applicants¹³ and limiting patentees’ ability to join multiple defendants in a single lawsuit.¹⁴ In addition, amendments to the Federal Rules of Civil Procedure have heightened the pleading requirements in patent infringement cases.¹⁵ Finally, for the past decade, patent litigation had been increasingly centralizing in a small number of judicial districts, most notably in the Eastern District of Texas,¹⁶ although a recent Supreme Court decision will likely reduce the concentration of cases by limiting plaintiffs’

STATISTICS: IPR, PGR, CBM 5 (Sept. 2017), https://www.uspto.gov/sites/default/files/documents/Trial_Stats_2017-09-30.pdf [<https://perma.cc/NY75-5P56>] [hereinafter PTAB TRIAL STATISTICS].

3. For a detailed discussion of invalidity rates in both the new and old proceedings, see *infra* Section I.B.

4. *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980).

5. *Alice Corp. v. CLS Bank Int’l*, 134 S. Ct. 2347 (2014).

6. *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66 (2012).

7. *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107 (2013).

8. *Bilski v. Kappos*, 561 U.S. 593 (2010).

9. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007).

10. *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120 (2014).

11. *Octane Fitness, LLC v. ICON Health & Fitness, Inc.*, 134 S. Ct. 1749 (2014); *Highmark Inc. v. Allcare Health Mgmt. Sys., Inc.*, 134 S. Ct. 1744 (2014).

12. See Timothy R. Holbrook, *The Supreme Court’s Quiet Revolution in Induced Patent Infringement*, 91 NOTRE DAME L. REV. 1007, 1025 (2016) (concluding that “[t]he net impact of” four recent decisions on induced infringement “generally favors patent holders, making it easier for them to demonstrate liability”). For an analysis questioning whether the Supreme Court’s recent changes to patent doctrine have significantly affected lower courts’ decision making and the behavior of participants in the patent system, see generally Paul R. Gugliuzza, *How Much Has the Supreme Court Changed Patent Law?*, 16 CHI.-KENT J. INTELL. PROP. 330 (2017).

13. *America Invents Act*, Pub. L. No. 112-29, § 3(b), 125 Stat. 284, 285–86 (2011).

14. *Id.* § 19(d)(1), 125 Stat. at 332–33.

15. See COMM. ON RULES OF PRACTICE & PROCEDURE TO THE JUDICIAL CONFERENCE OF THE U.S., PROPOSED AMENDMENTS TO THE FEDERAL RULES OF CIVIL PROCEDURE 28 (Apr. 29, 2015), [http://www.supremecourt.gov/orders/courtorders/frcv15\(update\)_1823.pdf](http://www.supremecourt.gov/orders/courtorders/frcv15(update)_1823.pdf) [<https://perma.cc/CL84-M7TC>]; see also *infra* Section III.A.3 (discussing these amendments in more detail).

16. Brian Howard, *2015 End-of-Year Trends*, LEX MACHINA (Jan. 7, 2016), <https://lexmachina.com/lexmachina-2015-end-of-year-trends> [<https://perma.cc/DN75-F7SP>].

venue options in infringement suits.¹⁷

These changes have been controversial. The former chief judge of the Federal Circuit famously complained that the Patent and Trial Appeal Board (PTAB) judges conducting the new AIA proceedings are “acting as death squads, killing [patent] rights.”¹⁸ Many observers, including a past director of the PTO and another former chief judge of the Federal Circuit, have asserted that the eligibility requirement is threatening innovation by curbing the availability of patents.¹⁹ Influential interest groups have begun to lobby Congress to amend the Patent Act to weaken the eligibility requirement.²⁰ And, as this Article went to press, the Supreme Court was considering a case that could declare the AIA’s regime of administrative patent review to be unconstitutional,²¹ which would be a victory for those who perceive patent rights to be under assault.

It is not only patent applicants and owners who are unhappy with the current state of the patent system. Companies that are frequently defendants in patent litigation are deeply concerned about the emergence of “patent trolls”—entities that make money not by selling products but by enforcing patents.²² Patent trolls provided a key impetus for the AIA²³ and have led firms frequently accused of infringement to seek significant procedural changes to patent litigation, including heightened pleading requirements, cost-shifting in discovery, and mandatory awards of attorneys’ fees.²⁴ Those frequent defendants were also leading voices urging the Supreme Court, in its recent venue decision, to restrict

17. See *TC Heartland LLC v. Kraft Foods Grp. Brands LLC*, 137 S. Ct. 1514 (2017). See generally Paul R. Gugliuzza & Megan M. La Belle, *The Patently Unexceptional Venue Statute*, 66 AM. U. L. REV. 1027 (2017) (providing an overview of patent venue law and the *TC Heartland* case).

18. Tony Dutra, *Rader Regrets CLS Bank Impasse, Comments on Latest Patent Reform Bill*, PAT., TRADEMARK & COPYRIGHT L. DAILY (BNA) (Oct. 29, 2013), <http://www.bna.com/rader-regrets-cls-n17179879684> [<https://perma.cc/EKF7-4GXH>]. But see U.S. PATENT & TRADEMARK OFFICE, TRANSCRIPT OF PATENT PUBLIC ADVISORY COMMITTEE MEETING 129 (Aug. 14, 2014), https://www.uspto.gov/sites/default/files/documents/ppac_transcript_20140814.pdf [<https://perma.cc/XTV7-7R6Q>] (remarks of James Smith, chief judge of the PTAB: “If we weren’t in part doing some ‘death squadding,’ we wouldn’t be doing what the statute calls us to do.”); Rochelle Cooper Dreyfuss, *Giving the Federal Circuit a Run for Its Money: Challenging Patents in the PTAB*, 91 NOTRE DAME L. REV. 235, 251–57 (2015) (refuting the “death squad” claim and arguing that “many [challenged] claims deserve to die”).

19. Paul R. Michel, *The Supreme Court Saps Patent Certainty*, 82 GEO. WASH. L. REV. 1751, 1752–54 (2014); Ryan Davis, *Kappos Calls for Abolition of Section 101 of Patent Act*, LAW360 (Apr. 12, 2016), <http://www.law360.com/ip/articles/783604> [<https://perma.cc/6L5H-GYLG>].

20. See Dennis Crouch, *AIPLA On Board with Statutory Reform of 101*, PATENTLYO (May 16, 2017), <https://patentlyo.com/patent/2017/05/aipla-statutory-reform.html> [<https://perma.cc/WHK3-H59K>] (discussing amendments proposed by the American Intellectual Property Law Association and the Intellectual Property Owners Association).

21. *Oil States Energy Servs., LLC v. Greene’s Energy Grp., LLC*, 639 F. App’x 639 (Fed. Cir. 2016), cert. granted, 137 S. Ct. 2239 (2017) (considering whether the AIA’s inter partes review proceeding violates either Article III or the Seventh Amendment).

22. See Paul R. Gugliuzza, *Patent Trolls and Preemption*, 101 VA. L. REV. 1579, 1581 (2015).

23. See BRIAN T. YEH, CONG. RESEARCH SERV., AN OVERVIEW OF THE “PATENT TROLLS” DEBATE 1 (Apr. 16, 2013), <https://fas.org/sgp/crs/misc/R42668.pdf> [<https://perma.cc/N2QR-KVHN>].

24. For an overview of recent legislative proposals, see Paul R. Gugliuzza, *Patent Litigation Reform: The Courts, Congress, and the Federal Rules of Civil Procedure*, 95 B.U. L. REV. 279, 283–87 (2015).

plaintiffs' ability to file suit in the patentee-friendly Eastern District of Texas.²⁵

Countless scholarly articles have examined patent law's many recent changes in isolation.²⁶ This Article, by contrast, takes a holistic approach, identifying many of those changes as part of a trend toward quick decisions in disputes over patent infringement. The PTO's new proceedings were, of course, explicitly designed to have expert decision makers adjudicate patent validity more efficiently.²⁷ But other changes that appear to be addressing infirmities in the substance of patent law also facilitate quick decisions. For example, the Supreme Court's eligibility rulings are, on their face, designed to limit patent rights on basic research tools and longstanding business practices.²⁸ Yet because lower courts usually treat patent eligibility as a question of law involving no disputed issues of fact, they are increasingly invalidating patents at early stages of litigation, including on prediscovery motions to dismiss. Such early validity decisions are, under prevailing Federal Circuit precedent, not available for other prerequisites of patentability, such as nonobviousness and adequate disclosure, which typically involve hotly disputed factual questions.²⁹ Similarly, several recent modifications to the law of patent claim construction are ostensibly designed to narrow the scope of patent claims and provide better notice of their boundaries.³⁰ But because claim construction is a task for the judge alone, not the jury, those modifications make it easier to resolve issues of validity and infringement on summary judgment, rather than forcing parties to endure the time and expense of a trial.³¹ Numerous other changes to both substantive patent law and the procedural law relevant to patent disputes fit this pattern of facilitating quick decisions, as explained in more detail below.³²

25. See, e.g., Brief for 48 Internet Cos., Retailers, & Ass'ns as Amici Curiae Supporting Petitioner, *TC Heartland LLC v. Kraft Foods Grp. Brands LLC*, 137 S. Ct. 1514 (2017) (No. 16-341).

26. In addition to the sources cited throughout this Article, several journals have dedicated entire symposia to one development or another. For a small sample, see *Bridging the Gap Between the Federal Courts and the Patent and Trademark Office*, 23 B.U. J. Sci. & Tech. L. 284, 284-455 (2017); *Cracking the Code: Ongoing § 101 Patentability Concerns in Biotechnology and Computer Software*, 82 GEO. WASH. L. REV. 1751, 1751-1906 (2014); *Patent Trial and Appeal Board Proceedings*, 24 TEX. INTELL. PROP. L.J. 301, 301-429 (2017); *Who Owns the Controlling Stake in Patent Law?*, 66 AM. U. L. REV. 1015, 1015-1092 (2017).

27. See H.R. REP. NO. 112-98, at 40 (2011) (noting that the AIA "is designed to establish a more efficient and streamlined patent system that will improve patent quality and limit unnecessary and counterproductive litigation costs").

28. See, e.g., *Alice Corp. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2354 (2014) ("We have 'repeatedly emphasized [the] . . . concern that patent law not inhibit further discovery by improperly tying up the future use of' . . . building blocks of human ingenuity." (second alteration in original) (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 89 (2012))).

29. See *infra* Section III.A.2.

30. See, e.g., *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014) (making it easier to prove a patent claim invalid as indefinite); *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1349 (Fed. Cir. 2015) (en banc) (adopting a rule of claim construction that subjects more patents to a provision of the Patent Act, 35 U.S.C. § 112(f), that narrows claim scope).

31. See *infra* Section III.B.1.

32. See *infra* Part III.

Understanding patent law's ongoing evolution as increasing speed to decision has several payoffs. Most obviously, it highlights how recent developments have the potential to decrease the costs of patent litigation by ending cases more quickly. Reduced litigation costs can, in turn, help remedy free-rider problems by encouraging more challenges to patent validity.³³ Moreover, several of the new mechanisms of quick decisions provide routes to resolve patent disputes *before discovery*, which is when litigation costs begin to escalate significantly³⁴ and which is something patent law has never previously had. Lastly, swift dismissals of unmeritorious claims can incentivize greater *ex ante* respect for *valid* patents, making patents a stronger incentive for innovation.³⁵

But quick decisions also have downsides. To begin with, they may increase the risk of error. The eligibility requirement, for instance, allows courts to decide—often on the pleadings alone—the potentially fact-driven question of whether a patent contains an “inventive concept” as compared to the prior art. Also, litigation costs are not always low in cases that end quickly. The new PTO proceedings, for example, still cost hundreds of thousands of dollars.³⁶ Further, PTO proceedings often proceed concurrently with litigation in court, resulting in wasteful procedural maneuvering and duplicative effort.³⁷ Likewise, some mechanisms that appear to resolve patent disputes expeditiously, such as raised pleading standards, actually encourage more litigation about matters peripheral to the merits of the case.³⁸ Finally, and most fundamentally, many of the recent changes in patent law that facilitate quicker decisions do so by favoring accused infringers. One might therefore worry that the trend toward quick decisions decreases the innovation incentives provided by patent rights.

On balance, however, the trend seems to be a positive development. Many observers have recently expressed alarm about a proliferation of low-quality patents, that is, patents that provide poor notice of their boundaries, that are not particularly inventive, or both.³⁹ This concern is particularly acute with regard to patentees (often referred to pejoratively as patent trolls) who use low-quality patents and the threat of litigation to extract settlements that appear excessive because, in many cases, the patentee probably would not have prevailed if the

33. See *infra* Section I.A.

34. See Greg Reilly, *Linking Patent Reform and Civil Litigation Reform*, 47 *LOY. U. CHI. L.J.* 179, 199 (2015).

35. See *infra* Section II.A (discussing in more detail how rules regarding the timing of adjudication can affect deterrence). See generally Keith N. Hylton, *When Should a Case Be Dismissed? The Economics of Pleading and Summary Judgment Standards*, 16 *SUP. CT. ECON. REV.* 39, 41 (2008) (exploring how early dismissals of low-merit claims “enhance the average quality or merit of lawsuits, which in turn enhances incentives to comply with the law”).

36. See AM. INTELLECTUAL PROP. LAW ASS'N, REPORT OF THE ECONOMIC SURVEY 43 (2017) (reporting average expenses of \$100,000 through the filing of a petition, \$275,000 through the end of the PTAB's hearing, and \$350,000 through appeal).

37. See Peggy P. Ni, *Rethinking Finality in the PTAB Age*, 31 *BERKELEY TECH. L.J.* 557, 577 (2016).

38. See *infra* Section III.A.3.

39. See, e.g., JAMES BESSEN & MICHAEL J. MEURER, *PATENT FAILURE: HOW JUDGES, BUREAUCRATS, AND LAWYERS PUT INNOVATORS AT RISK* (2008).

dispute had been litigated to a final judgment.⁴⁰ Although the scope and existence of the “troll” problem is a matter of vigorous dispute,⁴¹ the salient point is that concerns about trolls highlight several weaknesses of the current patent system, including the large number of patents issued by the PTO that are probably invalid and the high cost of patent litigation.⁴²

Still, it is critical that the mechanisms providing speedy decisions avoid erroneously dismissing meritorious claims and operate at the lowest cost possible. Accordingly, throughout this Article, I highlight various ways in which the processes of the patent system could be improved to further increase accuracy and reduce costs. For instance, wasteful concurrent litigation in courts and at the PTO could be curtailed if both tribunals applied the same principles of claim construction and standards of proof, which would enable more PTO rulings to receive preclusive effect in the courts and vice versa.⁴³ Also, courts might render more accurate decisions on patent eligibility if they recognized the doctrine’s factual underpinnings and properly applied the motion to dismiss framework created by the Supreme Court in *Bell Atlantic Corp. v. Twombly*⁴⁴ and *Ashcroft v. Iqbal*.⁴⁵ That framework requires the judge to consider whether there is a plausible scenario in which the plaintiff could prevail, rather than simply ruling on the patent’s inventiveness without giving the patentee the benefit of the doubt on factual questions, which seems to be the prevailing practice.

The remainder of this Article proceeds as follows. Part I provides essential background on the processes of patent litigation in court and administrative review at the PTO. Part II sketches a framework, grounded in considerations about the social cost of litigation, for evaluating the optimal timing of decision in patent cases.⁴⁶ It also situates recent changes in patent law within broader

40. See Mark A. Lemley & A. Douglas Melamed, *Missing the Forest for the Trolls*, 113 COLUM. L. REV. 2117, 2126–28 (2013) (noting that certain trolls, so-called “bottom feeders,” are not particularly “concerned with the validity and scope of any given patent . . . because they plan to settle before validity and infringement are determined”).

41. See *infra* notes 116–20 and accompanying text.

42. See Lauren H. Cohen et al., “Troll” Check? A Proposal for Administrative Review of Patent Litigation, 97 B.U. L. REV. 1775, 1807 (2017); see also Ted Sichelman, *The Vonage Trilogy: A Case Study in “Patent Bullying,”* 90 NOTRE DAME L. REV. 543, 548–49 (2014) (listing several “serious defects in the patent system” including the large number of poor-quality patents and the high cost of invalidating them).

43. See *infra* Section III.A.1.

44. 550 U.S. 544, 555 (2007).

45. 556 U.S. 662, 679 (2009); see *infra* Section III.A.2.

46. Few scholars have used the cost of patent litigation as a mechanism to explain and critique the substance of patent law, though this approach has been used in other areas of intellectual property doctrine. See, e.g., Robert G. Bone, *A New Look at Trade Secret Law: Doctrine in Search of Justification*, 86 CALIF. L. REV. 241, 278–79 (1998) [hereinafter Bone, *Trade Secret Law*]; Robert G. Bone, *Enforcement Costs and Trademark Puzzles*, 90 VA. L. REV. 2099, 2101 (2004); Douglas Lichtman, *Copyright as a Rule of Evidence*, 52 DUKE L.J. 683, 687 (2003); William McGeeveran, *Rethinking Trademark Fair Use*, 94 IOWA L. REV. 49, 51–52 (2008); William McGeeveran, *The Trademark Fair Use Reform Act*, 90 B.U. L. REV. 2267, 2280 (2010) [hereinafter McGeeveran,

trends in the law of civil procedure that favor early resolution of litigation. Part III presents the Article's novel descriptive claim, conceptualizing numerous recent changes in patent law as part of a trend toward quick decisions. Drawing on the theoretical framework outlined in Part II, Part III also offers a preliminary defense of that trend and identifies several ways in which litigation-related costs could be further reduced and accuracy could be increased. Finally, Part IV looks to the future, arguing that current trends should not be dismissed as merely a backlash against the era of strong patent rights that began in the 1980s. Rather, by thinking critically about how to minimize costs related to enforcing patents, judges and policymakers can help moderate the often drastic swings in patent doctrine that occur between pro-patent and anti-patent eras.

I. PATENT ADJUDICATION

This Article focuses on what I call “patent adjudication,” meaning disputes involving patents that have already been issued by the PTO.⁴⁷ Patent adjudication takes two basic forms: litigation in court and post-issuance review at the PTO.⁴⁸ A primer on those processes, their costs, and their social welfare implications will aid in understanding the remainder of this Article.

A. LITIGATION IN COURT

Patent infringement lawsuits are the most common type of patent litigation in court. A patentee may file an infringement suit against anyone who “makes, uses, offers to sell, or sells” the patented invention, as well as anyone who imports the invention into the United States.⁴⁹ In addition to those theories of direct infringement, the patentee may assert claims of indirect infringement against anyone who induces others to infringe the patent or who contributes to infringement by selling, offering to sell, or importing certain components of a patented invention.⁵⁰ In response to an infringement suit, the accused infringer

Trademark Fair Use Reform]. Similarly, although the Supreme Court has rarely mentioned litigation costs in its recent patent law opinions, *see infra* note 263, concerns about quick and inexpensive decisions have sometimes featured in Supreme Court opinions in other areas of intellectual property law. *See, e.g.,* Wal-Mart Stores, Inc. v. Samara Bros., 529 U.S. 205, 213–14 (2000) (rejecting a proposed test that would have allowed product design to sometimes be inherently distinctive under, and therefore automatically protected by, federal trademark law, noting that “[s]uch a test would rarely provide the basis for summary disposition of an anticompetitive strike suit”).

47. Patent adjudication can be contrasted with pre-issuance *examination* proceedings.

48. If an infringing product is imported into the United States, the patentee may also seek an exclusion order from the U.S. International Trade Commission (ITC). *See* 19 U.S.C. § 1337(d) (2012). I discuss ITC proceedings—which also facilitate quick decisions—in more detail below. *See infra* Section III.B.4.

49. 35 U.S.C. § 271(a) (2010).

50. *Id.* § 271(b)–(c). Section 271 contains several other more specialized acts of infringement involving pharmaceutical products, medical devices, the products of infringing processes, and the components of infringing products that are assembled abroad. For an overview of the various types of infringement outlined in section 271, *see* Timothy R. Holbrook, *The Potential Extraterritorial Consequences of Akamai*, 26 EMORY INT'L L. REV. 499, 502 n.20 (2012).

usually asserts both that it does not infringe the patent and that the patent is invalid.⁵¹ Rather than waiting to be sued for infringement, a potential infringer can instead file its own lawsuit seeking a declaratory judgment of noninfringement, invalidity, or both, provided that the potential infringer satisfies a standing requirement discussed in more detail below.⁵²

Patent litigation can conclude in many different ways, each with unique implications for social welfare. The vast majority of patent cases settle.⁵³ After a settlement the patent remains in force, but the accused infringer usually receives a license to practice the patent. This result saves the parties and the court system the expense of continued litigation and typically allows the accused infringer to continue operating in the market, albeit usually subject to a royalty payment. As a strictly legal matter, however, the settlement binds only the parties to the case.

Patent litigation can also conclude with a ruling of noninfringement or a ruling that the patent is not invalid and is infringed. Like a settlement, a ruling on the issue of infringement does not formally bind those who were not parties to the case, although the consequences for nonparties going forward can be significant. For instance, a patentee who proves infringement might obtain an injunction keeping a competitor out of the market, which could allow the patentee to raise prices. Moreover, some of the court's interim legal rulings, such as its rulings on claim construction, can be persuasive or even binding in future litigation.⁵⁴ A patentee may not, however, use a ruling that its patent is not invalid to bind newly accused infringers in future cases because principles of due process require that those defendants have the opportunity to personally litigate the invalidity defense.⁵⁵ That said, the Federal Circuit has indicated that a prior decision in the patentee's favor on the issue of validity should be given "weight" by a subsequent court even if that later litigation is against a different accused infringer.⁵⁶

51. An infringer can also argue that a patent is unenforceable for reasons grounded in equity, such as that the patentee obtained the patent by intentionally deceiving the PTO. See *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1290 (Fed. Cir. 2011) (en banc). Because of the similarity between invalidity and unenforceability, I refer in the text solely to invalidity.

52. See *infra* Section III.B.3.

53. See Jay P. Kesan & Gwendolyn G. Ball, *How Are Patent Cases Resolved? An Empirical Examination of the Adjudication and Settlement of Patent Disputes*, 84 WASH. U. L. REV. 237, 259 (2006) ("[A]pproximately 80% of patent cases settle."); see also John R. Allison et. al., *Patent Quality and Settlement Among Repeat Patent Litigants*, 99 GEO. L.J. 677, 689 (2011) (reporting a settlement rate of 90.5% for the "most-litigated patents" and 84% for "once-litigated patents").

54. See *e.Digital Corp. v. Futurewei Techs., Inc.*, 772 F.3d 723, 726 (Fed. Cir. 2014) (noting that, under principles of issue preclusion, a nonparty may invoke a favorable claim construction order against the patentee in subsequent litigation). Even when preclusion does not apply, a prior construction of the patent's claims can operate as persuasive authority or, if passed upon by the Federal Circuit, receive stare decisis effect. See *Burke, Inc. v. Bruno Indep. Living Aids, Inc.*, 183 F.3d 1334, 1337 (Fed. Cir. 1999).

55. See *Stevenson v. Sears, Roebuck & Co.*, 713 F.2d 705, 710–11 (Fed. Cir. 1983).

56. See *Mendenhall v. Cedarapids, Inc.*, 5 F.3d 1557, 1569–70 (Fed. Cir. 1993).

A ruling of patent invalidity is the outcome of a patent case that can have the most significant impact going forward, both on the parties and on nonparties. Those consequences stem mainly from the doctrine of issue preclusion and, in particular, the Supreme Court's seminal decision in *Blonder-Tongue Laboratories, Inc. v. University of Illinois Foundation*.⁵⁷ In that case, the Court abandoned the so-called mutuality requirement, which prohibited anyone who was not a party to a prior case from relying upon the judgment, and held that once a litigant convinces a court to hold a particular patent invalid, any litigant accused of infringing the same patent in the future may use that invalidity decision as a complete defense.⁵⁸ Thus, although a patentee may not use a ruling that its patent is not invalid offensively in a future case,⁵⁹ an accused infringer may *defensively* use a prior ruling that a patent *is* invalid.

Though *Blonder-Tongue* enables nonparties to benefit from rulings of invalidity in later litigation,⁶⁰ the decision also makes it likely that fewer rulings of invalidity will be produced than is socially optimal.⁶¹ *Blonder-Tongue* turns invalidity judgments into what economists call a public good, something that, like the information protected by intellectual property law itself, others cannot be excluded from using and whose use by one person does not reduce its availability to others.⁶² That is, an accused infringer who invalidates a patent does not internalize all the benefits of the invalidity decision.⁶³ Rather, it shares those benefits with other potential infringers—quite often its own competitors—who may use the doctrine of nonmutual defensive issue preclusion to free-ride on its litigating efforts.⁶⁴

Several other features of patent litigation, in addition to *Blonder-Tongue*, nudge accused infringers away from a defense of invalidity and toward a

57. 402 U.S. 313 (1971).

58. *Id.* at 320–21, 349–50.

59. *See Stevenson*, 713 F.2d at 710–11.

60. *Cf.* Stephen Yelderman, *Do Patent Challenges Increase Competition?*, 83 U. CHI. L. REV. 1943, 1961–62, 1993–94 (2016) (noting that, for the invalidation of a patent to increase market competition, several other conditions must be met).

61. *See* Mark A. Lemley & Carl Shapiro, *Probabilistic Patents*, 19 J. ECON. PERSP. 75, 88–90 (2005).

62. *See* Joseph Scott Miller, *Building a Better Bounty: Litigation-Stage Rewards for Defeating Patents*, 19 BERKELEY TECH. L.J. 667, 682, 687–88 (2004). One partial exception to the statement that invalidity judgments are public goods is in pharmaceutical patent litigation under the Hatch–Waxman Act, which allows a generic company that invalidates a patent to obtain a short period of regulatory exclusivity. *See* 21 U.S.C. § 355(j)(5)(B)(iv) (2012); *see also infra* note 412 and accompanying text (discussing Hatch–Waxman exclusivity in more detail). This exclusivity period is specifically designed to overcome the public goods problem presented by *Blonder-Tongue*. *See* C. Scott Hemphill, *Paying for Delay: Pharmaceutical Patent Settlement as a Regulatory Design Problem*, 81 N.Y.U. L. REV. 1553, 1605 (2006).

