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INTRODUCTION

THE Declaratory Judgment Act is a statute designed to give parties uncertain of their legal rights the ability to obtain a fair and impartial determination of those rights.[1] Any action for declaratory relief must meet certain minimum jurisdictional requirements, but, interestingly, even if the case meets those requirements, the Act expressly gives courts the discretion to accept or decline the case.[2] When, then, should a court take such a case, and when should it decline? This question is particularly important in patent cases given the frequency with which declaratory relief actions arise in patent litigation.[3]

Consider the following scenario: Patentee contacts Manufacturer because she believes that her patent covers a component found in Manufacturer's product. Manufacturer believes that he does not infringe the patent and, in any event, that the patent is invalid. Negotiations between the parties stall. Manufacturer is now in a quandary: if his product infringes the patent, then damages increase substantially with every day the product remains on the market.[4] On the other hand, it is extremely costly and inefficient for Manufacturer to discontinue his product prematurely if the product does not infringe. So, rather than wait and see if Patentee will sue him for infringement, Manufacturer preemptively files an action for declaratory relief asking the court to declare the patent non-infringed and/or invalid. Should the court take the case? Should the court be more inclined to take the case if it threatens the intangible assets of an indigenous population, as described by Professor Danielle Conway in this Symposium Issue?[5] Unfortunately both the Federal Circuit[6] and the Supreme Court have provided little guidance