63. *See* Joseph Farrell & Robert P. Merges, *Incentives to Challenge and Defend Patents: Why Litigation Won't Reliably Fix Patent Office Errors and Why Administrative Patent Review Might Help*, 19 BERKELEY TECH. L.J. 943, 958 (2004).

64. *See* Megan M. La Belle, *Patent Law as Public Law*, 20 GEO. MASON L. REV. 41, 64–93 (2012) (discussing doctrinal and practical obstacles to patent challenges, in addition to the public goods issue). For a general discussion of public goods and of ways to solve free-rider problems, *see* Michael J. Meurer, *Fair Division*, 47 BUFF. L. REV. 937, 966–67 (1999) (book review).

defense of noninfringement. For example, the burden of proving invalidity falls on the accused infringer, who must carry that burden by clear and convincing evidence.⁶⁵ By contrast, it is the *patentee's* burden to prove infringement, which it must prove by a preponderance of the evidence.⁶⁶ Moreover, an accused infringer will often have better information about its noninfringement defense than its invalidity defense.⁶⁷ The infringement analysis typically turns on the operation of the defendant's own product or process, whereas invalidity turns on information about the state of the art at the time of the invention, which is not as easy to obtain, at least before the early point in the case at which an infringer is required to disclose its invalidity contentions.⁶⁸ Lastly, although nothing prohibits an accused infringer from trying to argue *both* invalidity and noninfringement, the claim construction process frequently forces the defendant to choose to argue for either a narrow construction, which will assist a noninfringement argument, or a broad construction, which will assist an invalidity argument.

From the patentee's perspective, *Blonder-Tongue* encourages settlement rather than litigation to a final judgment because one invalidity ruling permanently wipes out the patent.⁶⁹ And, when the patentee decides to fight rather than settle, it will fight harder, raising the cost of litigation to the parties and to the public that funds the court system.⁷⁰ *Blonder-Tongue* also exacerbates the error costs of an inaccurate decision of invalidity because the owners of those patents will not only pay their litigation expenses, "they also lose all future value from their patents."⁷¹ In short, although *Blonder-Tongue* gives invalidity judgments more bite by allowing nonparties to rely on them, the decision's overall impact on social welfare is unclear because it increases the costs imposed by the patent system in several ways.

65. *Microsoft Corp. v. i4i Ltd. P'ship*, 564 U.S. 91, 95 (2011).

66. *Bene v. Jeantet*, 129 U.S. 683, 688 (1889).

67. See Roger Allan Ford, *Patent Invalidity Versus Noninfringement*, 99 CORNELL L. REV. 71, 105 (2013).

68. Invalidity contentions are a filing that most district courts require in patent cases. They typically must identify each item of prior art that allegedly invalidates the patent, identify the grounds for invalidity established by each item of prior art, include a chart showing where in each item of prior art each element of each asserted patent claim is found, and explain any argument of invalidity for indefiniteness or lack of sufficient disclosure. See, e.g., E.D. TEX. PAT. R. 3-3. In many districts, invalidity contentions are due as few as fourteen days after the patentee discloses which patent claims it is asserting. See, e.g., N.D. ILL. PAT. R. 2.3; see also N.D. CAL. PAT. R. 3-3 (forty-five days after infringement contentions); E.D. TEX. PAT. R. 3-3 (same).

69. See Megan M. La Belle, *Against Settlement of (Some) Patent Cases*, 67 VAND. L. REV. 375, 398–99 (2014). La Belle also discusses the role federal judges, as part of the more general move towards "managerial judging," have played in encouraging settlement of patent litigation. *Id.* at 388–89, 411–15.

70. Of course, that increase in litigation costs will be somewhat offset by *Blonder-Tongue's* reduction of future litigation, but that reduction will occur only if the initial litigation ends in a ruling of invalidity. And that ruling of invalidity is less likely precisely because of the incentive to fight harder that *Blonder-Tongue* creates.

71. Anup Malani & Jonathan S. Masur, *Raising the Stakes in Patent Cases*, 101 GEO. L.J. 637, 651 (2013).

In terms of the parties' litigation expenses, patent cases can be comparable to the highest-stakes civil cases.⁷² According to widely cited numbers compiled by the American Intellectual Property Law Association, patent litigation pursued through an appeal costs half a million dollars for even the lowest-stakes case, and a case in which \$25 million or more is at stake can cost upwards of \$3 million.⁷³ A large component of the cost of patent litigation—half or more in a typical case—stems from discovery.⁷⁴ The relatively high cost of discovery is often blamed on the “abusive” tactics of patent trolls,⁷⁵ which has fueled recent legislative proposals to restrict the scope of discovery and shift discovery costs to the requesting party.⁷⁶

B. ADMINISTRATIVE REVIEW AT THE PTO

The cost and complexity of patent litigation has long led scholars and policymakers to suggest that disputes over patent validity might be more efficiently resolved in administrative proceedings at the PTO.⁷⁷ Congress created the oldest such proceeding, *ex parte* reexamination, in 1980.⁷⁸ In *ex parte* reexamination any person, though usually it is someone who has been accused of or sued for infringement, can file a petition challenging the validity of a patent based on other patents or on printed publications in prior art.⁷⁹ If the petition raises a “substantial new question of patentability,”⁸⁰ the PTO institutes reexamination and the petitioner is excluded from the process from that point forward.⁸¹ Although the PTO grants 92% of petitions to institute *ex parte* reexamination, the PTO rarely invalidates the patent.⁸² Rather, in 66% of instituted reexaminations, the patentee amends the patent's claims to preserve validity.⁸³ The PTO invalidates all of the challenged claims in only 12% of instituted proceedings.⁸⁴

To give requesting parties the opportunity to play a more active role in the administrative review process, Congress created *inter partes* reexamination in

72. See Reilly, *supra* note 34, at 199.

73. AM. INTELLECTUAL PROP. LAW ASS'N, *supra* note 36, at 41.

74. Reilly, *supra* note 34, at 198.

75. *Id.* at 183.

76. See Gugliuzza, *supra* note 24, at 285–86.

77. See Mark D. Janis, *Rethinking Reexamination: Toward a Viable Administrative Revocation System for U.S. Patent Law*, 11 HARV. J.L. & TECH. 1, 36–38 (1997).

78. See 35 U.S.C. §§ 302–307 (2012).

79. *Id.* §§ 301–302. The prior art is all the information relevant to a patent's claim of novelty and nonobviousness. It includes the patents and printed publications that can provide the basis for *ex parte* reexamination (and, as discussed below, *inter partes* review), as well as prior sales and public uses of the invention. See *id.* §§ 102(a), 103.

80. *Id.* § 303(a).

81. See *id.* § 305.

82. EX PARTE REEXAMINATION FILING DATA, *supra* note 2, at 1.

83. *Id.* at 2.

84. *Id.*

1999.⁸⁵ Inter partes reexamination evolved into inter partes review in the America Invents Act.⁸⁶ As explained in more detail below, inter partes review permits anyone who is not the patent owner to ask the PTO to reconsider whether the patent satisfies the requirements of novelty and nonobviousness.⁸⁷ Although inter partes reexamination was mostly ignored,⁸⁸ the new inter partes review proceeding has been extraordinarily popular, with over four thousand petitions filed in its first four-and-a-half years.⁸⁹ There are several reasons for this popularity. First, the proceedings are trial-like. The challenger can make written submissions and participate in a hearing before the PTAB,⁹⁰ an entity created by the AIA and composed of patent lawyers and former patent examiners.⁹¹ Second, because of tight timelines imposed by the AIA, inter partes review concludes quickly, usually taking little more than a year.⁹²

The final but perhaps most important reason for the popularity of inter partes review is that challengers have won often. As of March 31, 2017, the PTAB had held all of the instituted claims unpatentable in 65% of proceedings to reach a final decision (1,029 of 1,577).⁹³ There are, however, many ways to interpret that statistic. The PTAB declines to institute proceedings about 30% of the time, and the parties settle roughly one-third of proceedings.⁹⁴ So, although the PTAB renders a ruling of invalidity in most of its final decisions, less than half of the patent claims that are initially challenged reach that stage. Of the 70,060 total claims challenged in inter partes review in the first four-and-a-half years of the proceeding's existence, only 16,688 (24%) were ruled invalid.⁹⁵

In inter partes review, similar to ex parte reexamination, the only grounds for invalidity the challenger may present are anticipation (that is, lack of novelty) and obviousness, and the only prior art references the challenger may cite are patents and printed publications.⁹⁶ But the AIA created two additional PTO

85. Optional Inter Partes Reexamination Procedure Act of 1999, Pub. L. No. 106-113, 113 Stat. 1501.

86. See America Invents Act, Pub. L. 112-29, § 311, 125 Stat. 284, 299 (2011).

87. See *infra* Section III.A.1.

88. Among other reasons, the challenger's right to participate was limited to filing written submissions, the proceedings were perceived to be slow, and estoppel provisions required challengers to essentially choose to litigate validity either in reexamination or litigation in court. See KIMBERLY A. MOORE ET AL., PATENT LITIGATION AND STRATEGY 1132-33 (4th ed. 2013).

89. See U.S. PATENT & TRADEMARK OFFICE, PATENT TRIAL & APPEAL BD., STATISTICS 10 (Mar. 2017), https://www.uspto.gov/sites/default/files/documents/AIA%20Statistics_March2017.pdf [<https://perma.cc/FH28-JRTP>] [hereinafter PTAB STATISTICS].

90. See 35 U.S.C. § 316(a) (2012).

91. See *id.* § 6(a). The PTAB consists of roughly 250 administrative patent judges and hears AIA post-issuance proceedings in three-judge panels. Although administrative patent judges often have experience as patent lawyers or examiners, the statute requires only that they "be persons of competent legal knowledge and scientific ability." *Id.*

92. See *infra* notes 175-77 and accompanying text.

93. PTAB STATISTICS, *supra* note 89, at 10.

94. See *id.*

95. *Id.* at 12.

96. 35 U.S.C. § 311(b).

proceedings that allow patentability challenges on any ground and based on any type of prior art: post-grant review and a temporary program for certain patents on business methods.⁹⁷ Post-grant review is available only for patents with filing dates on or after March 16, 2013⁹⁸ and must be filed within nine months of patent issuance,⁹⁹ so only seventy-eight petitions had been filed as of September 30, 2017.¹⁰⁰

The so-called covered business method review proceeding, which is available for patents that involve a “financial product or service,”¹⁰¹ has been more popular, with 524 petitions filed through September 30, 2017.¹⁰² Similar to inter partes review, the PTAB has held all of the instituted claims unpatentable in over 80% of proceedings to reach a final decision (132 of 162).¹⁰³ But the same caveats about that statistic apply because many proceedings settle or end with an institution-stage decision in favor of the patentee. Of the 8,762 claims challenged in covered business method review, only 2,357 (27%) have actually been invalidated.¹⁰⁴

The new administrative proceedings created by the AIA are a direct response to the high cost and long duration of patent litigation. The House Judiciary Committee report on the AIA explicitly states that the purpose of the new proceedings is to “provid[e] quick and cost effective alternatives to litigation.”¹⁰⁵ Survey evidence indicates that inter partes review pursued through appeal costs about \$350,000¹⁰⁶—still expensive, but well below the average

97. See *id.* §§ 321–329; America Invents Act, Pub. L. No. 112-29, § 18, 125 Stat. 284, 329–31 (2011). The business method review proceeding is available only until September 15, 2020. America Invents Act § 18(a)(3).

98. America Invents Act §§ 3(n)(1), 6(f).

99. 35 U.S.C. § 321(c).

100. See PTAB TRIAL STATISTICS, *supra* note 2, at 2.

101. America Invents Act § 18(d)(1) (“[C]overed business method patent’ means a patent that claims a method or corresponding apparatus for performing data processing or other operations used in the practice, administration, or management of a financial product or service . . .”). For examples of Federal Circuit decisions elaborating on the statutory definition of patents that qualify for review in this proceeding, see *Unwired Planet, LLC v. Google Inc.*, 841 F.3d 1376, 1382 (Fed. Cir. 2016) (overturning a PTAB test that classified a patent as a covered business method patent if it “claim[ed] activities ‘incidental to’ or ‘complementary to’ a financial activity”); *Versata Dev. Grp., Inc. v. SAP Am., Inc.*, 793 F.3d 1306, 1325 (Fed. Cir. 2015) (“[T]he definition of ‘covered business method patent’ is not limited to products and services of only the financial industry . . .”).

102. PTAB TRIAL STATISTICS, *supra* note 2, at 3. In terms of timing, the only restriction on covered business method review is that, for patents with filing dates on or after March 16, 2013, the nine-month window for seeking post-grant review must have expired, or any post-grant review must have concluded. America Invents Act § 18(a).

103. PTAB STATISTICS, *supra* note 89, at 11. The statistics reported in this sentence and the remainder of this paragraph are current through March 31, 2017. In April 2017, the PTO stopped reporting some of these detailed statistics in favor of a more summary report of AIA trial data. See *generally* AIA Trial Statistics, U.S. PAT. & TRADEMARK OFF., <https://www.uspto.gov/patents-application-process/appealing-patent-decisions/statistics/aia-trial-statistics> [<https://perma.cc/28XB-7CVU>] (collecting the agency’s statistical reports on AIA proceedings).

104. PTAB STATISTICS, *supra* note 89, at 13.

105. H.R. REP. NO. 112-98, at 48 (2011).

106. AM. INTELLECTUAL PROP. LAW ASS’N, *supra* note 36, at 38.

cost of patent litigation in court.¹⁰⁷

The House report also justified the AIA based on the low quality of patents being issued by the PTO, asserting that an invigorated system of post-issuance review would “improv[e] patent quality and provid[e] a more efficient system for challenging patents that should not have issued.”¹⁰⁸ The legislative history frames covered business method review in particular as a response to an abundance of “poor business-method patents” issued during the late 1990s and early 2000s that fueled a rise in “patent ‘troll’ lawsuits.”¹⁰⁹

II. TIMING PATENT ADJUDICATION

To address concerns about patent trolls exploiting low-quality patents, we might also think about reforming the examination process to give applications greater scrutiny so those patents do not issue in the first place. But it would require an unfathomable expansion of PTO resources to more rigorously examine the nearly 500,000 applications the agency receives each year,¹¹⁰ and more rigorous examination may not be worth the investment given that only a small fraction of issued patents are ever enforced.¹¹¹ Patent quality might also be improved by increasing filing fees at the PTO, which would discourage applicants from seeking patents that are valuable only for extracting low-dollar settlements.¹¹² But applicants will not always know the future value of their invention at the time of filing, raising the risk that higher fees could deter innovations that are unexpectedly valuable.

In any case, an entirely *ex ante* solution to problems with patent quality seems unlikely. For starters, patent prosecutors are a cohesive lobbying group with a strong incentive to oppose any legal change that might diminish their professional opportunities, such as substantial increases in PTO fees.¹¹³ Moreover, litigators who assert patents—increasingly on a contingency fee basis¹¹⁴—have a vested interest in ensuring the wide availability of patents. Finally, regardless of any solutions adopted going forward, questionable patents that have already been issued will remain in force for a decade or more.¹¹⁵ Thus, as

107. *Id.* at 37–38.

108. H.R. REP. NO. 112-98, at 39–40.

109. *Id.* at 54.

110. See John M. Golden, *Proliferating Patents and Patent Law’s “Cost Disease,”* 51 HOUS. L. REV. 455, 487–89, 491 (2013).

111. See Mark A. Lemley, Essay, *Rational Ignorance at the Patent Office*, 95 NW. U. L. REV. 1495, 1497 (2001).

112. See David Fagundes & Jonathan S. Masur, *Costly Intellectual Property*, 65 VAND. L. REV. 677, 679–80 (2012); Jonathan S. Masur, *Costly Screens and Patent Examination*, 2 J. LEGAL ANALYSIS 687, 715 (2010).

113. Masur, *supra* note 112, at 715 n.52.

114. David L. Schwartz, *The Rise of Contingent Fee Representation in Patent Litigation*, 64 ALA. L. REV. 335, 338 (2012).

115. See 35 U.S.C. § 154(a)(2) (2012) (setting the patent term as twenty years from the date the application was filed).

the AIA illustrates, effective patent reform must also include post-issuance solutions. The emerging mechanisms of quick decisions identified in this Article offer a vital compromise, avoiding the downsides of closer or costlier examination *ex ante* but also improving the efficiency of litigation *ex post*.

To set the stage for Part III's exploration of those mechanisms, this Part begins by sketching a framework, grounded in considerations about the social cost of patent litigation, to help determine the optimal timing of adjudicating patent disputes. It then situates the recent move toward quick decisions in patent cases alongside broader developments in civil procedure that have facilitated fast resolution.

A. AN ECONOMIC FRAMEWORK

Although many critiques of the patent system center on the behavior of so-called patent trolls (I will generally use the less pejorative term non-practicing entity, or NPE), those entities' effect on social welfare has been the subject of intense debate. Some evidence suggests that NPEs harm innovation,¹¹⁶ and a recent report by the Federal Trade Commission suggests that many NPEs are mainly interested in obtaining what the Commission characterizes as “nuisance-value” settlements.¹¹⁷ But NPEs have their defenders. They note that NPEs can facilitate innovation by helping individuals and small companies monetize inventions,¹¹⁸ and they criticize studies condemning NPEs both for overestimating the costs of NPE patent assertions¹¹⁹ and for placing too

116. See, e.g., Lauren Cohen et al., *Patent Trolls: Evidence from Targeted Firms* 4 (Harvard Bus. Sch. Fin. Working Paper No. 15-002, 2017), <https://ssrn.com/abstract=2464303> [<https://perma.cc/QUY7-VZN6>]; Stephen Kiebzak et al., *The Effect of Patent Litigation and Patent Assertion Entities on Entrepreneurial Activity* 3–4 (June 16, 2015) (unpublished manuscript), <https://ssrn.com/abstract=2457611> [<https://perma.cc/Z5ZG-4TFS>]; Roger Smeets, *Does Patent Litigation Reduce Corporate R&D? An Analysis of U.S. Public Firms* 3–5 (Apr. 28, 2014) (unpublished manuscript), <https://ssrn.com/abstract=2443048> [<https://perma.cc/S2UF-2UN7>].

117. See U.S. FED. TRADE COMM'N, *PATENT ASSERTION ENTITY ACTIVITY: AN FTC STUDY* 101 (2016), https://www.ftc.gov/system/files/documents/reports/patent-assertion-entity-activity-ftc-study/p131203_patent_assertion_entity_activity_an_ftc_study_0.pdf [<https://perma.cc/96F3-RCTB>]. But see Anne Layne-Farrar, *What Can the FTC's §6(b) PAE Study Teach Us? A Practical Review of the Study's Methodology, Results, and Policy Recommendations* 46 (Nov. 16, 2016) (unpublished manuscript), <https://ssrn.com/abstract=2885991> [<https://perma.cc/8PUJ-8HDW>] (noting that the FTC study provides little insight about whether the settlement amounts cited as evidence of nuisance litigation “properly reflect the value of the patents asserted”); Matthew L. Spitzer, *Trolls, Nuisance Suits, and the FTC* 3 (Nw. Univ. Pritzker Sch. of Law, Law & Econ. Series, No. 17-14, 2017), <https://ssrn.com/abstract=3064104>, [<https://perma.cc/X7UA-QZ53>] (critiquing the FTC's report for using the pejorative phrase “nuisance suit” instead of the more neutral term, “Negative Expected Value (NEV) suit,” which can “mislead the reader into thinking that [the] suits are meritless”); Joshua D. Wright & Douglas H. Ginsburg, *The FTC PAE Study: A Cautionary Tale About Making Unsupported Policy Recommendations* 2 (George Mason Univ. Law & Econ. Research Paper Series, No. 16-45, 2016), <https://ssrn.com/abstract=2867110> [<https://perma.cc/H2KW-6PTL>] (asserting that the FTC's sample was small and potentially unrepresentative).

118. See Michael Risch, *Patent Troll Myths*, 42 SETON HALL L. REV. 457, 459 (2012).

119. See, e.g., David L. Schwartz & Jay P. Kesan, *Essay, Analyzing the Role of Non-Practicing Entities in the Patent System*, 99 CORNELL L. REV. 425, 433 (2014).

many patent owners in the NPE category.¹²⁰ Without wading too deeply into that debate, I simply note that concerns about NPEs highlight arguably problematic aspects of the patent system. Namely, many issued patents are probably invalid, and patent litigation can be expensive. Regardless of the labels affixed to particular plaintiffs, eliminating invalid patents and reducing litigation costs would improve the patent system.

The standard economic view is that systems of dispute resolution should aim to minimize the social cost of litigation, which includes both process costs (that is, the parties' private litigation costs plus the public cost of operating the system) and the error costs of over- or under-enforcing legal rights.¹²¹ Under this economic approach to legal decision making (sometimes termed "decision theory"¹²²), process costs and error costs are inversely proportional. More intricate decision-making processes are more expensive but should yield fewer errors,¹²³ and vice versa.¹²⁴

In practice, however, the relationship between process and error costs is not as neat as theory suggests. For example, in many patent cases, technologically complex questions—including questions of law about patent validity—are decided by a jury. Jury trials are quite expensive to the parties, and the mere threat of a jury trial can increase the amount an accused infringer is willing to pay to settle a dispute.¹²⁵ But there is little reason to think that the costlier decision-making mechanism of the jury increases accuracy beyond what a judge would provide. Likewise, the new administrative review proceedings before expert judges at the PTAB have probably increased the accuracy of patent validity adjudications, but, as I explain below, costs have also increased substantially, and perhaps disproportionately, to any increase in accuracy.¹²⁶

Regardless of the precise relationship between process and error costs, the overarching normative aim remains to reduce those costs as much as possible. So one goal (though by no means the only goal) of the litigation system is to accurately identify low-merit suits, such as suits asserting patents that are likely invalid or that are filed against defendants who probably are not infringing, and to dispose of them at a low cost. If low-merit suits are not quickly and accurately identified, error costs increase and defendants who have not acted

120. See, e.g., Michael Risch, Editorial, *Framing the Patent Troll Debate*, 24 EXPERT OPINION ON THERAPEUTIC PATS. 127, 127 (2014).

121. See Richard A. Posner, *An Economic Approach to Legal Procedure and Judicial Administration*, 2 J. LEGAL STUD. 399, 400 (1973).

122. See Joseph Scott Miller, *Error Costs & IP Law*, 2014 U. ILL. L. REV. 175, 178 & n.12 (citing additional literature).

123. For present purposes, I define "error" by reference to whether a legal claim satisfies the requirements of governing doctrine. It is of course possible that those doctrines are suboptimal from a policy perspective. A primary purpose of Part III of this Article is to consider how possible law/policy misalignments affect a normative evaluation of quick decisions in patent cases.

124. McGeveran, *Trademark Fair Use Reform*, *supra* note 46, at 2280.

125. See Mark A. Lemley, *Why Do Juries Decide if Patents Are Valid?*, 99 VA. L. REV. 1673, 1728–29 (2013) (exploring the consequences of eliminating jury trials in patent cases).

126. See *infra* Section III.A.1.

unlawfully (as well as the public) are forced to bear the process costs of unjustified litigation. To be sure, those process costs might not *actually* be imposed in every case. A rational plaintiff might prefer to credibly *threaten* to impose those costs but not actually conduct the litigation, which is costly to the plaintiff, too. In the longer run, a system that regularly allows unmeritorious claims to proceed (giving bite to a plaintiff's threat of costly litigation) can facilitate strike suits—or threats of suit—aimed at forcing quick settlements, which is precisely how many observers perceive the patent system to currently work.¹²⁷

From an *ex ante* perspective, if patentees can impose (or credibly threaten to impose) process costs on defendants regardless of the merit of their claims, the incentive to avoid infringement (say, by doing patent searches) is reduced because litigation would seem to be inevitable—an error cost resulting in underdeterrence of patent infringement.¹²⁸ If process costs are sufficiently large, those defendants may avoid the activities that led them to become litigation targets in the first place—an error cost resulting in overdeterrence by subjecting noninfringing activity to litigation or threatened litigation.¹²⁹

In addition to providing mechanisms for defendants to obtain quick and inexpensive decisions in cases involving low-merit claims, it is also imperative to render *accurate* decisions. Only those claims that are actually low merit under governing law should be dismissed, and meritorious claims should proceed to final resolution as efficiently as possible.¹³⁰ But it can be difficult to achieve speed, low costs, and high accuracy when the underlying legal doctrines involve complex and fact-intensive questions.¹³¹ Unfortunately, this is largely the case in patent law. For example, nonobviousness,¹³² “the *sine qua non* of

127. See, e.g., U.S. FED. TRADE COMM'N, *supra* note 117, at 8–9.

128. The content of patent law itself can also affect the incentive to search. Notably, an accused infringer that performs a good faith pre-infringement search will probably avoid the enhanced damages that can follow a finding of willful infringement. See *Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 136 S. Ct. 1923, 1932 (2016).

129. See Hylton, *supra* note 35, at 46 (discussing the relationship between the social cost of litigation and deterrence). Some might suggest that, in the patent system at least, the risk of market exit is more theoretical than real. Cf. Richard Lloyd, *The Biggest US Patent Litigation Targets See a Big Drop Off in Cases in 2016*, IAM (Jan. 13, 2017), <http://www.iam-media.com/blog/Detail.aspx?g=5e24b330-d605-4055-9189-a6aaf87c593e> [<https://perma.cc/55HA-UJDL>] (reporting Apple, Samsung, and Amazon as being among the top five patent infringement defendants).

130. This is not to say that the legal system should strive for *perfect* accuracy; increases in accuracy are usually accompanied by increases in litigation costs and time to final adjudication. See A.A.S. Zuckerman, *Quality and Economy in Civil Procedure: The Case for Commuting Correct Judgments for Timely Judgments*, 14 OXFORD J. LEGAL STUD. 353, 378 (1994) (“[I]n some cases maximal accuracy, in the sense of a decision reached after employing the full panoply of procedural devices, is inimical to timely justice, in the sense of rendering a decision before its utility has seriously declined through the passage of time.”).

131. See Bone, *Trade Secret Law*, *supra* note 46, at 279.

132. 35 U.S.C. § 103 (2012).

patentability,”¹³³ is a fact-intensive inquiry into the scope and content of the prior art, the differences between the prior art and the claimed invention, the level of ordinary skill in the art, and “secondary considerations” such as commercial success and failure of others.¹³⁴ Other key grounds of patent validity—most notably novelty¹³⁵ and enablement¹³⁶—are likewise heavily fact dependent.¹³⁷ Infringement, too, is a question of fact that typically cannot be resolved until claim construction occurs,¹³⁸ which is usually during or after discovery.¹³⁹ Likewise, remedial doctrines in patent law are notoriously open-ended and fact-specific. Prime examples include the fifteen-factor test applied to determine a reasonable royalty for patent infringement¹⁴⁰ and the discretionary standard for determining willful infringement.¹⁴¹ Lastly, and even setting aside the fact-intensive nature of key patent law doctrines, the accused infringer’s Seventh Amendment right to a jury trial makes it difficult for a court to enter a quick, litigation-ending decision in favor of the patentee.¹⁴²

The upshot is that many patent cases are not amenable to quick, low-cost resolution. Despite the Federal Circuit’s oft-discussed penchant for adopting bright-line rules as opposed to fuzzy standards,¹⁴³ the key grounds on which most patent cases are decided require an investigation into the unique facts of that particular case. That holds true regardless of whether the governing doctrine looks like a rule or a standard, meaning that any preference for bright-line rules among the Federal Circuit judges does not necessarily translate to quicker or cheaper adjudication.¹⁴⁴ Although many important issues can be resolved on

133. *Roanwell Corp. v. Plantronics, Inc.*, 429 U.S. 1004, 1005 (1976) (White, J., dissenting from the denial of certiorari).

134. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966).

135. A patent lacks novelty if all of its limitations are found in a single prior art reference. *See* 35 U.S.C. § 102(a). Obviousness, by contrast, is a finding that an invention does not possess the required originality even though the invention is not identically disclosed in a single reference. *See id.* § 103.

136. *See id.* § 112(a) (requiring the patent to include “a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains . . . to make and use the same”).

137. Novelty is a question of fact, requiring the fact-finder to compare the patent claim to the allegedly anticipating prior art reference. *See Key Pharm. v. Hercon Labs. Corp.*, 161 F.3d 709, 714 (Fed. Cir. 1998). Enablement, like obviousness, is a legal question that turns on subsidiary questions of fact about the ability of a person of ordinary skill in the art to recreate the patented invention without undue experimentation. *See Brooktree Corp. v. Advanced Micro Devices, Inc.*, 977 F.2d 1555, 1573 (Fed. Cir. 1992).

138. *See Gen. Mills, Inc. v. Hunt-Wesson, Inc.*, 103 F.3d 978, 981 (Fed. Cir. 1997).

139. *See* PETER S. MENELL ET AL., *PATENT CASE MANAGEMENT JUDICIAL GUIDE* 5-5 (3d ed. 2016).

140. *Ga.-Pac. Corp. v. U.S. Plywood Corp.*, 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970).

141. *See infra* notes 425–30 and accompanying text.

142. *Cf. Lemley, supra* note 125, at 1719–20 (arguing that “the legal support for [a Seventh Amendment jury trial right in patent cases] is far from airtight”).

143. *See, e.g., John R. Thomas, Formalism at the Federal Circuit*, 52 AM. U. L. REV. 771, 773 (2003).

144. *Cf. Louis Kaplow, Rules Versus Standards: An Economic Analysis*, 42 DUKE L.J. 557, 596 (1992) (casting doubt on the common assumption “that standards tend to be complex in operation compared to the rules that might replace them”).

summary judgment, by then the parties will have proceeded through discovery, the most expensive phase of the litigation.

Remarkably, despite the rich literature on the economics of civil procedure,¹⁴⁵ little of that writing focuses on interim court decisions in litigation, such as rulings on motions to dismiss or motions for summary judgment.¹⁴⁶ In one important exception, Keith Hylton has modeled the choice between using pleading standards versus summary judgment as a screening device.¹⁴⁷ He argues that the rigor of pleading standards should vary based on how difficult it is to satisfy the underlying rule of substantive law and on the social cost of the relevant litigation.¹⁴⁸ This explains, in Hylton's view, why the law imposes heightened pleading standards for claims such as fraud,¹⁴⁹ which are "difficult to prove and impose[] substantial social costs beyond litigation expenses," such as reputational harm.¹⁵⁰ Hylton emphasizes that early dismissals are particularly important for claims that are unlikely to succeed on the merits.¹⁵¹ Dismissing those claims before they impose significant costs (for instance, on a motion to dismiss rather than at summary judgment) can enhance defendants' incentives to comply with the law because they will know that claims challenging lawful conduct will be disposed of at minimal cost.¹⁵² Early dismissals of low-merit claims also, of course, discourage plaintiffs from using litigation to obtain settlements that are unwarranted given the weakness of the claim.

Louis Kaplow, in his pathmarking work on multistage adjudication, emphasizes that the decision whether to continue or terminate a case requires balancing three factors: the increased deterrence that stems from continuation, the possibility that continuation will chill benign acts, and the increased process costs from continuation.¹⁵³ Those considerations vary considerably in different areas of law and even from one case to another. Their interactions are particularly complex when adjudication is expensive, as it is in patent cases. The high costs of litigation favor earlier termination,¹⁵⁴ but those costs can also serve a deterrence function *ex ante*.¹⁵⁵ Thus, as Kaplow acknowledges, "implementa-

145. For an accessible introduction, see ROBERT G. BONE, *THE ECONOMICS OF CIVIL PROCEDURE* (2003).

146. See Louis Kaplow, *Multistage Adjudication*, 126 *HARV. L. REV.* 1179, 1186 (2013) (identifying this gap in the literature).

147. See Hylton, *supra* note 35.

148. *Id.* at 62.

149. See FED. R. CIV. P. 9(b).

150. Hylton, *supra* note 35, at 41–42.

151. *Id.* at 41.

152. See *id.*

153. Kaplow, *supra* note 146, at 1296.

154. Louis Kaplow, *Optimal Multistage Adjudication*, 33 *J.L. ECON. & ORG.* 613, 616 (2017). Kaplow suggests that, because adjudication costs become sunk as a case moves toward later stages, screening rules should be more stringent at earlier stages than at later stages. See *id.* at 644. This argument challenges the prevailing practice of relatively lax screening rules at the outset of a case (for example, on a motion to dismiss) with more stringent rules applying as the case proceeds through summary judgment and trial.

155. *Id.* at 616.

tion of an optimal approach requires [difficult] contextual judgments by legal decisionmakers.”¹⁵⁶

In this Article, I try to provide such a contextual analysis grounded in the law of patents and the process of patent litigation. As a positive matter, this analysis shows how numerous recent changes in patent law can be conceptualized as efforts to reduce process costs by resolving patent cases at an earlier stage without significantly increasing the risk of erroneous decisions. As a normative matter, widespread concerns about low-merit infringement claims and the high cost of patent litigation suggest that providing quick decisions is a reasonable goal. But not all quick decisions are cheap, and quick decisions might be erroneous, so there are many nuances and complications to explore.

B. QUICK DECISIONS IN CONTEXT

Before commencing that analysis, it is worth noting that the move toward quick resolution is not unique to patent law. As has been well documented, the civil trial has been disappearing from American courtrooms for nearly a century. In the 1930s, roughly 20% of federal civil cases ended with a trial.¹⁵⁷ Today that number is less than 2%.¹⁵⁸ The disappearance of the trial reflects a trend toward settlement that has been influenced by numerous factors, including the pre-trial fact development permitted by the Federal Rules of Civil Procedure, the growing importance of institutional litigants who participate in litigation with a view toward long-term interests, and the emergence of judicial case management, in which the judge’s function is mainly to facilitate settlement.¹⁵⁹

Developments in the law of civil procedure reflect a trend not just toward early settlement but early *decisions*. In three famous cases decided in 1986, the Supreme Court made clear that courts should freely use summary judgment to resolve cases before trial.¹⁶⁰ More recently, in *Ashcroft v. Iqbal* and *Bell Atlantic Corp. v. Twombly*, the Court made it easier to dismiss complaints at the pleading stage by requiring plaintiffs to include in the complaint “factual allegations” that “plausibly give rise to an entitlement to relief.”¹⁶¹ This plausibility standard was previously found in the Court’s summary judgment case law,¹⁶² and

156. Kaplow, *supra* note 146, at 1189–90.

157. Stephen C. Yeazell, *The Misunderstood Consequences of Modern Civil Process*, 1994 WIS. L. REV. 631, 633 n.3.

158. See Marc Galanter, *The Vanishing Trial: An Examination of Trials and Related Matters in Federal and State Courts*, 1 J. EMPIRICAL LEGAL STUD. 459, 462–63 (2004) (reporting that trials accounted for 1.8% of dispositions in 2002).

159. See John H. Langbein, *The Disappearance of Civil Trial in the United States*, 122 YALE L.J. 522, 544–66 (2012).

160. See *Celotex Corp. v. Catrett*, 477 U.S. 317, 322–23 (1986); *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 249–50 (1986); *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 585–86 (1986).

161. *Ashcroft v. Iqbal*, 556 U.S. 662, 679 (2009); *Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 556–57 (2007).

162. See, e.g., *Matsushita*, 475 U.S. at 596 (“[T]he absence of any plausible motive to engage in the conduct charged is highly relevant to whether a ‘genuine issue for trial’ exists within the meaning of

plausibility analysis makes a motion to dismiss resemble a quick-look decision on the merits.¹⁶³ Numerous other recent developments also facilitate speedy resolution, including Supreme Court decisions that make it easier for defendants to defeat class actions at the certification stage,¹⁶⁴ that make it easier for government officials to establish qualified immunity on summary judgment,¹⁶⁵ and that embrace alternative dispute resolution,¹⁶⁶ which is perceived to resolve disputes with greater speed and at lower cost.

The move toward quick decisions in patent cases is in some ways situated within these broader trends. For example, the Supreme Court's summary judgment trilogy facilitated the increased granting of those motions on the issue of infringement.¹⁶⁷ *Twombly* and *Iqbal*, coupled with amendments to the Federal Rules of Civil Procedure, have made it easier for courts in patent cases to grant prediscovery motions to dismiss.¹⁶⁸ Policy discussions of patent litigation regularly invoke tropes about abusive and frivolous lawsuits—the same rhetoric that has pervaded policy discussions of civil litigation generally.¹⁶⁹ And many (though not all) of the changes to patent law favor defendants, much like the recent changes in civil procedure.¹⁷⁰

Yet other aspects of the move toward quick decisions in patent cases are unique to patent law. For example, changes in substantive patent doctrine, such as the law of patent eligibility, the rules of claim construction, and the doctrine of nonobviousness, have played key roles in opening procedural routes to quick decisions.¹⁷¹ Moreover, unlike in civil procedure, where the Supreme Court is often explicit about its motivation of protecting parties (particularly defendants) from the expense of litigation,¹⁷² the Court rarely mentions litigation costs

Rule 56(e).”); see also Suja A. Thomas, *The New Summary Judgment Motion: The Motion to Dismiss Under Iqbal and Twombly*, 14 LEWIS & CLARK L. REV. 15, 29–30 (2010) (“[T]he Supreme Court has established standards for summary judgment and for the motion to dismiss that are substantially the same [U]nder both standards, a court determines the plausibility of the claim.”).

163. Arthur R. Miller, *From Conley to Twombly to Iqbal: A Double Play on the Federal Rules of Civil Procedure*, 60 DUKE L.J. 1, 30 (2010).

164. *E.g.*, *Wal-Mart Stores, Inc. v. Dukes*, 564 U.S. 338 (2011).

165. See Jack M. Beermann, *Qualified Immunity and Constitutional Avoidance*, 2009 SUP. CT. REV. 139, 148–49 (discussing cases that “dramatically expanded the immunity defense and made it more likely that defendants would prevail before trial” (footnote omitted)).

166. See, e.g., *Am. Express Co. v. Italian Colors Rest.*, 133 S. Ct. 2304 (2013); *AT&T Mobility LLC v. Concepcion*, 563 U.S. 333 (2011).

167. See Matthew D. Henry & John L. Turner, *Across Five Eras: Patent Validity and Infringement Rates in U.S. Courts, 1929–2006*, 13 J. EMPIRICAL LEGAL STUD. 454, 479 (2016).

168. See *infra* Section III.A.3.

169. See Stephen B. Burbank & Sean Farhang, *Litigation Reform: An Institutional Approach*, 162 U. PA. L. REV. 1543, 1598–99 (2014).

170. See Arthur R. Miller, *Simplified Pleading, Meaningful Days in Court, and Trials on the Merits: Reflections on the Deformation of Federal Procedure*, 88 N.Y.U. L. REV. 286, 304 (2013).

171. For a general discussion of the move toward “substance specific procedure” in federal litigation, see Alexandra D. Lahav, *Procedural Design* 63–68 (Aug. 4, 2017) (unpublished manuscript). <https://ssrn.com/abstract=3013961> [<https://perma.cc/ENJ3-3NCR>].

172. See, e.g., *Stolt-Nielsen S.A. v. AnimalFeeds Int’l Corp.*, 559 U.S. 662, 685 (2010) (describing “the benefits of private dispute resolution: lower costs, greater efficiency and speed, and the ability to

when justifying its decisions in patent cases.¹⁷³ Thus, although current trends in patent litigation are consistent with broader developments in civil procedure, they are sufficiently unique to warrant independent analysis.

III. TOWARD QUICK DECISIONS IN PATENT CASES

This Part sets out the Article's core descriptive claim, showing how numerous recent changes in patent law facilitate quicker and potentially lower-cost decisions in patent infringement disputes. It also offers a preliminary normative evaluation of those changes, balancing gains in speed and cost savings against potential losses in accuracy.

A. PREDISCOVERY DECISIONS

I focus initially on legal changes that enable prediscovery resolution of patent litigation because those developments offer the greatest potential for cost savings.¹⁷⁴

1. Post-Issuance Review at the PTO

The new administrative proceedings created by the AIA are the most obvious examples of a move toward resolving patent disputes before the parties incur significant expenses. The AIA itself imposes rigorous timing requirements. For example, an accused infringer who wishes to pursue inter partes review must do so within one year of being sued for infringement,¹⁷⁵ and AIA proceedings must conclude within one year of the PTAB's decision to institute review.¹⁷⁶ On average, AIA proceedings take fifteen months from filing the petition (on which the PTAB bases its decision to institute review) to final decision.¹⁷⁷ By comparison, the duration of patent litigation from filing to disposition via trial or

choose expert adjudicators to resolve specialized disputes"); *Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 558 (2007) ("[I]t is one thing to be cautious before dismissing an antitrust complaint in advance of discovery but quite another to forget that proceeding to antitrust discovery can be expensive." (citation omitted)).

173. *See infra* note 263.

174. In addition to examining the stage at which a case was resolved, there are other methods of estimating litigation costs, such as counting the number of docket entries, party motions, judicial orders, or hearings. *See, e.g.*, Christopher A. Cotropia et al., *Endogenous Litigation Costs: An Empirical Analysis of Patent Disputes* 3 (Nw. Law & Econ. Research Paper No. 17-01, Univ. of Ill. Coll. of Law, Legal Studies Research Paper No. 17-14, 2017), <https://ssrn.com/abstract=2893503> [<https://perma.cc/UL2Q-LYAV>]. But the stage of resolution provides a rough proxy for overall costs, which is sufficient for my purposes. *See, e.g.*, Kaplow, *supra* note 146, at 1189–90 (using stage of resolution in a cost–benefit analysis of adjudication timing).

175. 35 U.S.C. § 315(b) (2012).

176. *Id.* §§ 316(a)(11), 326(a)(11); 37 C.F.R. § 42.300(c) (2012). The PTAB can extend this deadline up to six months with good cause. *See* 35 U.S.C. § 316(a)(11).

177. Brian J. Love & Shawn Ambwani, *Inter Partes Review: An Early Look at the Numbers*, 81 U. CHI. L. REV. DIALOGUE 93, 99 (2014).

summary judgment is usually over two-and-a-half years.¹⁷⁸

These expedited proceedings at the PTO, which address only the issue of validity, help mitigate incentives that exist in litigation to argue for noninfringement or to settle because they are fast, cheap, and conclude more quickly than litigation. Moreover, unlike in litigation between private parties, the PTAB can continue to review the patent's validity even after the parties settle.¹⁷⁹ This occurs most commonly when the parties settle late in the proceedings.¹⁸⁰ The PTAB has also said it will decline to terminate proceedings when the challenged claims are "clearly . . . unpatentable,"¹⁸¹ and it has refused to terminate proceedings when infringement litigation is pending against defendants who are not parties to the PTAB settlement.¹⁸²

Yet the existence of concurrent litigation can undermine the cost savings provided by the PTO's fast proceedings. Nearly 90% of patents involved in AIA proceedings are also involved in litigation.¹⁸³ Simultaneous proceedings can facilitate duplicative litigation, produce uncertainty about a patent's status as valid or invalid, and incentivize wasteful procedural maneuvering. In part because the courts and the PTO apply different standards of proof and rules of claim construction (for reasons I will explain shortly), the federal courts in several recent cases have rejected challenges to a patent's validity but the PTO has subsequently found the same patent to be invalid.¹⁸⁴ The Federal Circuit has

178. Jonathan H. Ashtor, *Opening Pandora's Box: Analyzing the Complexity of U.S. Patent Litigation*, 18 *YALE J.L. & TECH.* 217, 227 (2016).

179. 35 U.S.C. §§ 317(a), 327(a).

180. *See, e.g.*, *Blackberry Corp. v. Mobilemedia Ideas LLC*, No. IPR2013-00016 (P.T.A.B. Dec. 11, 2013) (declining to terminate inter partes review when the parties settled seven months after institution, one day before a scheduled hearing); *see also In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1272 n.2 (Fed. Cir. 2015) (noting that the court granted the challenger's motion to withdraw as appellee pursuant to a settlement agreement), *aff'd sub nom. Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131 (2016).

181. Rules of Practice for Trials Before the Patent Trial and Appeal Board and Judicial Review of Patent Trial and Appeal Board Decisions, 77 Fed. Reg. 48,612, 48,648 (Aug. 14, 2012).

182. *See, e.g.*, *Yahoo! Inc. v. CreateAds LLC*, No. IPR2014-00200, 2015 WL 1009199 (P.T.A.B. Feb. 26, 2015) (refusing to terminate a proceeding when more than ten other cases alleging infringement of the same patent were pending against other defendants).

183. *See Saurabh Vishnubhakat et al., Strategic Decision Making in Dual PTAB and District Court Proceedings*, 31 *BERKELEY TECH. L.J.* 45, 69 (2016).

184. *See, e.g.*, *Tinnus Enters., LLC v. Telebrands Corp.*, 846 F.3d 1190, 1202 n.7, 1208 (Fed. Cir. 2017) (affirming preliminary injunction even though the PTAB had found the patent to be invalid; the district court eventually stayed the case after more than a year of litigation, *see Tinnus Enters., LLC v. Telebrands Corp.*, No. 6:15-cv-551, 2017 WL 379471, at *3 (E.D. Tex. Jan. 24, 2017)); *Apple Inc. v. Smartflash LLC*, No. CBM2015-00028, 2016 WL 3035555 (P.T.A.B. May 26, 2016) (PTAB issuing final written decision finding patent to be invalid over a year after a jury returned a verdict in the patentee's favor on infringement and validity, *see Smartflash LLC v. Apple Inc.*, No. 6:13-cv-447, 2015 WL 11089752 (E.D. Tex. Sept. 2, 2015); *see also Smartflash LLC v. Apple Inc.*, 680 F. App'x 977, 984 (Fed. Cir. 2017) (invalidating the asserted patents on appeal from the district court's judgment)); *Warsaw Orthopedic, Inc. v. Nuvasive, Inc.*, No. 3:08-cv-01512, 2016 WL 4466973, at *1 (S.D. Cal. June 15, 2016) (patent invalidated in ex parte reexamination after the Federal Circuit affirmed court rulings in the patentee's favor on validity and infringement and remanded for a new trial on damages); *Intellectual Ventures I LLC v. Toshiba Corp.*, 221 F. Supp. 3d 534, 554 n.18 (D. Del.

attempted to address the problem of differing court and PTO decisions on validity with a bright-line “absolute finality” rule, holding that the first proceeding to reach an irrevocably final decision controls.¹⁸⁵ That rule encourages parties to race to a quick, final decision when a court and the PTO reach different conclusions.¹⁸⁶ But that race will occur between the same parties in two different proceedings, meaning that the existence of PTO review probably does not result in any savings in litigation costs. Indeed, it may increase them.¹⁸⁷

To be sure, in the mine-run of cases, district courts stay litigation before the possibility of divergent rulings arises.¹⁸⁸ In fact, the portion of the AIA that created the covered business method review program contains a special provision that supporters of the AIA believed would place a “heavy thumb on the scale in favor of a stay.”¹⁸⁹ Though a stay extends the duration of a court case, if the PTAB invalidates the asserted patents, the stay can result in the litigation

2016) (denying motion to stay even though the PTAB had invalidated some of the asserted patent claims, noting that “[w]hile the PTAB has ruled the relevant claims invalid, should the Federal Circuit overturn the PTAB, addressing these additional grounds at trial is more efficient than having to try invalidity on these grounds at a much later date”); *Paice LLC v. Hyundai Motor Co.*, No. 12-cv-499, 2015 WL 10677197 (D. Md. Oct. 1, 2015) (jury verdict in favor of the plaintiffs on an infringement claim; the asserted patents were later invalidated by the PTAB, *see Ford Motor Co. v. Paice LLC*, No. IPR2014-00904, 2015 WL 8536745 (P.T.A.B. Dec. 10, 2015), *aff’d*, 685 F. App’x 950 (Fed. Cir. 2017); *Ford Motor Co. v. Paice LLC*, No. IPR2014-00875, 2015 WL 7695188 (P.T.A.B. Nov. 23, 2015), *aff’d in part, vacated in part, and remanded*, 681 F. App’x 885 (Fed. Cir. 2017)); *Ultratec, Inc. v. Sorenson Commc’ns, Inc.*, No. 13-CV-346, 2015 WL 2248437 (W.D. Wis. May 13, 2015) (PTAB issued final written decision invalidating the patents-in-suit roughly six months after the jury returned a verdict in the patentee’s favor), *appeal dismissed*, 611 F. App’x 720 (Fed. Cir. 2015); *Pers. Audio LLC v. CBS Corp.*, No. 2:13-cv-270, 2014 WL 7741716 (E.D. Tex. Sept. 15, 2014) (jury verdict in favor of the plaintiff on an infringement claim; the asserted patent was later invalidated by the PTAB, *see Elec. Frontier Found. v. Pers. Audio LLC*, No. IPR2014-00070, 2014 WL 8584938 (P.T.A.B. Apr. 10, 2014), *aff’d*, 867 F.3d 1246 (Fed. Cir. 2017)).

185. *Gugliuzza*, *supra* note 1, at 295–305 (discussing *ePlus, Inc. v. Lawson Software, Inc.*, 789 F.3d 1349 (Fed. Cir. 2015), *Versata Comput. Indus. Sols, Inc. v. SAP AG*, 564 F. App’x 600 (Fed. Cir. 2014), and *Fresenius USA, Inc. v. Baxter Int’l, Inc.*, 721 F.3d 1330 (Fed. Cir. 2013)).

186. *See, e.g., id.* at 300 (discussing the procedural history of *Versata*, 564 F. App’x 600).

187. For a critique of the absolute finality rule that raises concerns about litigation costs, *see ePlus, Inc. v. Lawson Software, Inc.*, 790 F.3d 1307, 1314 (Fed. Cir. 2015) (Moore, J., dissenting from the denial of the petition for rehearing en banc) (“After an expensive, multi-year litigation with a full trial which Defendant lost, it ought not to be able to turn around and rely on the PTO to undo the prior district court litigation. To allow this encourages defendants to scrap and fight to keep underlying litigation pending in the hope that they will fare better with the PTO and then be able to unravel the district court judgment against them.” (footnote omitted)).

188. *See, e.g., Love & Ambwani*, *supra* note 177, at 96, 103 (reporting that, for inter partes review petitions filed between September 2012 and March 2014, district courts granted roughly 80% of motions seeking a stay pending an instituted review).

189. 157 CONG. REC. S1363–65 (daily ed. Mar. 8, 2011) (remarks of Sen. Schumer) (describing America Invents Act section 18(b)(1)(D), which directs courts to consider whether a stay “will reduce the burden of litigation”—something a stay, by definition, will always do); *see Jonathan Stroud et al., Stay Awhile: The Evolving Law of District Court Stays in Light of Inter Partes Review, Post-Grant Review, and Covered Business Method Post-Grant Review*, 11 BUFF. INTELL. PROP. L.J. 226, 241 (2015) (reporting that district courts have denied with prejudice less than 20% of motions seeking a stay pending instituted covered business method review).

being resolved relatively cheaply even though it was technically pending for a year or more.¹⁹⁰

But a stay of litigation is not guaranteed. Courts commonly deny stays if the accused infringer delays petitioning the PTO,¹⁹¹ if there are patent claims in the litigation on which the PTO has not instituted review,¹⁹² if there are non-patent claims in the complaint,¹⁹³ or if the parties are direct competitors in the market.¹⁹⁴ Stay practices also vary significantly among the federal district courts. The Eastern District of Texas, which, before the Supreme Court's recent decision changing the law of venue in patent cases,¹⁹⁵ handled over 40% of all patent cases filed nationwide,¹⁹⁶ denied over 40% of stay motions between January 2014 and July 2016. By comparison, the Northern District of California denied only about 20% of stay motions during that period.¹⁹⁷

In short, although AIA proceedings can be quick and cheap standing alone, they sometimes add another layer of costs to already-expensive patent disputes. Duplication of litigation can occur because court decisions have almost no preclusive effect at the PTO and vice versa. The Supreme Court, in a trademark case, recently confirmed that preclusion between the courts and the PTO can be appropriate, but the two forums must be applying the same legal standard for preclusion to apply.¹⁹⁸ In patent proceedings, although the courts and the PTO are deciding the same question—does the patent satisfy the requirements of the Patent Act?—the legal standards differ. In court, patent claims are construed

190. See Doug Lichtman, *Patient Patents: Can Certain Types of Patent Litigation Be Beneficially Delayed?*, 46 J. LEGAL STUD. 427, 430 (2017) (describing the benefits of delaying litigation to allow the PTO to issue a decision that is “first in time and hence . . . binding on later [court] proceedings”).

191. See, e.g., *Universal Elecs., Inc. v. Universal Remote Control, Inc.*, 943 F. Supp. 2d 1028, 1031, 1035 (C.D. Cal. 2013) (denying a stay when the accused infringer “did not file its *inter partes* review petitions until almost a year after being served with the complaint”).

192. See, e.g., *Tire Hanger Corp. v. Mr. Car Guy Concierge Serv. Inc.*, No. 5:14-cv-00549, 2015 WL 857888, at *4 (C.D. Cal. Feb. 27, 2015).

193. See, e.g., *Nippon Steel & Sumitomo Metal Corp. v. POSCO*, No. 12-2429, 2013 WL 1867042, at *7, *10 (D.N.J. May 2, 2013) (denying a stay pending *inter partes* reexamination in a case involving both patent and unfair competition claims). *But cf.* *Delphix Corp. v. Actifio, Inc.*, No. 13-cv-04613, 2014 WL 6068407, at *3 (N.D. Cal. Nov. 13, 2014) (granting a partial stay in a case involving both patent and trade secret claims).

194. See, e.g., *Courtesy Prods., L.L.C. v. Hamilton Beach Brands, Inc.*, Civ. No. 13-2012, 2015 WL 5145526, at *2 (D. Del. Sept. 1, 2015).

195. See *supra* note 17 and accompanying text.

196. Dennis Crouch, *The Concentrated Market of Patent Jurisdictions*, PATENTLY-O (Oct. 8, 2015), <http://patentlyo.com/patent/2015/10/concentrated-patent-jurisdictions.html> [<https://perma.cc/K93N-6U76>].

197. Brian J. Love & James Yoon, *Predictably Expensive: A Critical Look at Patent Litigation in the Eastern District of Texas*, 2017 STAN. TECH. L. REV. 1, 27; see MORGAN LEWIS, 2017 PTAB DIGEST: THE LATEST TRENDS AND DEVELOPMENTS IN POST-GRANT PROCEEDINGS 28 (2017), https://www.morganlewis.com/media/files/publication/report/ptab%20post%20grant%20proceedings_fin_screen.ashx?la=en [<https://perma.cc/Q6JE-27CT>] (reporting that the Northern District of Illinois and the Northern District of California are the most likely to grant a contested motion to stay pending *inter partes* review, with grant rates of 82% and 74%, respectively, and that the Eastern District of Texas is among the least likely to grant a contested motion to stay, with a grant rate of 25%).

198. See *B&B Hardware, Inc. v. Hargis Indus., Inc.*, 135 S. Ct. 1293, 1299, 1303 (2015).

consistent with their usual meaning to a person of ordinary skill in the art,¹⁹⁹ and the patent challenger must prove invalidity by clear and convincing evidence.²⁰⁰ The PTO, by contrast, gives patent claims their broadest reasonable interpretation,²⁰¹ and invalidity must be proved by a preponderance of the evidence.²⁰²

To be clear, a final, case-ending decision that a patent is invalid, either by a court or by the PTO, does bind its counterpart; that is the upshot of the absolute finality rule discussed above.²⁰³ But many decisions that would be entitled to preclusive effect, at least between the same parties, if the PTO and the courts were applying the same legal standard receive no preclusive effect at all, including a ruling in the patentee's favor on the issue of validity, a ruling of invalidity in a dispute that has not yet fully concluded, and any ruling on claim construction.²⁰⁴ Moreover, although estoppel provisions in the AIA bar petitioners from reasserting in court particular invalidity arguments they made or could have made at the PTAB,²⁰⁵ some courts have interpreted those provisions narrowly, applying them only to arguments on which the PTAB actually instituted review.²⁰⁶

By staying litigation pending PTO review in most cases, the courts have attempted to make the current system as efficient as they can. Any change to more effectively coordinate court and PTO proceedings would probably have to

199. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc).

200. *Microsoft Corp. v. i4i Ltd. P'ship*, 564 U.S. 91, 95 (2011). This heightened standard of proof is imposed because of the statutory presumption of patent validity. 35 U.S.C. § 282(a) (2012).

201. *See* 37 C.F.R. § 42.100(b) (2012); *see also* *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2142 (2016) (approving under *Chevron* the PTO regulation adopting the broadest reasonable interpretation standard) (citing *Chevron U.S.A., Inc. v. Nat. Res. Def. Council, Inc.*, 467 U.S. 837 (1984)). The rationale for the broader interpretation standard is that patents can be amended in proceedings at the PTO. *See infra* notes 209–15 and accompanying text (questioning whether that rationale applies in AIA proceedings, where amendments are relatively difficult to obtain).

202. *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427 (Fed. Cir. 1988). The standard of proof is lower at the PTO than in court because the statutory presumption of validity—a form of deference to the agency's decision making, *see infra* note 216—does not apply when the agency is making its own decision about patentability.

203. *See supra* note 185 and accompanying text. A court decision of invalidity also binds the ITC in section 337 proceedings, *see supra* note 48, but ITC decisions do not bind the courts in subsequent litigation. *See Sapna Kumar, The Other Patent Agency: Congressional Regulation of the ITC*, 61 FLA. L. REV. 529, 558, 561–63 (2009).

204. *See generally* Gugliuzza, *supra* note 1, at 289 (discussing how the different legal standards applied by the courts and the PTO minimize the preclusive effect of those tribunals' rulings). *But see* Timothy R. Holbrook, *The Patent Trial and Appeal Board's Evolving Impact on Claim Construction*, 24 TEX. INTEL. PROP. L.J. 301, 332 (2016) (suggesting, based on the similarities between PTAB proceedings and district court litigation, that PTAB claim constructions could be entitled to preclusive effect in district court litigation, and vice versa).

205. *See* 35 U.S.C. §§ 315(e)(2), 325(e)(2).

206. *See, e.g., Intellectual Ventures I LLC v. Toshiba Corp.*, 221 F. Supp. 3d 534, 553–54 (D. Del. 2016) (citing *Shaw Indus. Grp., Inc. v. Automated Creel Sys., Inc.*, 817 F.3d 1293 (Fed. Cir. 2016)). *But see* *Biscotti Inc. v. Microsoft Corp.*, No. 13-cv-1015, 2017 WL 2526231, at *5 (E.D. Tex. May 11, 2017) (applying estoppel to grounds included in a petition for inter partes review but determined by the PTAB not to establish a reasonable likelihood of unpatentability, discussing conflicting district court decisions on the scope of estoppel).

come from Congress. One option would be to have the courts and the PTO apply the same standards of claim construction and burdens of proof, to enhance the preclusive effects of rulings between the two tribunals. The Supreme Court in 2016 approved the PTO's application of the broadest reasonable interpretation standard of claim construction in AIA proceedings, rejecting the argument that the agency should apply the ordinary meaning standard applied by the courts.²⁰⁷ The Court recognized that the divergent standards facilitate inconsistent rulings, but nevertheless granted the PTO *Chevron* deference.²⁰⁸

That deference, however, would also probably permit the PTO to change course and apply the same standard of claim construction that applies in court proceedings. Indeed, the agency's justifications for applying the broadest reasonable interpretation standard in AIA proceedings are questionable. For instance, the PTO has asserted that the broadest reasonable interpretation standard is justified by "a party's ability to amend claims to avoid prior art."²⁰⁹ But the opportunity to amend is limited in AIA proceedings,²¹⁰ and the PTAB has granted few motions to amend.²¹¹ The PTO has also justified the broadest reasonable interpretation standard on the ground that it has applied that standard in reexamination proceedings "for nearly thirty years."²¹² Yet reexamination is fundamentally different than AIA proceedings, a point the PTAB itself has emphasized in refusing to give preclusive effect to its own reexamination decisions in AIA proceedings.²¹³ In reexamination, amendments are liberally permitted—indeed, claim amendment is the most common outcome of *ex parte*

207. *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2142 (2016).

208. *Id.* at 2142, 2146.

209. Changes to Implement Inter Partes Review Proceedings, Post-Grant Review Proceedings, and Transitional Program for Covered Business Method Patents, 77 Fed. Reg. 48,680, 48,688 (Aug. 14, 2012) (citing *In re Yamamoto*, 740 F.2d 1569, 1572 (Fed. Cir. 1984)).

210. *See, e.g.*, 35 U.S.C. § 316(d)(1) (2012) (allowing the patent owner to file only one motion to amend).

211. U.S. PATENT & TRADEMARK OFFICE, MOTION TO AMEND STUDY 6 (Apr. 30, 2016), <http://www.uspto.gov/sites/default/files/documents/2016-04-30%20PTAB%20MTA%20study.pdf> [<https://perma.cc/YH3Q-5ZD9>] (reporting that the PTAB granted, in whole or in part, only six motions to amend in the first three-and-a-half years of AIA proceedings, out of 118 decided). The Federal Circuit recently overturned the PTAB's practice of placing on the patentee the burden to show that proposed amendments are patentable over the prior art. *See Aqua Prods., Inc. v. Matal*, 872 F.3d 1290, 1296 (Fed. Cir. 2017) (en banc). Though that decision appears to make it easier for patentees to secure amendments, other considerations suggest that amendments will remain rare in AIA proceedings. *See Naveen Modi et al., Aqua Products: Watershed Decision or Barely a Ripple*, LAW360 (Oct. 16, 2017, 1:11 PM), <https://www.law360.com/articles/974695> [<https://perma.cc/Z32S-KLNU>] (discussing limits on the number and scope of amendments that the patentee may propose and how the doctrine of intervening rights can prevent patentees from recovering past damages if claims have been amended).

212. Changes to Implement Inter Partes Review Proceedings, Post-Grant Review Proceedings, and Transitional Program for Covered Business Method Patents, 77 Fed. Reg. at 48,697–98.

213. *See BioDelivery Sci. Int'l, Inc. v. Monosol Rx, LLC*, No. IPR2015-00169, 2016 Pat. App. LEXIS 13050, at *24 (P.T.A.B. Mar. 24, 2016) ("[I]nter partes review under the AIA offers a significant procedural opportunity to the parties that was not available in the prior *inter partes* reexamination proceeding.").

reexamination (which survives the enactment of the AIA).²¹⁴ In short, there are good reasons for the PTO to apply the ordinary meaning claim construction standard in AIA proceedings. If the PTO applied the ordinary meaning standard, there would be more preclusion between the courts and the PTO, and the inefficiencies of parallel proceedings would be reduced.²¹⁵

Another option to facilitate preclusion between the courts and the PTO would be to have both tribunals apply the same burden of proof on the question of invalidity. Congress has two basic options on that score. First, it could require the PTAB to apply the clear and convincing evidence standard that currently applies in court. That standard, however, is a form of judicial deference to agency decision making,²¹⁶ and it makes little sense to say that a three-judge panel of the PTAB should defer to a prior decision by a single examiner. The other option would be for both the courts and the PTO to apply a preponderance of the evidence standard. If, as many believe, the PTO issues too many patents that do not actually satisfy the requirements for patentability, then the clear and convincing evidence standard improperly insulates many patents from invalidity challenges.²¹⁷ Indeed, the decision to issue a patent, made by a single examiner with limited time to allocate to the task, does not seem like the type of reasoned decision making to which court deference is typically appropriate.²¹⁸

The most radical solution to the problem of parallel proceedings and duplicative litigation would be to adopt a regime of staged adjudication in which the PTO first and exclusively resolves all issues of validity and then the courts decide infringement and remedies.²¹⁹ Staged adjudication would offer several potential benefits. First, it would provide the public with more decisions on

214. See EX PARTE REEXAMINATION FILING DATA, *supra* note 2, at 2 (noting that 66% of claims are amended in reexamination).

215. Alternatively, Rochelle Dreyfuss has suggested that both the courts and the PTO should apply the broadest reasonable interpretation standard, noting that its objective nature could enhance uniformity and reduce appellate reversal rates. See Dreyfuss, *supra* note 18, at 269–70. Though it is not clear that any standard of claim construction can be truly objective given the inherent malleability of the language used in patent claims, *cf.* Margaret Jane Radin, *Patent Notice and the Trouble with Plain Meaning*, 96 B.U. L. REV. 1093, 1094 (2016) (“[T]here is no such thing as plain meaning that everybody concerned will accept, especially when it comes to innovative products and processes where there is money at stake.”), the salient point is that the efficiency of proceedings would be enhanced if the courts and the PTO applied the same claim construction standard, whatever that standard might be.

216. See Stuart Minor Benjamin & Arti K. Rai, *Who’s Afraid of the APA? What the Patent System Can Learn from Administrative Law*, 95 GEO. L.J. 269, 281–82, 284 (2007).

217. See Doug Lichtman & Mark A. Lemley, *Rethinking Patent Law’s Presumption of Validity*, 60 STAN. L. REV. 45, 49–51 (2007) (proposing to limit the presumption of validity to situations in which the patentee submitted to a more rigorous initial examination or a court, the ITC, or the PTO has already reevaluated validity and found in the patentee’s favor).

218. See *Skidmore v. Swift & Co.*, 323 U.S. 134, 140 (1944) (noting that the deference courts give to an agency decision “will depend upon the thoroughness evident in [the agency’s] consideration, the validity of its reasoning, its consistency with earlier and later pronouncements, and all those factors which give it power to persuade, if lacking power to control”).

219. For proposals along these lines, see Michael Goodman, *What’s So Special About Patent Law?*, 26 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 797, 846–48 (2016); Craig Allen Nard, *Legitimacy and the Useful Arts*, 10 HARV. J.L. & TECH. 515, 556 (1997).

patent validity in the relatively quick, inexpensive, and expert forum of the PTO.²²⁰ Second, a PTO affirmation of validity, though it would formally bind only those accused infringers who were parties to the administrative proceeding,²²¹ would generate useful information that could lead to reduced litigation costs. For example, in future disputes, the PTO would likely treat its own prior ruling as highly persuasive,²²² which would discourage future accused infringers from relitigating validity. Finally, a model of strictly staged adjudication, in which validity is fully resolved before infringement is litigated, would avoid the problems that arise in other countries where validity and infringement proceedings are bifurcated but simultaneous. In Germany, for instance, it is rare for courts to stay litigation pending administrative review of validity.²²³ Consequently, courts commonly find a patent infringed and issue an injunction only for the patent to be invalidated later in separate administrative proceedings.²²⁴

Staged adjudication, however, could have several drawbacks. It could extend the overall duration of proceedings, particularly in cases in which the PTO affirms the patent's validity but there are close questions on infringement. Indeed, if infringement is easier to decide in a given case, and particularly if the ruling would be one of noninfringement and would end the case, it seems questionable to require the parties and the PTO to resolve validity first. Also, litigants could attempt to argue for different claim constructions in the different tribunals. Patentees, for instance, would argue for narrow constructions at the PTO to avoid invalidation, and then argue for broad constructions in litigation to ensnare the infringer's product or process.²²⁵ Thus, strict rules of estoppel and preclusion would be an essential element of an efficient regime of staged adjudication. Also, because patent validity could be resolved more quickly and cheaply at the PTO, parties would be incentivized to challenge more patents, potentially increasing overall litigation costs.²²⁶ Lastly, but most fundamentally, the Supreme Court is currently considering a case in which it could rule that it is

220. Cf. John F. Duffy, *On Improving the Legal Process of Claim Interpretation: Administrative Alternatives*, 2 WASH. U. J.L. & POL'Y 109, 130–31 (2000) (discussing the expertise of the PTO on patent claim interpretation as a reason for courts to defer to the PTO's interpretation of patent claims).

221. See *Hansberry v. Lee*, 311 U.S. 32, 40 (1940).

222. To draw an analogy, when a patent's validity is confirmed in *ex parte* reexamination, courts typically give that decision some weight in subsequent litigation. See *Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 955, 961 (Fed. Cir. 1986).

223. Colleen Chien & Christian Helmers, *Inter Partes Review and the Design of Post-Grant Patent Reviews*, 21 STAN. TECH. L. REV. (forthcoming) (manuscript at 18), <http://ssrn.com/abstract=2601562> [<https://perma.cc/2KBT-NV92>] (noting that German courts stay infringement proceedings in light of administrative revocation proceedings only 20% of the time).

224. Katrin Cremers et al., *Invalid but Infringed? An Analysis of Germany's Bifurcated Patent Litigation*, 131 J. ECON. BEHAV. & ORG. 218, 219 (2016) (reporting that 12% of awarded injunctions are based on patents later proved to be invalid).

225. See Mark A. Lemley & Mark P. McKenna, *Scope*, 57 WM. & MARY L. REV. 2197, 2202–03 (2016) (highlighting the importance of unified proceedings to determine the scope of IP rights).

226. See William M. Landes, *Sequential Versus Unitary Trials: An Economic Analysis*, 22 J. LEGAL STUD. 99, 100–01 (1993) (noting that sequential trials increase the plaintiff's incentive to sue and increase the number of lawsuits).

unconstitutional for the PTO (as compared to the courts) to invalidate issued patents.²²⁷ Although the lower federal courts have repeatedly rejected that argument,²²⁸ a Supreme Court ruling to the contrary would obviously make it difficult if not impossible to create a regime in which the PTO has the exclusive power to adjudicate patent validity.

In sum, the administrative proceedings created by the AIA are fast and seem, at first blush, to represent a significant savings in litigation-related costs. Indeed, the PTO itself has touted the new proceedings as “hav[ing] significantly changed the patent landscape by providing a faster, cost-efficient quality check on issued patents.”²²⁹ Yet numerous complexities remain, particularly in the relationship between those proceedings and concurrent or subsequent infringement litigation in the federal courts. Finding ways to better coordinate court and PTO proceedings is therefore critical to realizing the efficiency gains that the PTO’s quick decisions could provide.

2. Patent-Eligible Subject Matter

Although Congress created the new AIA proceedings for the specific purpose of expediting resolution of patent disputes, other recent developments in patent law achieve the same goal, albeit less explicitly. The foremost example is the doctrine that has changed most dramatically in the past decade: patentable subject matter.

Section 101 of the Patent Act permits patents on any new and useful “process, machine, manufacture, or composition of matter.”²³⁰ Despite that broad language, courts have long recognized implicit limits on the types of inventions eligible for patenting. In simplest terms, scientific principles, natural laws, and abstract ideas are not patent eligible,²³¹ but specific *applications* of those principles, laws, and ideas are.²³² After the Supreme Court appeared to loosen the requirements of patent eligibility in the early 1980s,²³³ the Federal

227. *Oil States Energy Servs., LLC v. Greene’s Energy Grp., LLC*, 639 F. App’x 639 (Fed. Cir. 2016), *cert. granted*, 137 S. Ct. 2239 (2017).

228. *See, e.g.*, *MCM Portfolio LLC v. Hewlett-Packard Co.*, 812 F.3d 1284, 1292–93 (Fed. Cir. 2015) (rejecting a challenge to AIA review based on both Article III and the Seventh Amendment); *Patlex Corp. v. Mossinghoff*, 758 F.2d 594, 605 (Fed. Cir. 1985) (rejecting a constitutional challenge to *ex parte* reexamination); *see also* Greg Reilly, *The Constitutionality of Administrative Patent Cancellation*, 23 B.U. J. Sci. & Tech. L. 377, 380–81 (2017) (arguing that administrative adjudication of patent validity is consistent with both Article III and the Seventh Amendment).

229. Dennis Crouch, *PTAB Procedural Reform Initiative*, PATENTLY-O (Apr. 7, 2017) <https://patentlyo.com/patent/2017/04/procedural-reform-initiative.html> [<https://perma.cc/EA4M-SSRE>] (excerpting a PTO press release).

230. 35 U.S.C. § 101 (2012).

231. *See, e.g.*, *Gottschalk v. Benson*, 409 U.S. 63, 71–72 (1972) (holding that a mathematical formula is not patent eligible); *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 131–32 (1948) (invalidating a patent on a composition of two naturally occurring bacteria).

232. *See, e.g.*, *Diamond v. Diehr*, 450 U.S. 175, 187–88 (1981) (holding a method of molding rubber that used a mathematical formula patent eligible); *Diamond v. Chakrabarty*, 447 U.S. 303, 309–10 (1980) (holding a manmade bacterium useful for cleaning up oil spills patent eligible).

233. *See Diehr*, 450 U.S. at 187; *Chakrabarty*, 447 U.S. at 309–10.

Circuit and the PTO further eroded the limits on eligibility in the 1990s and early 2000s. During that period, the PTO issued many patents on software and business methods, which, because of their inherently abstract nature, had poorly defined boundaries.²³⁴ This led to high rates of litigation²³⁵ even though patents are not thought to be an important incentive for innovation in those areas.²³⁶ Increased patenting of early-stage biotechnology, such as naturally occurring gene fragments, also created worries about an emerging anticommons—specifically, that any practical gene therapy would require the simultaneous use of numerous different patents.²³⁷

Many of these newly issued patents on software, business methods, and basic biotechnology, even if patent eligible under prevailing section 101 doctrine, should not, in the view of many observers, have satisfied other requirements of patentability, particularly the nonobviousness requirement of section 103. In 2003, the Federal Trade Commission issued a widely read report arguing that the Federal Circuit had made it too difficult to prove obviousness,²³⁸ as part of a broader critique of the court's doctrine for overvaluing patent rights and undervaluing market incentives for innovation.²³⁹ Similarly, in an influential book published in 2008, Jim Bessen and Mike Meurer argued that the Federal Circuit had, over the preceding two decades, overseen a proliferation of patents on trivial advances in technology, particularly in the field of computer software.²⁴⁰ Commentators also criticized the Federal Circuit's obviousness case law in the area of biotechnology.²⁴¹

During that time, the Federal Circuit had required, as a prerequisite to finding obviousness, that courts or patent examiners identify a specific “teaching,

234. BESSEN & MEURER, *supra* note 39, at 187–88, 192–93. For a challenge to the conventional wisdom that the Federal Circuit facilitated the increase in business method patents, see John F. Duffy, *Why Business Method Patents?*, 63 STAN. L. REV. 1247, 1251–52 (2011), which argues that the growth of those patents was driven by the introduction of mathematical and scientific techniques into the fields of economics and business.

235. BESSEN & MEURER, *supra* note 39, at 152–53; see also Michael J. Meurer, *Controlling Opportunistic and Anti-Competitive Intellectual Property Litigation*, 44 B.C. L. REV. 509, 542 (2003) (noting that business method patents present a high risk of “opportunistic lawsuits” because independent invention is likely and surveillance of research activity by other potential inventors is difficult).

236. See Rochelle Cooper Dreyfuss, *Are Business Method Patents Bad for Business?*, 16 SANTA CLARA COMPUTER & HIGH TECH. L.J. 263, 275 (2000).

237. See DAN L. BURK & MARK A. LEMLEY, *THE PATENT CRISIS AND HOW THE COURTS CAN SOLVE IT* 86–89 (2009).

238. U.S. FED. TRADE COMM'N, *TO PROMOTE INNOVATION: THE PROPER BALANCE OF COMPETITION AND PATENT LAW AND POLICY* 10–12 (2003), <https://www.ftc.gov/sites/default/files/documents/reports/promote-innovation-proper-balance-competition-and-patent-law-and-policy/innovationrpt.pdf> [<https://perma.cc/7KMY-RXGF>].

239. See Tejas N. Narechania, *Patent Conflicts*, 103 GEO. L.J. 1483, 1493–95 (2015) (describing the tension between the Commission and the Federal Circuit on matters of innovation policy).

240. BESSEN & MEURER, *supra* note 39, at 212–13.

241. See, e.g., Dan L. Burk & Mark A. Lemley, *Is Patent Law Technology-Specific?*, 17 BERKELEY TECH. L.J. 1155, 1179 (2002); Arti K. Rai, *Intellectual Property Rights in Biotechnology: Addressing New Technology*, 34 WAKE FOREST L. REV. 827, 833 (1999).

suggestion, or motivation” to combine prior art references.²⁴² That can be a difficult task, particularly with software and business methods, where key references are often hidden as source code in a commercial product or consist of common knowledge of a general business practice.²⁴³ In 2007, the Supreme Court, in *KSR International Co. v. Teleflex Inc.*, deemphasized the “teaching, suggestion, or motivation” test, instead ruling that the obviousness analysis should be “expansive and flexible.”²⁴⁴ Specifically, the Court indicated that a finding of obviousness can be based on market demands, design incentives, or even the common sense of a person having ordinary skill in the art.²⁴⁵

By making it easier to prove obviousness, the flexible framework articulated in *KSR* helped ameliorate some of the problems created by the generous standards of patentability embraced by the Federal Circuit and the PTO.²⁴⁶ As discussed above, however, obviousness is a poor vehicle for *quickly* invalidating a patent because it depends on underlying questions of fact.²⁴⁷ Although the Court in *KSR* endorsed resolving obviousness on summary judgment,²⁴⁸ summary judgment typically occurs after the parties have incurred a substantial portion of discovery-related expenses, if not all of them. And because obviousness is based on facts, summary judgment is the earliest stage at which the issue can be resolved.

The same goes for other key grounds of invalidity, such as anticipation and lack of enablement.²⁴⁹ Also, in 2005, the Federal Circuit held that short gene fragments with no currently known function do not satisfy the Patent Act’s utility requirement.²⁵⁰ But the Federal Circuit has held that utility is a question of fact,²⁵¹ so it, too, cannot be resolved before summary judgment.

Courts treat patent eligibility, by contrast, as a question of law that usually does not implicate any disputes of fact, meaning that it can be used to invalidate patents before discovery begins, on a motion to dismiss or for judgment on the pleadings.²⁵² Thus, the invigorated patent eligibility requirement is, like Congress’s expansion of post-issuance proceedings at the PTO, another route to quick decisions on patent validity.²⁵³

242. *E.g.*, *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998).

243. *See* Margo A. Bagley, *Internet Business Model Patents: Obvious by Analogy*, 7 MICH. TELECOMM. & TECH. L. REV. 253, 279–80 (2001); Mark A. Lemley & David W. O’Brien, *Encouraging Software Reuse*, 49 STAN. L. REV. 255, 301–02 (1997).

244. 550 U.S. 398, 415, 419 (2007).

245. *Id.* at 418.

246. *See* Glynn S. Lunney, Jr. & Christian T. Johnson, *Not So Obvious After All: Patent Law’s Nonobviousness Requirement, KSR, and the Fear of Hindsight Bias*, 47 GA. L. REV. 41, 43 (2012).

247. *See supra* notes 132–34 and accompanying text.

248. *KSR*, 550 U.S. at 426–27.

249. *See supra* notes 135–37.

250. *In re Fisher*, 421 F.3d 1365, 1373 (Fed. Cir. 2005).

251. *U.S. Steel Corp. v. Phillips Petroleum Co.*, 865 F.2d 1247, 1252 n.8 (Fed. Cir. 1989).

252. *See, e.g.*, *Bascom Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1347 (Fed. Cir. 2016).

253. To be clear, the Supreme Court has never held that patent eligibility is devoid of factual considerations. Indeed, the Court has sometimes based its eligibility analysis on “undisputed” propositions that look like facts.

To briefly summarize the recent developments in eligibility doctrine (which have been discussed in detail elsewhere²⁵⁴): In 2010, shortly after the Federal Circuit began to retreat from prior decisions embracing broad patent eligibility for business methods,²⁵⁵ the Supreme Court invalidated a patent on a method of hedging financial risk because it claimed “an unpatentable abstract idea.”²⁵⁶ Two years later, the Court invalidated as directed to a law of nature a patent on a method of administering a drug to a patient and then determining its metabolite levels in the body.²⁵⁷ The Court emphasized that, beyond reciting the natural correlation between metabolite levels and drug safety and efficacy, the patent merely recited “well-understood, routine, conventional activity” that doctors already engaged in.²⁵⁸ The next year, the Court invalidated patents on isolated sequences of DNA because they occur in nature.²⁵⁹ Most recently, the Court struck down patents on computer software that used an intermediary to ensure parties performed a contract.²⁶⁰ The Court reasoned that the idea of using intermediaries already existed in the analog world and that the patent contained no “inventive concept” to transform that abstract idea into a “patent-eligible *application*” of the idea.²⁶¹

On the surface, the Court’s decisions reflect concern about the substance of patent law: specifically, that the Federal Circuit and the PTO have too readily permitted patents on basic concepts that are important to follow-on innovation—what the Court has called “building blocks of human ingenuity.”²⁶² The Court’s opinions have made passing reference, at most, to the aim of reducing litigation-related costs,²⁶³ and have not discussed speed to decision at all. Yet the

See Ass’n for Molecular Pathology v. Myriad Genetics, Inc., 133 S. Ct. 2107, 2116 (2013). The Court has also made the seemingly factual question of whether activity covered by the patent is “conventional” an important criterion in determining eligibility. *See, e.g.*, *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 79–80 (2012). Thus, though lower courts often treat eligibility as lacking factual considerations, their approach may not be correct as a matter of doctrine or as a matter of policy. *See infra* text accompanying notes 309–12 (suggesting that eligibility could be treated as a question of law based on factual inquiries).

254. *See, e.g.*, Timothy R. Holbrook & Mark D. Janis, *Patent-Eligible Processes: An Audience Perspective*, 17 VAND. J. ENT. & TECH. L. 349, 356–58 (2015); Jacob S. Sherkow, *The Natural Complexity of Patent Eligibility*, 99 IOWA L. REV. 1137, 1151–52 (2014).

255. *See, e.g.*, *In re Comiskey*, 554 F.3d 967, 981 (Fed. Cir. 2009) (affirming the PTO’s rejection of a patent application claiming a method of requiring and conducting arbitration).

256. *Bilski v. Kappos*, 561 U.S. 593, 611–12 (2010). The Federal Circuit in *Bilski* had actually found the invention to be ineligible for patenting, too. *In re Bilski*, 545 F.3d 943, 949 (Fed. Cir. 2008) (en banc).

257. *Mayo*, 566 U.S. at 79–80.

258. *Id.*

259. *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107, 2111 (2013).

260. *Alice Corp. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2352, 2357 (2014).

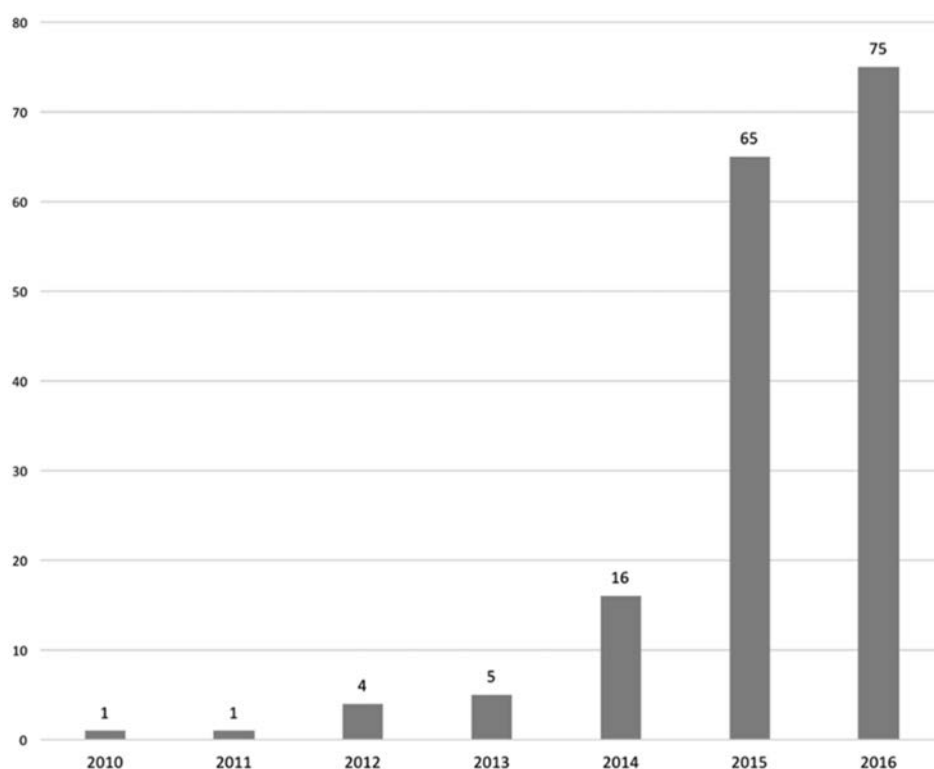
261. *Id.* at 2357 (quoting *Mayo*, 566 U.S. at 72).

262. *E.g., id.* at 2354 (quoting *Mayo*, 566 U.S. at 89).

263. *See Bilski v. Kappos*, 561 U.S. 593, 656 (2010) (Stevens, J., concurring in the judgment) (arguing for a blanket prohibition on business method patents, noting that “[e]ven if a business method patent is ultimately held invalid, patent holders may be able to use it to threaten litigation and to bully competitors, especially those that cannot bear the costs of a drawn-out, fact-intensive patent litigation”); *Lab. Corp. of Am. Holdings v. Metabolite Labs., Inc.*, 548 U.S. 124, 127 (2006) (Breyer, J., dissenting from the dismissal of certiorari) (noting patents can sometimes “discourage research” by, among other things, “leading [researchers] to conduct costly and time-consuming searches of existing or pending patents” and “requiring complex licensing arrangements”).

invigoration of the eligibility requirement can help courts resolve infringement disputes more quickly and cheaply by allowing validity to be resolved on the pleadings as a matter of law. As Figure 1 below shows, the number of pleadings-stage dismissals on eligibility grounds has dramatically increased since the beginning of the Supreme Court's recent string of decisions. Although district courts sometimes grant motions to dismiss without prejudice, meaning that the plaintiff will have an opportunity to file an amended complaint, my review of the specific eligibility dismissals captured on Figure 1 below suggests that most of those dismissals are *with* prejudice—they are, in other words, the final word on patent validity as far as the district court is concerned.²⁶⁴ Because the dismissal is for the legal insufficiency of the complaint, not its factual insufficiency, filing an amended complaint would do the patentee no good.²⁶⁵

Figure 1. Pleadings-Stage Eligibility Dismissals



264. See, e.g., *Bascom Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 107 F. Supp. 3d 639, 655 (N.D. Tex. 2015) (granting motion to dismiss on eligibility grounds without offering the plaintiff an opportunity to amend the complaint), *vacated and remanded*, 827 F.3d 1341 (Fed. Cir. 2016).

265. The data used to create Figure 1 cover all federal district courts nationwide and are drawn from Docket Navigator's motion success tool. See DOCKET NAVIGATOR, <http://home.docketnavigator.com>.

Many observers have viewed the Supreme Court's invigoration of the eligibility requirement as problematic because, in their view, the requirement, which demands that patents contain an "inventive concept," has no policy justification that is independent from the other requirements of patentability.²⁶⁶ As the Supreme Court has acknowledged, there will sometimes be "overlap" in analyzing whether a claim contains an inventive concept and whether it satisfies the novelty and nonobviousness requirements.²⁶⁷ In addition, the Court's concern about the availability of "building blocks" can be read as condemning claims that are overly broad²⁶⁸—highly similar to the animating policy of section 112's enablement requirement, which requires the patent to disclose sufficiently detailed information to allow a person of ordinary skill in the art to recreate the invention without undue experimentation.²⁶⁹ The bar on patenting abstract ideas also looks similar to the specific utility requirement, which ensures that a patent "is not so vague as to be meaningless,"²⁷⁰ section 112's definiteness requirement, which ensures that the public has reasonably certain notice of the patent's boundaries,²⁷¹ and the written description doctrine, which ensures that the patentee has described the invention with particularity.²⁷²

I obtained the data by running the following search: (1) Type of court document: motion to dismiss—failure to state a claim OR motion for judgment on the pleadings; (2) Order filed date: January 1, 2010, to December 31, 2016, inclusive; (3) Legal issue: Unpatentable subject matter (35 U.S.C. § 101) and selected subcategories, including patent ineligible subject matter (and all of its subcategories), inventive concept, and preemption. Though more elaborate empirical work could certainly be done with regard to district courts' practices on eligibility, I offer this chart mainly to confirm what patent lawyers and scholars intuitively know: pleading-stage eligibility dismissals, which were nearly unheard of less than a decade ago, are now a common occurrence in patent litigation. For further confirmation of this trend, see Jeffrey A. Lefstin et al., *Final Report of the Berkeley Center for Law & Technology Section 101 Workshop: Addressing Patent Eligibility Challenges*, 32 BERKELEY TECH. L.J. (forthcoming 2018) (manuscript at 23 tbl. 2), <https://ssrn.com/abstract=3050093> [<https://perma.cc/K6A5-QDHA>] (reporting that, from June 2012 to February 2017, 69.4% of district court decisions on eligibility (249 of 359) were made on a motion to dismiss or for judgment on the pleadings and that 63.1% of those pleadings-stage decisions (157 of 249) invalidated the patent).

266. See J. Jonas Anderson, *Applying Patent-Eligible Subject Matter Restrictions*, 17 VAND. J. ENT. & TECH. L. 267, 281 (2015) (summarizing commentary).

267. *Mayo*, 566 U.S. at 90.

268. Rebecca S. Eisenberg, *Wisdom of the Ages or Dead-Hand Control? Patentable Subject Matter for Diagnostic Methods After In re Bilski*, 3 CASE W. RES. J.L. TECH. & INTERNET 1, 56–59 (2012).

269. *Consol. Elec. Light Co. v. McKeesport Light Co.*, 159 U.S. 465, 475 (1895).

270. *In re Fisher*, 421 F.3d 1365, 1371 (Fed. Cir. 2005). The specific utility requirement can be contrasted with the *practical* utility requirement, which ensures "that an invention is useful to the public as disclosed in its current form, not that it may prove useful at some future date after further research." *Id.* The utility requirements, like the eligibility requirement, stem from section 101 of the Patent Act, which permits patents on "new and *useful*" processes, machines, and so on. 35 U.S.C. § 101 (2012) (emphasis added).

271. See *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2129 (2014); see also 35 U.S.C. § 112(b) (requiring the patent to contain "one or more claims particularly pointing out and distinctly claiming" the invention).

272. See *Fiers v. Revel*, 984 F.2d 1164, 1169 (Fed. Cir. 1993).

None of those requirements, however, are susceptible to quick resolution because they all turn on questions of fact.²⁷³ Issues of fact can of course be resolved on summary judgment if there is no genuine dispute between the parties.²⁷⁴ But summary judgment in discovery-intensive patent cases is much more expensive than a motion to dismiss. Thus, one arguably coherent policy justification for the eligibility requirement is that, as a “coarse-grained filter” for patentability,²⁷⁵ it provides a means for quickly and cheaply wiping out patents that are so likely to be invalidated under other requirements of patentability that discovery is not warranted.²⁷⁶

The litigation cost savings that flow from early resolution of validity via the eligibility requirement may, however, come at the price of decreased accuracy.²⁷⁷ Specifically, courts may be using the eligibility requirement to invalidate meritorious inventions. The Federal Circuit’s 2015 decision in *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*²⁷⁸ is widely considered to be the paradigmatic example.²⁷⁹ In *Ariosa*, the Federal Circuit invalidated a patent on methods of detecting fetal DNA that floats freely in the mother’s body.²⁸⁰ The discovery

273. See *supra* notes 132–41 and accompanying text; see also *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1355 (Fed. Cir. 2010) (en banc) (stating that written description is a question of fact). Given that the written description requirement hinges on documentary evidence, namely, a comparison of the inventor’s original disclosure to the issued claims, one might reasonably question whether that requirement truly presents a factual issue. See Jesse S. Keene, *Fact or Fiction: Reexamining the Written Description Doctrine’s Classification as a Question of Fact*, 18 FED. CIR. B.J. 25, 59–60 (2009).

274. See FED. R. CIV. P. 56(a).

275. John M. Golden, *Patentable Subject Matter and Institutional Choice*, 89 TEX. L. REV. 1041, 1058 (2011); see also *Ultramercial, Inc. v. Hulu, LLC*, 722 F.3d 1335, 1341 (Fed. Cir. 2013) (“[T]he categories of patent-eligible subject matter are no more than a ‘coarse eligibility filter.’ In other words, . . . the expansive categories—process, machine, article of manufacture, and composition of matter—are not substitutes for the substantive patentability requirements set forth in §§ 102, 103, and 112 and invoked expressly by § 101 itself.” (citing *Research Corp. Techs., Inc. v. Microsoft Corp.*, 627 F.3d 859, 869 (Fed. Cir. 2010))), *cert. granted, judgment vacated sub nom.* *WildTangent, Inc. v. Ultramercial, LLC*, 134 S. Ct. 2870 (2014).

276. In contrast to this justification grounded in considerations of timing and litigation-related costs, other scholars have attempted to justify eligibility’s redundancy of other patentability requirements on substantive grounds. John Golden, for example, has argued that redundancy can prevent patent drafters from exploiting gaps left by other, compartmentalized doctrines of patentability. John M. Golden, *Redundancy: When Law Repeats Itself*, 94 TEX. L. REV. 629, 710–11 (2016). Similarly, Kevin Collins has argued that eligibility can limit the scope of patent protection in technologies where other validity doctrines impose minimal restrictions. Kevin Emerson Collins, *Patent-Ineligibility as Counteraction*, 94 WASH. U. L. REV. 955, 1002, 1019 (2017) (providing the example of medical diagnostics, which, in his view, inherently involve newly created knowledge that satisfies the novelty and nonobviousness requirements).

277. For an argument questioning whether judges are capable of making “cheap and accurate” assessments of eligibility on the limited record that is usually available early in the case, see Andres Sawicki, *The Central Claiming Renaissance*, 103 CORNELL L. REV. (forthcoming 2018) (manuscript at 4), <https://ssrn.com/abstract=2968650> [<https://perma.cc/8RL9-6LKS>].

278. 788 F.3d 1371 (Fed. Cir. 2015).

279. See, e.g., Dmitry Karshedt, *Photocopies, Patents, and Knowledge Transfer: “The Uneasy Case” of Justice Breyer’s Patentable Subject Matter Jurisprudence*, 69 VAND. L. REV. 1739, 1770–71 (2016).

280. 788 F.3d at 1373.

of this cell-free fetal DNA (cffDNA) was an important breakthrough. Previously, fetal genetic testing could be conducted only by extracting a sample directly from the fetus—an expensive and risky procedure.²⁸¹ Yet the Federal Circuit invalidated Sequenom’s patent because cffDNA occurs naturally and the techniques for detecting and amplifying it were well known at the time of the invention.²⁸²

Related to concerns about the invalidation of meritorious inventions is the claim that the Supreme Court’s test for eligibility, which turns on the existence of “abstract ideas,” “natural laws,” and “inventive concepts,” is so amorphous that lower courts’ application of the doctrine is confused and unpredictable.²⁸³ One district judge deciding a patent eligibility issue invoked Justice Stewart’s famous aphorism for identifying obscenity: “I know it when I see it.”²⁸⁴

It is certainly plausible that overzealous invalidations are deterring innovation in areas such as medical diagnostics.²⁸⁵ And I have no doubt that any decent patent lawyer (or law professor) can look at any two eligibility decisions and argue that they are inconsistent. For instance, in *Rapid Litigation Management Ltd. v. CellzDirect, Inc.*, a case decided mere days after the Supreme Court denied certiorari in *Ariosa*, the Federal Circuit upheld the eligibility of a patent on a method of preserving hepatocytes (a type of liver cell).²⁸⁶ The court distinguished *Ariosa* on the ground that the patent in *Ariosa* claimed a method of “identifying” cffDNA, which, in the court’s view, amounted to “merely claiming the natural phenom[on] itself.”²⁸⁷ Yet the patent in *CellzDirect* turned on the discovery that hepatocytes could survive multiple freeze-thaw cycles—a natural trait of the cells.²⁸⁸ Thus, one could argue that the patent in *CellzDirect*, just like the patent in *Ariosa*, simply claimed a natural phenomenon. The court in *CellzDirect*, however, pointed out that the patent claimed a new, physical *method* of preservation, not merely observation.²⁸⁹

Although these critiques of eligibility doctrine have merit, concerns about poor-quality patents—and about how patentees use them—have merit, too. Before the Supreme Court strengthened the eligibility requirement, there was

281. Rachel Rebouché, *Testing Sex*, 49 U. RICH. L. REV. 519, 527 (2015).

282. *Ariosa*, 788 F.3d at 1376–77. It should be noted that *Ariosa* was resolved on summary judgment, not the pleadings. But the complaint in that case was filed in 2011—before the Supreme Court’s decision in *Mayo*, which suggested that many medical diagnostics were not patent eligible. Complaint at 6, *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 19 F. Supp. 3d 938 (N.D. Cal. 2011) (No. 3:11-cv-6391). Perhaps for that reason, *Ariosa*’s original declaratory judgment complaint sought only a ruling of noninfringement, not invalidity. *See id.*

283. *See* Christopher M. Holman, *Patent Eligibility Post-Myriad: A Reinvigorated Judicial Wildcard of Uncertain Effect*, 82 GEO. WASH. L. REV. 1796, 1798–1801 (2014); David O. Taylor, *Confusing Patent Eligibility*, 84 TENN. L. REV. 157, 158–61 (2016).

284. *Eclipse IP LLC v. McKinley Equip. Corp.*, No. SACV 14-154, 2014 WL 4407592, at *3 (C.D. Cal. Sept. 4, 2014) (quoting *Jacobellis v. Ohio*, 378 U.S. 184, 197 (1964) (Stewart, J., concurring)).

285. *See* Rebecca S. Eisenberg, *Diagnostics Need Not Apply*, 21 B.U. J. SCI. & TECH. L. 256, 256–57 (2015).

286. 827 F.3d 1042, 1044, 1050–51 (Fed. Cir. 2016).

287. *Id.* at 1048.

288. *Id.* at 1045, 1048.

289. *Id.* at 1048, 1050–52.

effectively no way for accused infringers to seek dismissal on the merits before discovery began. Thus, eligibility doctrine, though it may not be substantively perfect, fills an important *procedural* gap by providing a mechanism to quickly and cheaply invalidate patents that are clearly invalid.²⁹⁰ Rather than abolishing the eligibility requirement, as some have suggested,²⁹¹ or requiring courts to avoid deciding eligibility issues until they have resolved all other grounds of patentability, as others have proposed,²⁹² we might consider ways to increase the accuracy of eligibility rulings while preserving courts' discretion to invoke this cost-saving mechanism in appropriate cases.

One potential infirmity with current eligibility law is its form. It is very much a fuzzy standard, not a clear rule. Standards can be more costly to enforce than rules and less predictable in application.²⁹³ This uncertainty may be exacerbated in patent law, where the ambiguous standard of eligibility has been piled atop the amorphous standard of nonobviousness—a multi-faceted, case-specific inquiry into the prior art, differences between that prior art and the invention, the level of ordinary skill in the art, and other considerations about market demand, commercial success, failure of others, and “common sense.”²⁹⁴ If the law of eligibility were made more rule-like, patentability would be resolved through a series of successive tests that are each more fact-intensive than the one before it. Clear, categorical exclusions from patent eligibility could be resolved on the pleadings or a very early summary judgment motion. More fact-driven validity doctrines, such as nonobviousness and the disclosure doctrines, could then

290. Invoking terminology used by Bob Bone, one might view this approach to eligibility as a “thick” screening model, in which pleading-stage dismissals target not just objectively frivolous suits (as a “thin” screening model would, *see infra* note 349), but also suits that are very weak. *See* Robert G. Bone, *Plausibility Pleading Revisited and Revised: A Comment on Ashcroft v. Iqbal*, 85 NOTRE DAME L. REV. 849, 870 (2010). Bone is ultimately skeptical of thick screening, arguing that a better way to balance the costs and benefits of early dismissal would be to engage in thin screening at the pleading stage followed by limited discovery before more aggressive screening of the merits of the plaintiff's claim. *Id.* at 881. In a similar vein, I suggest below that courts might reconceive patent eligibility as a question of law based on narrowly defined factual inquiries to reduce the risk that meritorious claims will be erroneously dismissed on a limited factual record. *See infra* note 311 and accompanying text.

291. *See supra* note 19.

292. *See, e.g.,* MySpace, Inc. v. GraphOn Corp., 672 F.3d 1250, 1261 (Fed. Cir. 2012) (“[C]ourts should avoid reaching for interpretations of broad provisions, such as § 101, when more specific statutes, such as §§ 102, 103, and 112, can decide the case.”); Dennis Crouch & Robert P. Merges, *Operating Efficiently Post-Bilski by Ordering Patent Doctrine Decision-Making*, 25 BERKELEY TECH. L.J. 1673, 1678 (2010). *But see, e.g.,* Intellectual Ventures I LLC v. Symantec Corp., 838 F.3d 1307, 1324 (Fed. Cir. 2016) (Mayer, J., concurring) (“[S]ection 101 imposes a threshold test, one that must be satisfied before a court can proceed to consider subordinate validity issues such as non-obviousness . . . or adequate written description” (internal quotation marks omitted)).

293. *Cf.* Kaplow, *supra* note 144, at 577, 596 (noting that rules are not always simpler to apply than standards). With regard to patent eligibility, the difficulty with a standard-like test may be particularly acute in the examination process. *See* Greg Reilly, *Decoupling Patent Law*, 97 B.U. L. REV. 551, 592 (2017) (“[T]he Supreme Court identifies an ‘abstract idea’ largely by analogizing (and distinguishing) prior precedent. This is feasible for judges, who are trained and experienced at common law reasoning, but . . . both foreign to, and difficult for, nonlawyer patent examiners.” (footnotes omitted)).

294. *See* Golden, *supra* note 276, at 701–02.

remain in their current, standard-like forms and be resolved on summary judgment at the close of discovery or at trial.²⁹⁵

But the value of doctrinal clarity in facilitating quick and accurate decisions on eligibility does not mean that legislative intervention is warranted.²⁹⁶ It is not unusual for common law doctrines, which patent eligibility effectively is, to crystalize into rules over time.²⁹⁷ Recent decisions by the Federal Circuit provide at least some reason to think that the law of eligibility could, over time, assume a more a rule-like form that is more predictable in application. For instance, in contrast to the Supreme Court's decisions in *Bilski v. Kappos* and *Alice Corp. v. CLS Bank International*, the Federal Circuit has issued several opinions upholding software-related patents against eligibility challenges. The Federal Circuit's case law confirms what the Supreme Court suggested in *Alice*: traditional business techniques implemented on a generic computer are not eligible for patenting.²⁹⁸ But software-related inventions *are* patent eligible if they improve the function of a computer,²⁹⁹ solve a problem unique to the Internet,³⁰⁰ or implement an arguably abstract idea in a very specific way.³⁰¹

295. For a similar proposal to reform trademark fair use doctrine, see McGeeveran, *Trademark Fair Use Reform*, *supra* note 46, at 2299 (“Under the proposal, trademark cases that raise free speech issues would move through a sequence of successively more complicated tests Each test . . . imposes greater administrative costs to adjudicate. Each one moves further along the spectrum from rules to standards. . . . [T]he first and simplest [test] is a categorical exclusion Expressive uses [of a trademark] that meet the conditions of an exclusion are exempt from liability, without any further inquiry into the likelihood of consumer confusion. Cases that fall outside these defined categories would remain eligible for the existing trademark fair use doctrines and presumably for standards-based reforms that other scholars have suggested. Finally, courts would evaluate the remaining cases . . . under the likelihood of confusion test.”).

296. *Cf.* David O. Taylor, *Amending Patent Eligibility*, 50 U.C. DAVIS L. REV. 2149, 2151–52 (2017) (arguing that Congress should amend section 101).

297. *See* McGeeveran, *Trademark Fair Use Reform*, *supra* note 46, at 2288; *see also* Keith N. Hylton, *Patent Uncertainty: Toward a Framework with Applications*, 96 B.U. L. REV. 1117, 1148 (2016) (noting that the “inherent uncertainty” stemming from the Supreme Court’s recent eligibility decisions “does not need to be a focus of [law] reform, because the common law process is necessarily uncertain at an early stage of analysis of a particular class of legal claims”).

298. *See, e.g.*, OIP Techs., Inc. v. Amazon.com, Inc., 788 F.3d 1359, 1363 (Fed. Cir. 2015) (invalidating a patent describing “the automation of the fundamental economic concept of offer-based price optimization through the use of generic-computer functions”); *see also* *Alice Corp. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2359 (2014) (observing that the patents in suit did “not . . . purport to improve the functioning of the computer itself or effect an improvement in any other technology or technical field”).

299. *See, e.g.*, *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1336, 1339 (Fed. Cir. 2016) (upholding the eligibility of a patent on a “self-referential table for a computer database,” noting it is “a specific type of data structure designed to improve the way a computer stores and retrieves data in memory”).

300. *See, e.g.*, *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257–59 (Fed. Cir. 2014) (upholding the eligibility of a patent on an invention that addressed the problem of retaining website visitors upon the click of an advertising link, noting that “the claimed solution is necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks”).

301. *See, e.g.*, *Bascom Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1350–52 (Fed. Cir. 2016) (upholding the eligibility of a patent on filtering Internet content where the patent

Although not every Federal Circuit eligibility decision is amenable to easy characterization,³⁰² much of the court's case law can be understood to embrace a "technological arts" test, under which "advances in non-technological disciplines, such as business, law, or the social sciences," are not patent eligible.³⁰³ On the other hand, patents covering technological improvements in computer hardware or software—particularly those that improve the functioning of the computer or that solve a problem unique to the realm of computers or the Internet—are patent eligible.³⁰⁴ Likewise, in the realm of biotechnology, one could plausibly reconcile the decisions in *Ariosa* and *CellzDirect* by noting that inventions are not patent eligible if they cover the mere isolation or detection of a naturally occurring chemical but that they are patent eligible if they entail the making of a new thing or the creation of a new, physical process.³⁰⁵

Another potential critique of current eligibility law, despite the doctrine's ability to facilitate quick decisions on patent validity, is that the Supreme Court's run of opinions consistently ruling against the patentee has incentivized *too many* pleading-stage eligibility motions. If many of those motions lack merit, the invigorated eligibility requirement could, as a systemic matter, be creating more litigation without providing earlier or cheaper resolution. As

required the filter to be located on a remote server and required the filter to allow customization by users); *see also* *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1315–16 (Fed. Cir. 2016) (finding not to be an abstract idea claims on a process for synchronizing animation with sound, noting that the process "uses a combined order of specific rules that renders information into a specific format").

302. For instance, the court recently held patent eligible some rather vague claims to a computer program for processing network usage information, relying heavily on the specification to find non-generic aspects of the invention. *See* *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1299–1307 (Fed. Cir. 2016). This reliance on the specification prompted a vigorous dissent from Judge Reyna, who asserted that the majority's holding "contravenes the fundamental [principle] that the section 101 inquiry is about whether the claims are directed to a patent-eligible invention, not whether the specification is so directed." *Id.* at 1307 (Reyna, J., dissenting). An intracircuit split appears to be percolating on the relevance of the specification—if any—to the eligibility analysis. *See* *Two-Way Media Ltd. v. Comcast Cable Commc'ns, LLC*, 874 F.3d 1329, 1338 (Fed. Cir. 2017) ("The main problem that [the patentee] cannot overcome is that the *claim*—as opposed to something purportedly described in the specification—is missing an inventive concept.").

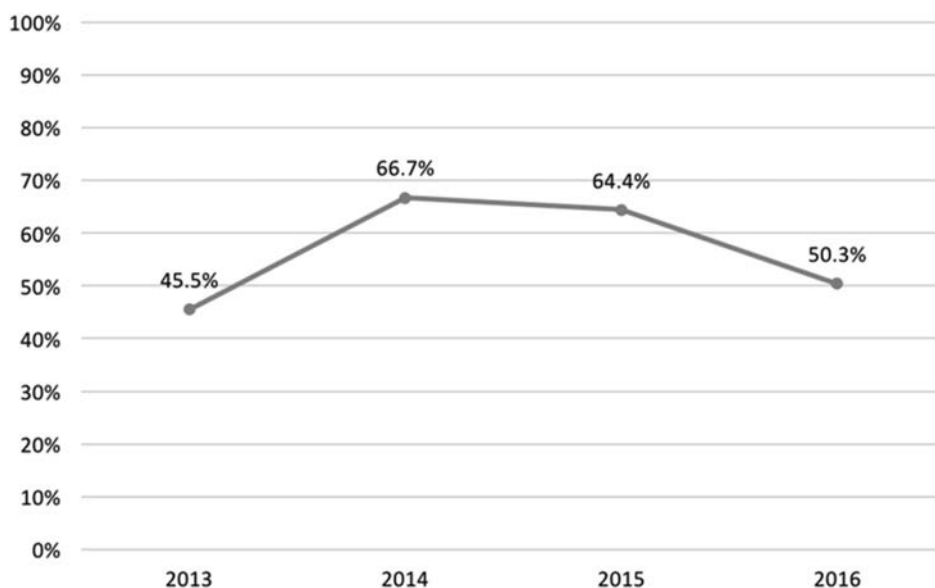
303. *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 721 (Fed. Cir. 2014) (Mayer, J., concurring) ("A rule holding that claims are impermissibly abstract if they are directed to an entrepreneurial objective, such as methods for increasing revenue, minimizing economic risk, or structuring commercial transactions, rather than a technological one, would comport with the guidance provided in both *Alice* and *Bilski*."); *see* Joshua L. Sohn, *A Defense of the Current Jurisprudence on Section 101*, LAW360 (Oct. 7, 2016, 9:53 AM), <http://www.law360.com/articles/846930/a-defense-of-the-current-jurisprudence-on-section-101> [<https://perma.cc/U57P-5MSX>] ("[T]he Federal Circuit has consistently invalidated patent claims that simply apply economic, business, or human-interaction practices on a computer without improving the computer itself or any other technological art.").

304. *See* Matt Levy, *Software Patents Will Survive: How Section 101 Law Is Settling Down*, IPWATCHDOG (Nov. 30, 2016), <http://www.ipwatchdog.com/2016/11/30/software-patents-will-survive/id=75101> [<https://perma.cc/T7HC-9ZQL>] (noting that a claim is patent eligible under recent Federal Circuit case law if it is "a technical improvement to a technical problem").

305. *See* Paul R. Gugliuzza & Mark A. Lemley, *Can a Court Change the Law by Saying Nothing?*, 71 VAND. L. REV. (forthcoming 2018) (manuscript at 14–15), <https://ssrn.com/abstract=3015459> [<https://perma.cc/6FB6-37C9>].

discussed above, the number of pleading-stage dismissals on eligibility grounds has increased in recent years. But, as Figure 2 below illustrates, the percentage of motions that have been granted (in whole or in part) has begun to fall.³⁰⁶

Figure 2. Pleading-Stage Eligibility Motion Grant Rates



The falling grant rate could be interpreted to suggest that weaker motions are now being filed. A few words of caution, however. First, the population size is small. In 2016, district courts decided 149 pleading-stage eligibility motions, up from 101 in 2015, 24 in 2014, and 11 in 2013. Similarly, the timeframe is limited, meaning that any claims about trends should be made carefully. Finally, although the grant rate appears to be falling, in 2016 it was about 50%, which would be consistent with litigants adjusting to the new test for eligibility and decisions coalescing around the 50% win-rate predicted by the Priest–Klein hypothesis.³⁰⁷

In any event, the process of resolving patent eligibility could be improved in various ways that would enhance accuracy without eliminating the cost savings

306. I obtained this data by running the same search described above in Docket Navigator's motion success tool. *See supra* note 265.

307. George L. Priest & Benjamin Klein, *The Selection of Disputes for Litigation*, 13 J. LEGAL STUD. 1, 5 (1984). The validity of that hypothesis has, of course, been questioned and critiqued. *See, e.g.*, Keith N. Hylton, *Asymmetric Information and the Selection of Disputes for Litigation*, 22 J. LEGAL STUD. 187, 188 (1993) (citing literature and presenting an extension of the Priest–Klein hypothesis that incorporates considerations about the information available to the parties and its legal relevance).

quick decisions can provide.³⁰⁸ Most fundamentally, courts should carefully consider whether the eligibility inquiry truly presents a question of law that can be resolved on the pleadings. The test for eligibility developed by the Supreme Court suggests that factfinding can at least sometimes be necessary. In *Alice* and *Bilski*, for example, the Court ruled that the patents claimed abstract ideas because they involved the “fundamental economic practice[s]” of intermediated settlement and risk hedging, respectively.³⁰⁹ And in *Mayo* the Court invalidated patents on medical diagnostic tests because they claimed “well-understood, routine, conventional activity already engaged in by the scientific community.”³¹⁰ Determining the prevailing practices of a particular community would seem to be a factual inquiry, not a legal one.

Thus, a more coherent way forward would be for the Federal Circuit to explicitly recognize the factual underpinnings of the eligibility analysis rather than simply reciting that “[p]atent eligibility under [section] 101 is an issue of law,” as the court has often done.³¹¹ In fact, some Federal Circuit case law predating the recent resurgence of the eligibility requirement acknowledges the factual components of the analysis.³¹² And, as this Article was going to press, the Federal Circuit issued an opinion declaring rather emphatically that the question under *Mayo* of whether claim elements are “conventional” is, indeed, a question of fact.³¹³

Under an approach treating eligibility as a question of law based on underlying questions of fact, dismissal on the pleadings would remain appropriate when—as is not uncommon—the patent itself recites the prevailing practices that provide the basis for the invalidity ruling³¹⁴ or the relevant practices are a

308. I explore these possibilities in more detail in a forthcoming article, Paul R. Gugliuzza, *The Procedure of Patent Eligibility*, 97 TEX. L. REV. (forthcoming).

309. *Alice Corp. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2356 (2014); *Bilski v. Kappos*, 561 U.S. 593, 611 (2010).

310. *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 79–80 (2012).

311. *E.g.*, *Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332, 1338 (Fed. Cir. 2017).

312. *See, e.g.*, *Arrhythmia Research Tech., Inc. v. Corazonix Corp.*, 958 F.2d 1053, 1056 (Fed. Cir. 1992) (stating that the eligibility analysis “may require findings of underlying facts specific to the particular subject matter and its mode of claiming”); *see also* *Ultramercial, Inc. v. Hulu, LLC*, 722 F.3d 1335, 1339 (Fed. Cir. 2013) (“[T]he analysis under § 101, while ultimately a legal determination, is rife with underlying factual issues.”), *cert. granted, judgment vacated sub nom.* *WildTangent, Inc. v. Ultramercial, LLC*, 134 S. Ct. 2870 (2014).

313. *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1368 (Fed. Cir. 2018); *see also* *Aatrix Software, Inc. v. Green Shades Software, Inc.*, No. 2017-1452, 2018 WL 843288, at *2 (Fed. Cir. Feb. 14, 2018) (holding that factual allegations in the plaintiff’s complaint about the patent’s inventiveness required the district court to deny a motion to dismiss on eligibility grounds).

314. In *Mayo*, for instance, the Court drew heavily from the patent’s specification (the detailed description of the invention that precedes the patent’s claims) to support its conclusion that the patent did not contain the required inventive concept. *See Mayo*, 566 U.S. at 78–80. Note, however, that *Mayo* was resolved on summary judgment, not the pleadings. *Id.* at 76. For an example of a Federal Circuit opinion relying mainly on the specification to affirm a pleading-stage ruling of invalidity, see *Intellectual Ventures I LLC v. Erie Indem. Co.*, 850 F.3d 1315, 1328–29 (Fed. Cir. 2017).

matter of common knowledge.³¹⁵ But explicitly acknowledging the factual components of the eligibility analysis would nudge courts to more carefully apply the *Twombly* and *Iqbal* framework. Rather than simply issuing a yes-or-no decision on the patent's validity, as sometimes seems to be the case,³¹⁶ dismissal would be appropriate only if, viewing the relevant facts in the light most favorable to the patentee, there is no plausible case that the patent satisfies the eligibility requirement. Where there *is* a plausible case for eligibility, the parties would be allowed to develop and present to the court, perhaps via an early summary judgment motion, evidence that would allow a more accurate comparison of the patent's claims to the prior art.

A more thorough application of *Twombly* and *Iqbal* would also ensure that courts recognize the role of claim construction in the eligibility analysis. After all, the first step of the *Alice* test is determining whether the patent is “directed to” an ineligible concept, such as a law of nature.³¹⁷ Under *Twombly* and *Iqbal*, dismissal on the pleadings would be appropriate only if—again viewing any relevant facts in the light most favorable to the plaintiff—there is no plausible claim construction under which the patent would satisfy the eligibility test.³¹⁸ In addition, because eligibility is today widely considered to be a pure question of law, district courts are deeply split on whether the presumption of validity applies.³¹⁹ Explicitly acknowledging the factual components of the eligibility inquiry, as the Federal Circuit has at least begun to do,³²⁰ would make clear that, for better or worse, the evidentiary presumption applies, just as it does to the factual aspects of other validity requirements.³²¹

315. See, e.g., *Network Apparel Grp., LP v. Airwave Networks Inc.*, 154 F. Supp. 3d 467, 479–80 (W.D. Tex. 2015) (finding the “practice of incentivizing an end user to acknowledge receipt of a message” to be “a longstanding commercial practice” and noting that, “[i]n determining whether the purpose of a patent is abstract, it is within the Court’s province to consider both the patent specification and well-known, general historical observations”), *aff’d*, 680 F. App’x 1003 (Fed. Cir. 2017); see also *Cal. Inst. of Tech. v. Hughes Commc’ns Inc.*, 59 F. Supp. 3d 974, 978 n.6 (C.D. Cal. 2014) (“Eligibility questions mostly involve general historical observations, the sort of findings routinely made by courts deciding legal questions.”).

316. See, e.g., *Affinity Labs of Tex., LLC v. DirecTV, LLC*, 109 F. Supp. 3d 916, 942 (W.D. Tex. 2015) (“[T]he Court finds as a matter of law that Claim 1 . . . does not contain an inventive concept in that it does not add something to the abstract idea that is an ‘integral’ or ‘significant part’ of the invention.”), *aff’d*, 838 F.3d 1253 (Fed. Cir. 2016).

317. *Alice Corp. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2355 (2014).

318. See Saurabh Vishnubhakat, *The Antitrust of Patentability*, 48 SETON HALL L. REV. 71, 101–02 (2017) (suggesting that one way to increase accuracy in patent eligibility determinations without unduly increasing process costs would be to require the patent owner to submit a proposed claim construction “and to take that construction as true for purposes of the subject-matter eligibility evaluation”). As I explain in a forthcoming paper, because the Federal Circuit usually treats claim construction as a question of law, applying the plausibly standard to matters of claim construction could require some adjustments to the law of claim construction itself, including a greater recognition that fact questions are central to determining claim meaning. See Gugliuzza, *supra* note 308.

319. See *Front Row Techs., LLC v. NBA Media Ventures, LLC*, 204 F. Supp. 3d 1190, 1231–35 (D.N.M. 2016) (collecting conflicting authorities), *aff’d*, 697 F. App’x 701 (Fed. Cir. 2017).

320. See *supra* note 313.

321. See *Microsoft Corp. v. i4i Ltd. P’ship*, 564 U.S. 91, 114–15 (2011) (Breyer, J., concurring) (describing how the presumption of validity applies to legal questions based on factual inquiries). As

Regardless of eligibility doctrine's potential to facilitate quick decisions, skeptics may still view the Supreme Court's recent decisions as misguided, incoherent, and threatening incentives for innovation. Others might point out that the new administrative proceedings created by the AIA largely address concerns about the weak patents targeted by eligibility doctrine.³²² I cannot hope to respond to all possible critiques in this space. Rather, my aim has been to contribute to the debate over patent eligibility by highlighting an important but underappreciated benefit of the doctrine: unlike any other requirement of patentability, eligibility provides a mechanism to dismiss low-merit suits before the parties incur significant litigation costs.

3. Pleading Standards

A final recent change in the law that has the potential to facilitate prediscovery decisions in patent cases occurred when the Supreme Court deleted the form complaint for patent infringement from the Federal Rules of Civil Procedure. As the Federal Circuit had explained, that form, Form 18, required a complaint for direct infringement to contain merely an allegation of jurisdiction, a demand for relief, and statements that the plaintiff owned the patent, the defendant had been infringing the patent, and the plaintiff had given the defendant notice of its infringement.³²³ The Federal Circuit also held that, because pleading direct infringement was specifically governed by Form 18, *Twombly* and *Iqbal* did not apply.³²⁴ Thus, a patentee could avoid dismissal for failure to state a claim without providing anything more than a generic description of the allegedly infringing product or process.³²⁵ For that reason, the administrative body charged with updating the rules singled out Form 18 as particularly "inadequate" for modern litigation.³²⁶

When the Supreme Court deleted Form 18 from the Federal Rules, it also deleted Rule 84, which stated that use of an appropriate form satisfied the

discussed above, there is a reasonable argument that the presumption of validity is unjustified as a policy matter because of the limited scrutiny many patents receive during examination. *See supra* notes 217–18 and accompanying text. As also discussed, however, any move to eliminate that presumption must come from Congress. *Id.*, 564 U.S. at 113–14 (majority opinion) (reaffirming that the presumption requires a patent challenger to prove invalidity by clear and convincing evidence, noting that "[a]ny recalibration of the standard of proof [in patent cases] remains in [Congress's] hands").

322. *See* 1 PETER S. MENELL ET AL., *INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE* 302 (2017).

323. *In re* Bill of Lading Transmission & Processing Sys. Patent Litig., 681 F.3d 1323, 1334 (Fed. Cir. 2012). There was no form complaint for claims of indirect (that is, induced or contributory) infringement, so the amendments to the Federal Rules do not change the pleading standards in those cases. *See id.* at 1336–37.

324. *Id.* at 1334 ("[T]o the extent the parties argue that *Twombly* and its progeny conflict with the Forms and create differing pleadings requirements, the Forms control.").

325. *See* *McZeal v. Sprint Nextel Corp.*, 501 F.3d 1354, 1357–58 (Fed. Cir. 2007); *see also* *K–Tech. Telecomms., Inc. v. Time Warner Cable, Inc.*, 714 F.3d 1277, 1286 (Fed. Cir. 2013) ("We do not read Form 18 . . . to require that a plaintiff identify an accused device by name."). Form 18's model allegation of infringement stated in relevant part: "[T]he defendant has infringed and is still infringing the Letters Patent by making, selling, and using *electric motors* that embody the patented invention . . ." *Id.* at 1285 (emphasis added).

326. COMM. ON RULES OF PRACTICE & PROCEDURE TO THE JUDICIAL CONFERENCE OF THE U.S., *PRELIMINARY DRAFT OF PROPOSED AMENDMENTS TO THE FEDERAL RULES OF BANKRUPTCY AND CIVIL PROCEDURE* 276 (2013).

requirements of the rules.³²⁷ Consequently, complaints for direct patent infringement are now governed by the plausibility standard articulated in *Twombly* and *Iqbal*.³²⁸ As applied to patent cases, that standard requires patent owners to include in their complaint factual allegations that would allow a court to make a plausible inference of infringement. Much as the invigorated eligibility requirement allows courts to dismiss on the pleadings cases in which the patent is clearly invalid, this new pleading standard allows courts to dismiss cases in which the defendant clearly does not infringe. For example, in a recent case involving a patent that recited a “TV Channel,” a magistrate judge recommended dismissal, with prejudice, because the accused technology was Internet-based and there was “no plausible basis for alleging that the plain and ordinary meaning of ‘TV Channel’ (or ‘TV Channel’ properly construed) covers URLs, *i.e.*, a unique address for a web page that makes content addressable on the Internet.”³²⁹

Although the deletion of Form 18 facilitates quick decisions when the allegations of infringement are plainly insufficient, in closer cases it has caused district courts to adopt widely varying pleading requirements.³³⁰ In contrast to Form 18, many courts now require the complaint to contain allegations linking the patent’s claims to the infringing features of the accused product or process.³³¹ Under that view, merely identifying the patent and generally describing the accused product or process is insufficient.³³² But courts have not been consistent about the level of detail required. Some have required “factual allegations that . . . permit [the] court to infer that the accused product infringes each element of at least one claim.”³³³ Other courts have been more demanding, requiring information about how the defendant infringes *each asserted claim*.³³⁴

At the other extreme, some courts, despite the deletion of Form 18, have continued to absolve plaintiffs from identifying the claims of the patent they are

327. COMM. ON RULES OF PRACTICE & PROCEDURE TO THE JUDICIAL CONFERENCE OF THE U.S., *supra* note 15, at 28.

328. The Federal Circuit has not yet articulated what, exactly, the differences between Form 18 and the *Twombly/Iqbal* standard might be, *see* *Lifetime Indus., Inc. v. Trim-Lok, Inc.*, 869 F.3d 1372, 1377 (Fed. Cir. 2017), though there are many district court decisions on the issue, as discussed in this portion of the Article. Somewhat remarkably, the Federal Circuit has left open the possibility that there is no difference at all. *See id.* (“The parties assume that there is a difference between the requirements of Form 18 and *Iqbal/Twombly*; however, we have never recognized such a distinction.”).

329. *Bartonfalls LLC v. Turner Broad. Sys., Inc.*, No. 2:16-cv-1127, 2017 WL 1375205, at *2 (E.D. Tex. Mar. 15, 2017), *report and recommendation adopted by* 2017 WL 1319656 (E.D. Tex. Apr. 10, 2017).

330. *See Oil-Dri Corp. of Am. v. Nestle Purina Petcare Co.*, No. 15-cv-1067, 2017 WL 1197096, at *3–5 (N.D. Ill. Mar. 31, 2017) (noting the split of authority); *e.Digital Corp. v. iBaby Labs, Inc.*, No. 15-cv-0579, 2016 WL 4427209, at *3–4 (N.D. Cal. Aug. 22, 2016) (same).

331. *See, e.g., Atlas IP LLC v. Pac. Gas & Elec. Co.*, No. 15-cv-5469, 2016 WL 1719545, at *2 (N.D. Cal. Mar. 9, 2016).

332. *See, e.g., Global Tech LED, LLC v. Every Watt Matters, LLC*, No. 15-cv-61933, 2016 WL 6682015, at *2 (S.D. Fla. May 19, 2016).

333. *E.g., Atlas IP, LLC v. Exelon Corp.*, 189 F. Supp. 3d 768, 775 (N.D. Ill. 2016), *aff’d sub nom. Atlas IP, LLC v. Commonwealth Edison Co.*, 686 F. App’x 921 (Fed. Cir. 2017).

334. *E.g., Asghari–Kamrani v. United Servs. Auto. Ass’n*, No. 2:15CV478, 2016 WL 1253533, at *4 (E.D. Va. Mar. 22, 2016).

asserting.³³⁵ Many judges have emphasized that early deadlines in local procedural rules for disclosing infringement contentions mitigate any prejudice to a defendant faced with a vague complaint for infringement.³³⁶ And one court has held that compliance with Form 18 remains sufficient in part because of an advisory committee note stating that the abrogation of Rule 84 and the deletion of the forms “does not alter existing pleading standards.”³³⁷

Thus, although the deletion of Form 18 would appear to facilitate quick decisions of noninfringement, it may actually have encouraged additional litigation over the substance of the pleading standard and whether the plaintiff in a particular case has satisfied it.³³⁸ Even in the courts that have imposed a more onerous standard, most dismissals have been without prejudice, meaning that the patentee has been given the opportunity to file an amended complaint. Cases dismissing infringement complaints with prejudice remain the exception, not the rule.³³⁹ When with-prejudice dismissals do occur, the plaintiff has typically had one or more chances to amend the complaint³⁴⁰ or has waived the opportunity to amend.³⁴¹

335. *E.g.*, *Iron Gate Sec., Inc. v. Lowe’s Cos.*, No. 15-cv-8814, 2016 WL 1070853, at *3 (S.D.N.Y. Mar. 16, 2016).

336. *E.g.*, *Solocron Educ., LLC v. Healthstream, Inc.*, No. 2:16-cv-16, 2016 WL 9137458, at *3 (E.D. Tex. June 7, 2016); *Avago Techs. Gen. IP (Singapore) PTE Ltd. v. Asustek Comput., Inc.*, No. 15-cv-04525, 2016 WL 1623920, at *4 (N.D. Cal. Apr. 25, 2016). Several district courts have flatly disagreed with that position. *E.g.*, *CG Tech. Dev., LLC v. FanDuel, Inc.*, No. 2:16-cv-00801, 2017 WL 58572, at *4 (D. Nev. Jan. 4, 2017) (“The requirement of providing infringement contentions element-by-element under the Local Rules does not permit a more flexible application of Civil Rule 8(a) at the dismissal stage.”).

337. *Hologram USA, Inc. v. Pulse Evolution Corp.*, No. 2:14-CV-0772, 2016 WL 199417, at *2 n.1 (D. Nev. Jan. 15, 2016). As noted, the Federal Circuit has similarly left open the possibility that compliance with Form 18 remains sufficient to avoid a motion to dismiss. *See supra* note 328. For a scholarly argument that the deletion of the forms “cannot fairly be read as an invitation to make pleading standards more restrictive,” see Adam M. Steinman, *The End of an Era? Federal Civil Procedure After the 2015 Amendments*, 66 EMORY L.J. 1, 41 (2016).

338. *Cf.* Hillel Y. Levin, Iqbal, Twombly, and the Lessons of the Celotex Trilogy, 14 LEWIS & CLARK L. REV. 143, 155 (2010) (suggesting that *Iqbal* and *Twombly* have had a similar effect on civil litigation more generally).

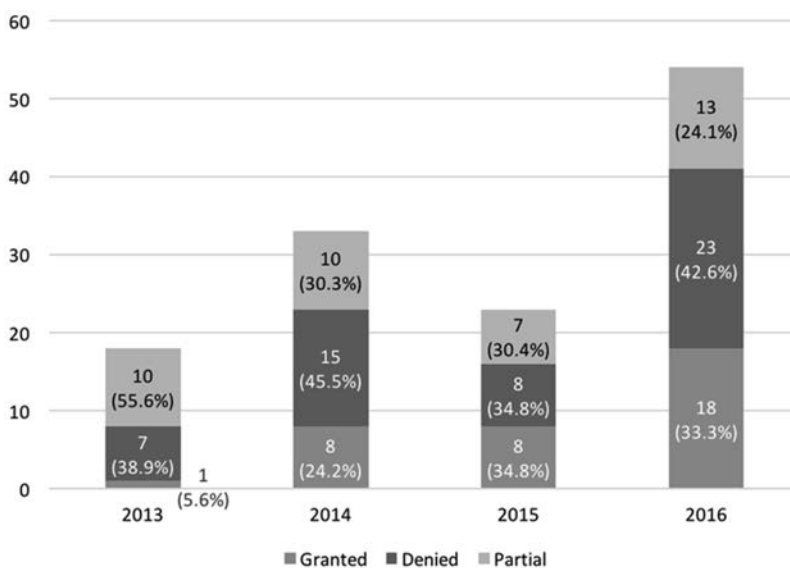
339. In a thorough search, I have been able to locate six decisions in 2016 (out of eighteen granted motions to dismiss) in which a court dismissed claims *with prejudice* for insufficiently alleging direct infringement, and two of those with-prejudice dismissals were reversed on appeal. *See Lifetime Indus., Inc. v. Trim-Lok, Inc.*, No. 3:13-cv-819, 2016 WL 5724451, at *5 (N.D. Ind. Sept. 30, 2016), *rev’d*, 869 F.3d 1372 (Fed. Cir. 2017); *Howard v. Ford Motor Co.*, No. 1:16CV127, 2016 WL 4077260, at *5 (S.D. Miss. July 29, 2016); *Nu-You Techs., LLC v. Beauty Town Int’l Inc.*, No. 3:15-CV-3433, 2016 WL 4717991, at *3 (N.D. Tex. July 7, 2016); *Ruby Sands LLC v. Am. Nat’l Bank of Tex.*, No. 2:15-cv-1955, 2016 WL 3542430, at *5 (E.D. Tex. June 28, 2016); *Atlas IP, LLC v. Exelon Corp.*, 189 F. Supp. 3d 768, 779 (N.D. Ill. 2016), *aff’d sub nom.* *Atlas IP, LLC v. Commonwealth Edison Co.*, 686 F. App’x 921 (Fed. Cir. 2017); *Nalco Co. v. Chem-Mod, LLC*, No. 14-cv-2510, 2016 WL 1594966, at *4 (N.D. Ill. Apr. 20, 2016), *rev’d*, No. 2017-1036, 2018 WL 1055851 (Fed. Cir. Feb. 27, 2018). In a few additional cases, the dismissal was not explicitly with prejudice, but the district court litigation concluded shortly after the dismissal. *See, e.g.*, *Disc Disease Sols., Inc. v. VGH Sols., Inc.*, No. 1:15-cv-188, 2016 WL 6561566, at *3 (M.D. Ga. Nov. 2, 2016), *appeal filed*, No. 2017-1483 (Fed. Cir. Jan. 17, 2017).

340. *See, e.g.*, *Lifetime Indus.*, 2016 WL 5724451, at *1; *Nalco*, 2016 WL 1594966, at *1; *Atlas IP*, 189 F. Supp. 3d at 773.

341. *See, e.g.*, *Nu-You*, 2016 WL 4717991, at *1.

It is therefore possible that the deletion of Form 18 has actually increased process costs—by incentivizing defendants to file motions they would not have previously filed and by requiring plaintiffs to engage in additional fact gathering and pleading—without concluding cases any more quickly or accurately. As Figure 3 below illustrates, the number of district court decisions on motions to dismiss direct infringement claims ticked up significantly in 2016, the first full year without Form 18, but grant rates slightly declined.³⁴² (Note that Figure 3 includes only motions to dismiss based on the insufficiency of direct infringement allegations.³⁴³ Motions to dismiss based on eligibility grounds, the topics of Figures 1 and 2, are excluded.) Again, however, it is worth noting that the population size is small and the timeframe is limited, so we should be cautious about drawing conclusions about any trends being illustrated.

Figure 3. Motions to Dismiss Direct Infringement Claims



342. In a similar vein, many empirical studies of *Twombly* and *Iqbal* have found no statistically significant change in the proportion of cases granting motions to dismiss with prejudice, though it is of course possible that parties have changed their behavior in light of the changed pleading standards. See Jonah B. Gelbach, *Locking the Doors to Discovery? Assessing the Effects of Twombly and Iqbal on Access to Discovery*, 121 *YALE L.J.* 2270, 2306 (2012); see also William H.J. Hubbard, *The Empirical Effects of Twombly and Iqbal 6–7* (Coase-Sandor Inst. for Law & Econ. Working Paper No. 774, Aug. 2016), <https://ssrn.com/abstract=2820300> [<https://perma.cc/V94K-D7HW>] (collecting empirical studies on the effects of *Twombly* and *Iqbal*).

343. To obtain the data, I again used Docket Navigator’s motion success tool, see *supra* note 265, running the following search: (1) Type of court document: motion to dismiss—failure to state a claim; (2) Order filed date: January 1, 2013 to December 31, 2016, inclusive; (3) Legal issue: direct infringement (and all subcategories).

One important step in leveraging the deletion of Form 18 to reduce litigation costs would be for the Federal Circuit to provide clarity on what, exactly, plaintiffs must allege in their complaints about the defendant's infringement. Although some Federal Circuit judges have recognized the difficulty of assessing infringement at the pleadings stage,³⁴⁴ the court has thus far declined to elaborate on the post-Form 18 pleading standard.³⁴⁵ Under *Twombly* and *Iqbal*, a patentee must plead facts that would plausibly establish a claim under the relevant substantive law. To prove a claim of direct patent infringement, a patentee must demonstrate the presence of each element of the patent claim or each element's equivalent in the accused product or process.³⁴⁶ Taking those legal principles as given, it would seem that a complaint for direct infringement should, at minimum, identify the patent claims being asserted, identify the accused product or process, and provide a description of how the accused product or process meets the patent's claim limitations.³⁴⁷

That may seem like too much detail to demand in a pleading. Civil procedure scholars have criticized *Twombly* and *Iqbal* for precisely that reason.³⁴⁸ Yet, in many patent cases (unlike, say, civil rights cases), the information the plaintiff must plead is not exclusively in the possession of the defendant. Often, the defendant sells an allegedly infringing product that the plaintiff can purchase, describe, and compare its patent claims to in the complaint. Because asymmetric information is not a major concern in patent cases, the risk of erroneous dismissal from stricter screening does not seem terribly high. Indeed, cases such as the "TV Channel" case discussed above appear to involve infringement claims that objectively lack merit.³⁴⁹ And because dismissal on the pleadings is

344. See Jimmy Hoover, *ComEd Appeal 'Pain in the Ass,' Fed. Cir. Judge Says*, LAW360 (Mar. 9, 2017, 8:45 PM), <https://www.law360.com/articles/900177/comed-appeal-pain-in-the-ass-fed-circ-judge-says> [<https://perma.cc/4G9Z-LQJD>] (describing oral argument in *Atlas IP, LLC v. Commonwealth Edison Co.*, in which Judge Moore "expressed frustration that her three-judge panel had to sift through in-depth claim construction issues . . . when the lower court never ruled on those issues").

345. See *Atlas IP, LLC v. Commonwealth Edison Co.*, 686 F. App'x 921, 922 (Fed. Cir. 2017) (affirming a dismissal with prejudice for failure to adequately allege direct infringement but providing no substantive analysis of the complaint); *Lifetime Indus., Inc. v. Trim-Lok, Inc.*, 869 F.3d 1372, 1377 (Fed. Cir. 2017) (reversing a dismissal with prejudice for failure to adequately allege direct infringement, noting that "we need not resolve the question whether there is a difference between [the Form 18 and *Twombly/Iqbal*] standards here because, as we explain, the [complaint] met the *Iqbal/Twombly* standard for pleading direct infringement").

346. *Uniloc USA, Inc. v. Microsoft Corp.*, 632 F.3d 1292, 1301 (Fed. Cir. 2011).

347. For a more general exploration of how, after *Twombly* and *Iqbal*, the specificity required in a complaint may turn on "the substantive contours of the plaintiff's claim," see Adam N. Steinman, *The Rise and Fall of Plausibility Pleading?*, 69 VAND. L. REV. 333, 383 (2016).

348. See David Freeman Engstrom, *The Twiqbal Puzzle and Empirical Study of Civil Procedure*, 65 STAN. L. REV. 1203, 1204 n.6 (2013) (collecting commentary).

349. In contrast with the "thick" screening that would allow for dismissal of claims that are weak but not frivolous, Bob Bone has termed this type of screening "thin" screening, which allows dismissal when "liability turns on objective facts about the defendant's conduct and the defendant in fact did not act in the required way." See Bone, *supra* note 290, at 870; see also Robert G. Bone, *Twombly, Pleading Rules, and the Regulation of Court Access*, 94 IOWA L. REV. 873, 900 (2009) (exploring the potential normative justifications for a thin screening approach).

usually without prejudice, the patentee will receive multiple opportunities to adequately allege infringement. Patentees who cannot do so after multiple tries would seem to be those with the least meritorious claims in the first place.

To be sure, over the long term, if courts grant motions to dismiss too enthusiastically, weakened patent rights could harm innovation incentives. So it is important to recognize that *Twombly* and *Iqbal* give district judges substantial discretion in reviewing the sufficiency of complaints.³⁵⁰ It may be appropriate for courts to demand less detail in complaints in biotechnology cases, for instance, where patent infringement often occurs in research or production facilities to which a patentee does not have access. By contrast, more detailed pleadings may be called for when dealing with multi-component electronics. In those cases, the product is usually available for purchase and inspection, and a manufacturer accused of infringement needs to know exactly which aspect of its product is alleged to infringe so it can immediately involve the correct supplier in the litigation. In the rarer cases where particular information about the accused product or process is potentially dispositive but exclusively in the defendant's possession, courts could use their discretion to order limited, pleadings-stage discovery.³⁵¹ Lastly, courts can reduce pleadings-stage process costs by allowing the patentee to clarify its infringement allegations through briefing on the motion to dismiss rather than formalistically demanding that the patentee amend and refile its complaint.³⁵²

In sum, unlike AIA proceedings and the invigorated eligibility requirement, which have indisputably facilitated quicker decisions, the deletion of Form 18 seems to present merely the *potential* for quick decisions. It may in fact have thus far had the paradoxical effect of increasing litigation costs and slowing cases down. The deletion of that form, however, could certainly be leveraged to render speedier—but still accurate—decisions in cases in which the patent owner's claim of infringement plainly lacks merit.

B. OTHER TYPES OF QUICK DECISIONS

To this point, I have focused on changes in the law that allow patent suits to be resolved before discovery begins because that is the point at which litigation expenses begin to escalate significantly. But several other recent developments in patent law allow cases to be resolved earlier in the dispute process, even if they do not enable the parties to avoid discovery altogether.

350. See, e.g., *Ashcroft v. Iqbal*, 556 U.S. 662, 679 (2009) (“Determining whether a complaint states a plausible claim for relief will . . . be a context-specific task that requires the reviewing court to draw on its judicial experience and common sense.”).

351. See Suzette M. Malveaux, *Front Loading and Heavy Lifting: How Pre-Dismissal Discovery Can Address the Detrimental Effect of Iqbal on Civil Rights Cases*, 14 LEWIS & CLARK L. REV. 65, 69 (2010).

352. See, e.g., *Danfoss Power Sols. Inc. v. DeltaTech Controls*, No. 16-CV-3111, slip op. at 1–2 (D. Minn. Mar. 7, 2017).

1. Claim Construction

Although it is now two decades old, the Supreme Court's seminal decision in *Markman v. Westview Instruments, Inc.* facilitates quicker decisions by mandating that the judge, not the jury, interpret the claims of the patent.³⁵³ A jury could not issue its view of the meaning of the patent's claims until after trial, but judges can—and usually do—decide claim construction before trial, typically during or at the close of discovery. Judicial claim construction often leads directly to summary judgment, particularly on the issue of infringement when there is no dispute about the nature or operation of the accused infringer's product or process.³⁵⁴

Even today, *Markman* continues to open new avenues of quick resolution. For instance, in a 2014 decision, *Nautilus, Inc. v. Biosig Instruments, Inc.*, the Supreme Court reversed the Federal Circuit's stringent test for showing that a patent is invalid as indefinite.³⁵⁵ Indefiniteness is a matter of claim construction, so *Nautilus*, coupled with *Markman*, should facilitate quicker judicial decisions of indefiniteness.³⁵⁶

The Federal Circuit's 2015 en banc ruling on functional claiming, *Williamson v. Citrix Online, LLC*, also facilitates quicker, case-dispositive decisions on matters related to claim construction.³⁵⁷ At issue in that case was section 112(f) of the Patent Act, which allows a patent claim limitation to be drafted as a “means . . . for performing a specified function” without reciting structure to perform that function.³⁵⁸ The scope of a limitation drafted in that format is, under the statute, limited to the structures described in the patent's specification.³⁵⁹ If the specification does not disclose structure for performing the claimed function, then the patent claim is invalid as indefinite.³⁶⁰ The Federal Circuit had previously made it difficult to invalidate a patent under that doctrine, holding that if a claim did not expressly use the term “means” there was a

353. 517 U.S. 370, 372 (1996).

354. See Meurer, *supra* note 235, at 534–35.

355. 134 S. Ct. 2120, 2124 (2014). Under the Federal Circuit's abrogated rule, a patent claim was invalid only if it was “insolubly ambiguous.” *Id.* The Supreme Court, by contrast, held that “a patent is invalid for indefiniteness if its claims, read in light of the specification . . . and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Id.*

356. That said, many district courts, with the Federal Circuit's blessing, allow juries to decide indefiniteness, so the increase in speed is not entirely certain. See, e.g., *Koninklijke Philips N.V. v. Zoll Med. Corp.*, 656 F. App'x 504, 527–28 & n.5 (Fed. Cir. 2016) (vacating jury verdict of no indefiniteness because the jury instruction was based on pre-*Nautilus* law and remanding for another jury trial). The confusion surrounding the allocation of decision-making authority on indefiniteness is well illustrated by a recent Federal Circuit decision emphasizing that, because indefiniteness is a matter of claim construction, it reviews the district court's decision de novo (as if it were a question of law), but also noting that the accused infringer must prove indefiniteness by clear and convincing evidence (a heightened standard of proof that would normally apply only to a question of fact). *Sonix Tech. Co. v. Pubs. Int'l, Ltd.*, 844 F.3d 1370, 1376–77 (Fed. Cir. 2017).

357. 792 F.3d 1339 (Fed. Cir. 2015) (en banc in relevant part).

358. 35 U.S.C. § 112(f) (2012).

359. *Id.*

360. *Noah Sys., Inc. v. Intuit Inc.*, 675 F.3d 1302, 1311–12 (Fed. Cir. 2012).

“strong” presumption that section 112(f) did not apply and, therefore, no disclosure of structure was required.³⁶¹ In *Williamson*, the court overturned that case law, ruling that, to determine if section 112(f) applies, the court should simply ask “whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure.”³⁶²

The decision to apply section 112(f) and whether to invalidate a patent under that provision are both questions of claim construction for the judge.³⁶³ Thus, *Williamson*’s embrace of a broader applicability of section 112(f) should, like many other developments discussed in this Article, make it easier to invalidate patents early in a case.³⁶⁴ That said, as I have argued elsewhere, most patent claims that contain functional language also contain limitations that a court could plausibly identify as structure to avoid applying section 112(f).³⁶⁵ At most, then, *Williamson* offers courts *discretion* to invoke section 112(f) as a mechanism for a quick decision.

A final development related to claim construction that facilitates quicker decisions is the demise of the doctrine of equivalents.³⁶⁶ The doctrine of equivalents permits the factfinder to expand the literal scope of the patent to find infringement by products or processes that are “insubstantially different” from the claimed invention.³⁶⁷ Since *Markman*, however, infringement claims under the doctrine of equivalents have increasingly failed.³⁶⁸ Although commentators disagree in the particulars about why that is so, they generally acknowledge that *Markman* played a key role by making judicial claim construction the centerpiece of patent litigation.³⁶⁹ Because the judge now determines the scope of the patent before trial, the judge is unlikely to allow the jury to effectively nullify

361. *Lighting World, Inc. v. Birchwood Lighting, Inc.*, 382 F.3d 1354, 1358 (Fed. Cir. 2004).

362. *Williamson*, 792 F.3d at 1348–49.

363. *Id.* at 1346.

364. *See, e.g., Media Rights Techs., Inc. v. Capital One Fin. Corp.*, 800 F.3d 1366, 1368–71 (Fed. Cir. 2015) (invalidating a patent under *Williamson* on a motion for judgment on the pleadings filed at the same time as the defendant’s opening claim construction brief).

365. Paul R. Gugliuzza, *Early Filing and Functional Claiming*, 96 B.U. L. REV. 1223, 1239–41 (2016).

366. *See Meurer, supra* note 235, at 535.

367. *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 29 (1997) (holding that “the doctrine of equivalents must be applied to individual elements of the [patent] claim, not to the invention as a whole”).

368. John R. Allison & Mark A. Lemley, *The (Unnoticed) Demise of the Doctrine of Equivalents*, 59 STAN. L. REV. 955, 978 (2007) (reporting that, in the three years before *Markman* was decided in 1996, patentees won 40% of doctrine of equivalents cases compared with 24% for various periods from 1999 through 2005).

369. *See id.*; Lee Petherbridge, *On the Decline of the Doctrine of Equivalents*, 31 CARDOZO L. REV. 1371, 1401–02 (2010) (noting that substantive changes also made it more difficult to establish infringement under the doctrine of equivalents); David L. Schwartz, *Explaining the Demise of the Doctrine of Equivalents*, 26 BERKELEY TECH. L.J. 1157, 1160 (2011) (also highlighting the role of the Federal Circuit’s decision in *Cybor Corp. v. FAS Technologies, Inc.*, 138 F.3d 1448 (Fed. Cir. 1998) (en banc), which adopted a de novo standard of review for claim construction).

the claim construction ruling by finding infringement under the doctrine of equivalents.

Although *Markman* and its progeny have certainly facilitated quick decisions that can end patent cases, the overall cost savings of those developments are not beyond dispute. By putting claim construction in the hands of the judge, *Markman* requires the parties to devote substantial resources to litigating claim meaning before or concurrent with summary judgment. On that view, *Markman* may have simply shifted litigation over claim meaning (and its attendant costs) to an earlier stage of the case.³⁷⁰ Moreover, some observers have suggested that the rules of judicial claim construction developed by the Federal Circuit in the wake of *Markman*, which divorce the scope of patent rights from the patentee's actual invention, contributed to the rise of trolls, which has arguably increased patent litigation overall.³⁷¹ But even if the broader consequences of *Markman* are not entirely clear, the decision has unquestionably allowed the often-dispositive issue of claim meaning to be resolved earlier in any given case.

2. Local Patent Rules

In recent years, numerous federal district courts have adopted local procedural rules, often for the express purpose of speeding up historically slow-moving patent litigation.³⁷² In 2000, the Northern District of California became the first district to adopt local patent rules. Thirty districts now have them, and they cover all aspects of pre-trial procedure, including the timing and sequence of discovery,³⁷³ the process of claim construction,³⁷⁴ and even, in one district, pleading requirements.³⁷⁵

Many features of local patent rules facilitate quick decisions, or at least quick resolutions. For example, some districts' rules (along with individual judges' standing orders) impose early deadlines for document production³⁷⁶ and for the

370. Cf. Ashtor, *supra* note 178, at 219–20 (finding, from 2004 to 2011, a “significant increase” in patent litigation complexity as measured by case duration and the number of docket entries, motions, and orders, attributing the increase to the discovery and claim construction phases).

371. See Greg Reilly, *Patent “Trolls” and Claim Construction*, 91 NOTRE DAME L. REV. 1045, 1062 (2016).

372. For a thorough description and analysis of those rules, see Megan M. La Belle, *The Local Rules of Patent Procedure*, 47 ARIZ. ST. L.J. 63 (2015).

373. E.g., N.D. ILL. PAT. R. 2.1.

374. E.g., E.D. TEX. PAT. R. 4-2 to 4-6.

375. D.N.H. PAT. R. 2.1(a) (requiring a complaint for patent infringement to include “a list of all products or processes (by model number, trade name, or other specific identifying characteristic) for which the claimant . . . has developed a good-faith basis for alleging infringement, as of the time of filing the pleading” and “at least one illustrative asserted patent claim (per asserted patent) for each accused product or process”).

376. See La Belle, *supra* note 372, at 100; see also Eastern District of Texas, Sample Discovery Order for Patent Cases Assigned to Judge Rodney Gilstrap and Judge Roy Payne 2–3, http://www.txed.uscourts.gov/sites/default/files/judgeFiles/Discovery_Order_for_Patent_Cases_%282016-11-04%29_0.docx [<https://perma.cc/5MFV-79PQ>] (requiring the parties to produce all documents “that are relevant to the pleaded claims or defenses involved in this action” with their initial disclosures “[w]ithout awaiting a discovery request”).

parties to exchange infringement and validity contentions.³⁷⁷ Those deadlines, coupled with *Markman*'s recasting of claim construction as a question for the judge, help speed cases toward claim construction and summary judgment. Compelled information exchange about the merits of the case is also thought to facilitate settlement,³⁷⁸ building on the mandatory initial disclosures introduced to the Federal Rules of Civil Procedure in the 1990s.³⁷⁹ In addition, many local rules mandate settlement conferences—sometimes more than one—often in front of a magistrate judge,³⁸⁰ which can also lead to quicker resolution of the case. And some local rules complement early deadlines for disclosure by providing specific, relatively quick trial dates.³⁸¹

In the District of Delaware, which does not have local patent rules but in 2016 heard the second most patent cases of any district, the judges have individually adopted numerous procedures designed to resolve cases more quickly. Many of those procedures were inspired by the district's "Patent Study Group," which recommended that judges "help identify weaker cases and end them early," set a trial date "at the beginning of the case and keep it," and "issu[e] decisions," particularly claim construction decisions, "quickly."³⁸² The procedures include: setting an initial case management conference as soon as any defendant files an answer (as opposed to waiting until any motions to dismiss are resolved),³⁸³ providing for early *Markman* hearings on case dispositive claim terms,³⁸⁴ indicating a willingness to limit the number of claims asserted,³⁸⁵ and setting a trial date in the initial case scheduling order.³⁸⁶

377. See Travis Jensen, *Infringement Contentions Summary Chart*, LOCAL PAT. RULES, <http://www.localpatentrules.com/wp-content/uploads/2017/08/Chart%20Infringement%20Contentions.pdf> [https://perma.cc/69NT-SVY5].

378. See Robert G. Bone, *Discovery*, in *PROCEDURAL LAW AND ECONOMICS* 188, 192 (Chris William Sanchirico ed., 2012).

379. 8A CHARLES ALAN WRIGHT ET AL., *FEDERAL PRACTICE AND PROCEDURE* § 2053 (3d ed. 2017).

380. See, e.g., D. NEV. LOCAL PAT. R. 1-19 (requiring settlement conferences to take place (1) before claim construction, (2) after claim construction, and (3) before trial).

381. See, e.g., S.D. OHIO PAT. R. 107.1 (setting the trial date at eighteen months after the initial scheduling conference).

382. Chad Stover, *Another Delaware Judge Outlines New Patent Case Practices*, LAW360 (May 19, 2014, 6:43 PM), <http://www.law360.com/articles/539183/another-delaware-judge-outlines-new-patent-case-practices> [https://perma.cc/6NCV-QM74].

383. Hon. Leonard P. Stark, District of Delaware, Revised Procedures for Managing Patent Cases 5 (June 18, 2014), <http://www.ded.uscourts.gov/sites/default/files/Chambers/LPS/PatentProcs/LPS-PatentProcedures.pdf> [https://perma.cc/QY8Q-KD7V].

384. *Id.* at 8.

385. E.g., Hon. Sue L. Robinson, District of Delaware, Patent Case Scheduling Order 4–5 (Feb. 5, 2015), <http://www.ded.uscourts.gov/sites/default/files/Chambers/SLR/Forms/Sched-Order-Patent2-05-15.pdf> [https://perma.cc/6L27-QLYG].

386. E.g., Hon. Gregory M. Sleet, District of Delaware, Patent Scheduling Order 5 (Feb. 25, 2014), http://www.ded.uscourts.gov/sites/default/files/Chambers/GMS/Forms/Sched_Order_Patent_Rev02-25-14.pdf [https://perma.cc/23MU-N87K].

Although local rules and individual judges' practices (sometimes termed "local-local rules"³⁸⁷) facilitate quicker decisions, those decisions are, like an early claim construction order that leads to summary judgment, not necessarily cheap. Early disclosure deadlines, for instance, require the parties to undertake significant discovery efforts at a time when a motion to dismiss may be under consideration or the defendant may be preparing a petition for inter partes review and seeking a stay of the litigation.³⁸⁸ Accordingly, proposals have percolated in Congress that would require courts to stay discovery until preliminary motions are resolved³⁸⁹ or until the judge issues the claim construction order.³⁹⁰ Those proposals would reduce litigation in some cases but prolong proceedings in many others. Some observers have suggested that litigation delays are less harmful to patentees today because patentees who win infringement suits are no longer presumptively entitled to injunctive relief.³⁹¹ A patentee who must wait an additional year to receive damages, the thinking goes, is not harmed nearly as much as a patentee who must endure an additional year of competition from an infringing competitor.³⁹² But nearly 75% of successful patentees still obtain permanent injunctions, and that figure increases to 80% when patentees who do not practice their patents are excluded.³⁹³ A potentially more nuanced alternative to automatically staying discovery would be for district judges to more generously exercise the discretion they already have to pause proceedings when there is a preliminary motion pending that will substantially impact, if not resolve, the case.³⁹⁴

3. Declaratory Judgments

Although most of the examples of legal changes that facilitate quick decisions end litigation earlier, recent Supreme Court and Federal Circuit decisions about declaratory judgments make it possible for disputes to get into court more quickly. By statute, the federal courts may hear declaratory judgment claims only when there is an "actual controversy" between the parties.³⁹⁵ For many years, the Federal Circuit held that an actual controversy existed only when the potential infringer had a reasonable apprehension it was about to be sued for

387. See La Belle, *supra* note 372, at 66 (quoting Paul D. Carrington, *Renovating Discovery*, 49 ALA. L. REV. 51, 56 (1997)).

388. See Love & Yoon, *supra* note 197, at 23.

389. See, e.g., Innovation Act, H.R. 9, § 3(d)(1), 114th Cong. (2015).

390. See, e.g., Innovation Act, H.R. 3309, § 3(d)(1), 113th Cong. (2013).

391. See Lichtman, *supra* note 190, at 438–39 (discussing the impact of the Supreme Court's decision in *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388 (2006)).

392. See *id.* at 445–46. Indeed, prejudgment interest can compensate for any delay in awarding damages. See *id.* at 439–40.

393. Christopher B. Seaman, *Permanent Injunctions in Patent Litigation After eBay: An Empirical Study*, 101 IOWA L. REV. 1949, 1983, 1988 (2016).

394. See Paul R. Gugliuzza, *Patent Trolls and Patent Litigation Reform*, in OXFORD HANDBOOKS ONLINE, at 11–12 (2017), <http://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780199935352.001.0001/oxfordhb-9780199935352-e-15?print=pdf> [<https://perma.cc/WP5B-J444>].

395. 28 U.S.C. § 2201(a) (2012).

infringement.³⁹⁶ But the Supreme Court, in its 2007 decision in *MedImmune, Inc. v. Genentech, Inc.*, rejected that restrictive test and adopted a more flexible standard that looks at “all the circumstances” to determine whether there is a sufficiently concrete dispute to warrant a declaratory judgment.³⁹⁷

This new standard allows potential infringers to seek a declaratory judgment earlier—before the dispute has escalated to threats of litigation. For instance, in the Federal Circuit’s leading case applying *MedImmune*, the patentee had explicitly stated that it did not intend to file suit.³⁹⁸ Yet the court held that an oral presentation and written analysis alleging infringement, during the course of licensing negotiations, were sufficient to create the required controversy.³⁹⁹ In a later case, the court made clear that a party may file a declaratory judgment suit even when the patentee has not “affirmatively accused” it of infringement.⁴⁰⁰ And, in one recent case, the Federal Circuit held that an actual controversy existed even though the patentee never referenced—and, indeed, did not know about—the specific products that were potentially infringing.⁴⁰¹

These decisions lowering the bar for standing make it easier for potential infringers to get into court.⁴⁰² But the effects on litigation costs are complex because relaxing the standing requirement probably encourages more litigation. For example, a patentee who wants to choose the forum might simply sue for infringement rather than writing a letter that could trigger the accused infringer to file a declaratory judgment action in an unfavorable venue. Moreover, there are probably cases on the margins where, but for the recent relaxation of the standing requirement, there might have been no litigation at all because the parties would have negotiated a settlement. Thus, although changes to the law of declaratory judgment standing facilitate quicker decisions on validity, the effects on overall costs are complex, as with most other mechanisms of quick decisions discussed in this Article.

4. Additional Mechanisms of Quick Decisions

Although many other legal developments have facilitated speedy decisions in patent cases, I hope by now to have made the basic point. For the sake of completeness, I will conclude with three final examples that warrant at least brief mention.

The first involves proceedings at the U.S. International Trade Commission (ITC). Under section 337 of the Tariff Act, the ITC has the power to issue

396. See, e.g., *Gen-Probe Inc. v. Vysis, Inc.*, 359 F.3d 1376, 1380 (Fed. Cir. 2004).

397. 549 U.S. 118, 127 (2007) (internal quotation marks omitted).

398. *SanDisk Corp. v. STMicroelectronics, Inc.*, 480 F.3d 1372, 1377 (Fed. Cir. 2007).

399. *Id.* at 1382.

400. *Danisco U.S. Inc. v. Novozymes A/S*, 744 F.3d 1325, 1330 (Fed. Cir. 2014).

401. *Asia Vital Components Co. v. Asetek Danmark A/S*, 837 F.3d 1249, 1254 (Fed. Cir. 2016).

402. For an argument that, even after *MedImmune*, the Federal Circuit has continued to make it too difficult for certain litigants to challenge patents, see Gaia Bernstein, *The End User’s Predicament: User Standing in Patent Litigation*, 96 B.U. L. REV. 1929, 1937–38 (2016).

exclusion orders that prohibit importing goods that infringe a U.S. patent.⁴⁰³ ITC proceedings move quickly compared to patent litigation in court, concluding in about seventeen months on average.⁴⁰⁴ Also, unlike litigation in court, ITC proceedings are not stayed for PTAB proceedings. The ITC's speed is attractive to patentees. It has contributed to the growth of the Commission's patent caseload from about ten cases per year in the late 1990s to roughly fifty cases per year today.⁴⁰⁵

Second, as mentioned above, the Supreme Court's decision in *KSR* made clear that obviousness, though a fact-intensive question, can be amenable to summary judgment.⁴⁰⁶ Before *KSR*, the Federal Circuit had held that its "teaching, suggestion, or motivation" test was a question of fact, meaning that the crucial issue of obviousness frequently "could not be decided without a multimillion dollar jury trial."⁴⁰⁷ In *KSR*, the Court stated that many of the key inquiries in the obviousness analysis are to be made by the "court," hinting at a reduced role for the jury in obviousness disputes.⁴⁰⁸ Empirical evidence suggests that, since *KSR*, the Federal Circuit has been more deferential to district court summary judgment rulings of obviousness than it was before the Supreme Court's decision,⁴⁰⁹ suggesting that the judge—not a jury—is more commonly being allowed to have the final word on the issue.

403. 19 U.S.C. § 1337 (2012).

404. See Kumar, *supra* note 203, at 536–37. Before 1994, section 337 imposed fixed time limits that required proceedings to conclude within one year, or eighteen months in more complicated cases, 19 U.S.C. § 1337(b)(1) (1988), but those time limits were found to violate the General Agreement on Tariffs and Trade. See Joel W. Rogers & Joseph P. Whitlock, *Is Section 337 Consistent with the GATT and the TRIPs Agreement?*, 17 AM. U. INT'L L. REV. 459, 475–81 (2002).

405. U.S. INT'L TRADE COMM'N, NUMBER OF SECTION 337 INVESTIGATIONS INSTITUTED BY CALENDAR YEAR, http://www.usitc.gov/intellectual_property/documents/cy_337_institutions.pdf [<https://perma.cc/S88T-QYJ4>]; U.S. INT'L TRADE COMM'N, SECTION 337 STATISTICS: NUMBER OF NEW, COMPLETED, AND ACTIVE INVESTIGATIONS BY FISCAL YEAR, https://www.usitc.gov/intellectual_property/337_statistics_number_new_completed_and_active.htm [<https://perma.cc/MT49-FC95>] (last updated July 14, 2017). To be sure, some of that growth is also due to the Supreme Court's 2006 decision in *eBay Inc. v. MercExchange*, L.L.C., 547 U.S. 388 (2006), which made it more difficult for plaintiffs who do not practice their patent to obtain an injunction in federal court. See Seaman, *supra* note 393, at 1952. Although the ITC cannot award damages for infringement, it enters an exclusion order—effectively, an injunction against future infringement if the infringing product is imported from abroad—in practically every case in which the patentee prevails. See Colleen V. Chien & Mark A. Lemley, *Patent Holdup, the ITC, and the Public Interest*, 98 CORNELL L. REV. 1, 16 (2012).

406. See, e.g., *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1239–40 (Fed. Cir. 2010) (post-*KSR* decision emphasizing that the question of motivation to combine, a factual determination underpinning the obviousness analysis, can be appropriate for resolution on summary judgment, particularly when "the existence of a motivation to combine references . . . boil[s] down to a question of 'common sense'").

407. John F. Duffy, *KSR v. Teleflex: Predictable Reform of Patent Substance and Procedure in the Judiciary*, 106 MICH. L. REV. FIRST IMPRESSIONS 34, 36–37 (2007).

408. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 417–18 (2007) ("[A] court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions[;] . . . a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." (emphasis added)).

409. See Jason Rantanen, *The Federal Circuit's New Obviousness Jurisprudence: An Empirical Study*, 16 STAN. TECH. L. REV. 709, 745 tbl.5 (2013) (reporting a post-*KSR* affirmation rate of 80%, compared to a 56% affirmation rate in the ten years before the Court granted review).

Finally, Congress in the past few decades has created two sui generis regimes designed to encourage the expeditious assertion and resolution of patent litigation in the pharmaceutical and biopharmaceutical industries. In 1984, Congress passed the Drug Price Competition and Patent Term Restoration Act,⁴¹⁰ commonly known as the Hatch–Waxman Act, which allows the prospective distributor of a generic pharmaceutical product to engage in an “artificial” act of infringement by sending a written notice (often called a “paragraph IV certification,” in reference to the applicable subsection of the Act) to the patentee asserting that its patent is invalid, unenforceable, or not infringed. The paragraph IV certification gives the patentee forty-five days to file an infringement suit or else the generic company may enter the market.⁴¹¹ To encourage generic companies to challenge patents, the Act grants 180 days of market exclusivity to the first generic company to file a paragraph IV certification.⁴¹²

The Biologics Price Competition and Innovation Act (BPCIA) of 2009⁴¹³ created a broadly similar regime for expediting resolution of patent disputes related to biological drugs.⁴¹⁴ In a recent decision, the Supreme Court further facilitated quick resolution of disputes under the BPCIA by holding that the biosimilar applicant may provide the patentee with the notice that can trigger an infringement suit before the Food and Drug Administration approves the biosimilar product.⁴¹⁵ (The Federal Circuit had previously held that the notice could be provided only after agency approval.⁴¹⁶) Thus, both the Hatch–Waxman Act and the BPCIA share a purpose consistent with the general trend toward quick resolution of patent infringement claims.⁴¹⁷

IV. QUICK DECISIONS IN THE FUTURE

As the discussion above demonstrates, many recent developments in patent law can be understood as providing mechanisms to increase speed to decision. Those changes have the potential to significantly improve the patent system. AIA proceedings and motions to dismiss on eligibility grounds, for example, provide new mechanisms for resolving infringement disputes before discovery,

410. Pub. L. No. 98-417, 98 Stat. 1585 (1984).

411. 21 U.S.C. § 355(j)(5)(B)(iii) (2012).

412. *Id.* § 355(j)(5)(B)(iv). Whether that provision has, in fact, incentivized successful patent challenges is a matter of some debate. See C. Scott Hemphill & Mark A. Lemley, *Earning Exclusivity: Generic Drug Incentives and the Hatch–Waxman Act*, 77 ANTITRUST L.J. 947, 953–55 (2011).

413. Pub. L. No. 111-148, 124 Stat. 804.

414. 35 U.S.C. § 271(e)(2)(C) (2012).

415. *Sandoz Inc. v. Amgen Inc.*, 137 S. Ct. 1664, 1677 (2017).

416. *Amgen Inc. v. Sandoz Inc.*, 794 F.3d 1347, 1357 (Fed. Cir. 2015).

417. See *FTC v. Actavis, Inc.*, 133 S. Ct. 2223, 2228 (2013) (noting that “[t]he Hatch–Waxman process . . . ‘speed[s] the introduction of low-cost generic drugs to market’” and that the paragraph IV certification “often ‘means provoking litigation’” (quoting *Caraco Pharm. Labs., Ltd. v. Novo Nordisk A/S*, 566 U.S. 399, 406 (2012) (second alteration in original)); Brief for the United States as Amicus Curiae Supporting Petitioner/Cross-Respondent 3, *Sandoz*, 137 S. Ct. 1664, 2017 WL 2507337 (“The BPCIA facilitates early resolution of patent claims by establishing a so-called ‘artificial’ patent-infringement claim . . .”).

something that is particularly useful in deterring low-merit litigation. Yet the overall cost savings of this trend is not beyond doubt. Quick decisions may result in erroneous patent invalidations and may incentivize litigation about issues, such as pleading sufficiency, that were not previously disputed. Moreover, although many of the recent changes allow defendants to avoid liability for infringement, they offer little help to patentees seeking quick adjudication of meritorious claims. One might therefore be tempted to dismiss the trend toward quick decisions as simply part of an emerging shift to an era of weaker patent rights.⁴¹⁸ Yet viewing patent law through the lens of speed to decision can teach lessons that transcend the pro-patent/anti-patent divide.

A. MERELY AN ANTI-PATENT MOMENT?

Without a doubt, many mechanisms of quick decisions favor accused infringers. Only an infringer can win a case through a motion to dismiss on eligibility grounds. *Markman*'s separation of claim construction from trial creates an additional stage at which a defendant can prevail.⁴¹⁹ *KSR*'s invigoration of the nonobviousness requirement favors accused infringers, too.

But the pro- or anti-patent valence of the trend toward quick decisions is arguably more nuanced. Although it is too early to draw firm conclusions, the grant rate of motions to dismiss on eligibility grounds seems to be falling, perhaps providing a preliminary indication that those invalidations are increasingly confined to the weakest patents or that very weak patents are no longer being asserted in litigation. As for the supposedly deadly AIA proceedings, recall that the PTAB institutes review of fewer than half of all challenged patent claims, and it invalidates only about a quarter of challenged claims.⁴²⁰

The speed engendered by local patent rules can favor patentees by coercing the defendant to settle rather than risk an uncertain outcome before a jury.⁴²¹ A quick settlement or a speedy trial or can “allow a patentee to build a war chest to sue other defendants, and, in the case of trial, build the reputation of the patent.”⁴²² Indeed, the Eastern District of Texas became the favorite venue for

418. On the tendency of patent law to cycle between pro-patent and anti-patent eras, see Mark A. Lemley, *The Surprising Resilience of the Patent System*, 95 TEX. L. REV. 1, 13–14 (2016). The prior, pro-patent era commenced in the early 1980s and was itself a response to the era of weak patent rights that spanned the 1960s and 1970s. See Rochelle Cooper Dreyfuss, *The Federal Circuit: A Case Study in Specialized Courts*, 64 N.Y.U. L. REV. 1, 6–7 (1989).

419. Mark A. Lemley, *The Fractioning of Patent Law* 504, 506, in INTELLECTUAL PROPERTY AND THE COMMON LAW (Shyamkrishna Balganesh ed., 2013).

420. See PTAB STATISTICS, *supra* note 89, at 12–13; Dreyfuss, *supra* note 18, at 252–58 (challenging the argument that invalidity rates at the PTAB are too high); cf. Gregory Dolin, *Dubious Patent Reform*, 56 B.C. L. REV. 881, 926–31 (2015) (raising concerns about high invalidity rates in AIA proceedings, but also noting the limitations of the available data).

421. See J. Jonas Anderson, *Court Competition for Patent Cases*, 163 U. PA. L. REV. 631, 677 (2015).

422. Mark A. Lemley, *Where to File Your Patent Case*, 38 AIPLA Q.J. 1, 13 (2010); see also *Silicon Valley: The Patent Troll* (HBO television broadcast June 4, 2017). In the show, Pied Piper, the startup run by the show's protagonist, Richard Hendricks, was targeted by a patent troll shortly after Pied

patentees not because its substantive rulings were particularly pro-patentee, but because of procedural doctrines and practices that enhanced patentees' bargaining power in settlement negotiations.⁴²³ The fast proceedings and the nearly automatic exclusion orders available at the ITC also favor patentees.⁴²⁴

In addition, the Supreme Court's recent patent decisions have neither uniformly facilitated quick decisions nor uniformly favored accused infringers. A notable example favoring patentees and potentially extending the duration of litigation is the Court's 2016 decision in *Halo Electronics, Inc. v. Pulse Electronics, Inc.*, which made it easier for a patentee to recover enhanced damages for willful infringement.⁴²⁵ The Court also removed from the enhanced damages analysis a threshold question of law about the objective merits of the defendant's case that had previously been determined by the judge, typically on summary judgment. Instead, the Court held that the decision to award enhanced damages is ultimately a matter of the district court's discretion.⁴²⁶ Consequently, the issue of willfulness will likely get past summary judgment and go to the jury more frequently.⁴²⁷ If the jury finds willfulness, then the judge has the power to make the ultimate, discretionary decision about whether to award enhanced damages.⁴²⁸ In several recent decisions, including in *Halo* itself on remand, judges have declined to award enhanced damages despite a jury finding of willfulness.⁴²⁹ A more efficient process—and one that is arguably consistent with the Supreme Court's opinion in *Halo*—would put the power to award enhanced damages *entirely* in the hands of the judge.⁴³⁰

Piper's data compression application appeared on a list of the 500 most downloaded apps on the Hooli app store (counting utility apps only, in subgroup mobile and subgroup storage—a feat that, as Pied Piper's head of business development noted with perhaps a little too much satisfaction, put the company's app "firmly" in the top 30,000 overall). When asked about the troll, Hendricks's lawyer explained that the patentee in question "starts at the bottom of those lists and works his way up; the more settlements he gets the stronger his case; the higher you are on the list, the more money he asks for."

423. See Daniel Klerman & Greg Reilly, *Forum Selling*, 89 S. CAL. L. REV. 241, 250 (2016).

424. See *supra* note 405.

425. 136 S. Ct. 1923 (2016).

426. To guide that discretion, the Court noted that "[t]he sort of conduct warranting enhanced damages has been variously described in our cases as willful, wanton, malicious, bad-faith, deliberate, consciously wrongful, flagrant, or—indeed—characteristic of a pirate." *Id.* at 1932. On the standard for awarding enhanced damages after *Halo*, see generally Dmitry Karshedt, *Enhancing Patent Damages*, 51 U.C. DAVIS L. REV. (forthcoming 2018), <https://ssrn.com/abstract=2945696> [<https://perma.cc/9WSR-TQB5>].

427. See, e.g., *Erfindergemeinschaft UroPep GbR v. Eli Lilly & Co.*, 240 F. Supp. 3d 605, 618 (E.D. Tex. 2017) (Bryson, J., sitting by designation) (denying motion for summary judgment of no willfulness despite objective evidence favorable to the defendant, criticizing the defendant for "offer[ing] no . . . summary judgment evidence going to the subjective beliefs of its decisionmakers"), *appeal filed*, No. 2017-2603 (Fed. Cir. Sept. 25, 2017).

428. See Karshedt, *supra* note 426, at 67.

429. See *id.* at 71 n.577 (citing, among other cases, *Halo Elecs., Inc. v. Pulse Elecs., Inc.*, No. 2:07-cv-00331, 2017 WL 3896672, at *16 (D. Nev. Sept. 6, 2017)).

430. See Michael Feldman & Mark A. Lemley, "Characteristic of a Pirate": *Willfulness and Treble Damages* 3 (Stanford Public Law, Working Paper No. 2811773, 2016), <https://ssrn.com/abstract=28117>

The Supreme Court's recent decision in *TC Heartland* is more consistent with a general trend of favoring accused infringers, giving them hope of avoiding litigation in the patentee-friendly Eastern District of Texas.⁴³¹ But the decision will likely result in protracted pre-merits litigation and increase litigation costs. Previously, the venue rule in patent cases was, whatever its virtues or vices, quite clear: venue was proper in any district in which the defendant was subject to personal jurisdiction, which, for many corporations doing business nationwide, was any district in the country.⁴³² Under *TC Heartland*, however, venue is proper only in the defendant's place of incorporation or in any district "where the defendant has committed acts of infringement and has a regular and established place of business."⁴³³ Although the Federal Circuit has recently begun to elaborate on what it means for a defendant to have a regular and established place of business in a particular district,⁴³⁴ the paucity of appellate case law on that fact-specific question means that it will likely take time—and litigation—for courts to bring some predictability to the issue.⁴³⁵ The fact-specific nature of the venue question has already been used to justify wide-ranging early-stage discovery into the defendant's business activities in the forum.⁴³⁶

Moreover, even after *TC Heartland*, accused infringers will continue to file motions to transfer venue for convenience purposes under 28 U.S.C. section 1404(a), particularly in cases that are filed in the accused infringer's place of incorporation but that bear no other connection to the district.⁴³⁷ In other words, after *TC Heartland*, defendants have not one but two mechanisms for challenging venue. First, they can argue that venue is improper because they are not incorporated in the plaintiff's chosen district, have not committed acts of infringement there, and do not have a regular and established place of business there. Second, even if venue is proper, defendants can still seek transfer for convenience reasons under section 1404(a). Indeed, in many cases, defendants will be able to raise *both* of those arguments at the outset of the case, further

73 [<https://perma.cc/DW7A-QTC3>] (suggesting that, because the Supreme Court in *Halo* adopted an "abuse of discretion" standard of review, "the power to impose [enhanced] damages may now lie exclusively with the judge" (emphasis added)).

431. *TC Heartland LLC v. Kraft Foods Grp. Brands LLC*, 137 S. Ct. 1514 (2017).

432. See Gugliuzza & La Belle, *supra* note 17, at 1042–44.

433. 28 U.S.C. § 1400(b) (2012).

434. *In re Cray Inc.*, 871 F.3d 1355, 1362 (Fed. Cir. 2017).

435. See *id.* ("In deciding whether a defendant has a regular and established place of business in a district, no precise rule has been laid down and each case depends on its own facts.")

436. See, e.g., *Nike, Inc. v. Skechers U.S.A., Inc.*, No. 3:16-cv-007, 2017 WL 3389022, at *2 (D. Or. June 30, 2017) (granting a motion to compel discovery on, among other things, the defendant's sales in the district, the activities of its third-party vendors and its relationships with those vendors, "the activities of [the defendant's] agents, whether the agent is based in [the district] or not," and the property owned or leased by the defendant in the district).

437. See generally Paul R. Gugliuzza, *The New Federal Circuit Mandamus*, 45 IND. L. REV. 343, 383–90 (2012) (discussing the use of section 1404(a) motions in patent litigation).

slowing down the initial stages of the litigation.⁴³⁸

Thus, though many recent developments in patent law facilitate quick decisions in favor of accused infringers, other developments may drag out litigation, increase costs, and, more rarely, favor patentees.

B. WHAT CAN WE LEARN?

Thinking about patent disputes in terms of speed to decision provides a useful way to evaluate recent changes to the substance of patent law because it provides an analytical vocabulary that transcends the usual pro-patent/anti-patent divide. For instance, I showed above how some aspects of current eligibility doctrine are substantively problematic. The test for determining eligibility is vague and results can be unpredictable. As I also highlighted, however, a comprehensive critique of that doctrine must acknowledge the savings in litigation costs that stems from allowing courts to resolve validity on the pleadings. Going forward, one potential reform, which I explore in more detail in a forthcoming article,⁴³⁹ would be for courts to more clearly articulate the distinction between questions of law and questions of fact in the eligibility analysis. That clearer distinction would ensure that fact-driven questions of patentability are not resolved prematurely (and potentially erroneously) on an inadequate record, but still preserve the eligibility requirement as a mechanism to quickly invalidate patents for which there is no plausible case for patentability.

In a similar vein, the new AIA proceedings, even if they are not perfectly accurate, have invalidated many patents that almost certainly did not comply with the requirements of the Patent Act. Yet the social benefit from clearing invalid patents is undermined by the costs of permitting the validity of a single patent to be reviewed by both the courts and the PTO. I discussed above various reforms that could help reduce the costs of concurrent proceedings, such as enhancing preclusive effects between the PTO and the courts and strengthening the rules of estoppel that foreclose certain arguments from being pursued in a subsequent proceeding.⁴⁴⁰

Likewise, the deletion of the form complaint for patent infringement from the Federal Rules of Civil Procedure has been praised as offering defendants protection from frivolous claims of infringement. But that change may have simply increased litigation about the sufficiency of pleadings with minimal corresponding benefit in terms of dispositive dismissals of weak claims. One improvement in that area would be for the Federal Circuit to provide more guidance about what, precisely, a patentee needs to include in its complaint to

438. *See, e.g.,* Free-Flow Packaging Int'l Inc. v. Automated Packaging Sys., Inc., No. CV-17-6398, slip op. at 4, 9 (C.D. Cal. Nov. 2, 2017) (granting a motion to transfer to the Northern District of Ohio under section 1404(a) after the case had already been dismissed in the Northern District of California for improper venue and refiled in the Central District of California, where the defendant maintained a sales office (and hence had a "regular and established place of business")).

439. *See* Gugliuzza, *supra* note 308.

440. *See supra* Section III.A.1.

avoid a motion to dismiss for failing to sufficiently allege direct infringement.⁴⁴¹

Finally, because the mechanisms of quick decisions that currently exist tend to favor accused infringers, we might consider adopting measures to facilitate quicker adjudication when a *patentee* has a clearly meritorious claim for infringement.⁴⁴² The accused infringer's Seventh Amendment jury trial right, however, presents a significant obstacle to such a reform.⁴⁴³ Absent dramatic changes to the relevant constitutional law, patentees may, unfortunately, have to be content with more modest reforms, such as local patent rules and greater clarity in pleading standards and eligibility law, that move meritorious cases toward trial more quickly.

As I have discussed throughout this Article, the interaction between speed to decision, litigation costs, and decisional accuracy is complex. Understanding the enforcement-related complications that flow from changes in patent law can help the patent system strike a better balance between the ideal of patents as an incentive for innovation and the reality that bad patents and weak claims for infringement exist and should be amenable to quick disposition. Much of the current debate on the state of the patent system fixates on the seemingly unanswerable question of whether strong patents or weak patents are better for innovation.⁴⁴⁴ Considerations of decisional speed and enforcement costs provide a more neutral language for discussing patent law's ongoing evolution. Discussing potential law reforms in those more neutral terms could help modulate the often-dramatic swings in substantive patent law between pro- and anti-patent eras.

CONCLUSION

With a few exceptions, the trend in patent litigation, as in many areas of civil litigation, is toward quicker resolution. Generally speaking, this trend is a reasonable response to concerns that the PTO has issued too many patents that are invalid and that patentees can too easily use those patents to obtain unwarranted settlement payments. But not all quick decisions are cheap, and quick decisions may increase the risk of error. Recognizing the interplay between speed, cost, and accuracy is essential to any normative analysis of recent developments in patent law.

441. See *supra* notes 344–47 and accompanying text.

442. For a sketch of a regime that would permit accelerated final adjudication in favor of both plaintiffs and defendants, see Zuckerman, *supra* note 130, at 379–81 (drawing on the current system of preliminary injunction practice).

443. Even if the Supreme Court were to rule that there is no Seventh Amendment right to a jury trial on the issue of patent validity, see *supra* notes 227–28 and accompanying text (discussing the *Oil States* case, which potentially presents that issue to the Supreme Court); see also Lemley, *supra* note 125, at 1720 (raising doubts about whether a jury trial right exists on the issue of validity), the right to a jury trial on the issue of *infringement* is well-established. See *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 377 (1996) (“[T]here is no dispute that infringement cases today must be tried before a jury, as their predecessors were more than two centuries ago.”).

444. Cf. Lisa Larrimore Ouellette, *Patent Experimentalism*, 101 VA. L. REV. 65, 76–87 (2015) (summarizing the uncertainty over whether patents actually promote innovation and arguing that variations in patent policy across jurisdictions could help reduce that uncertainty).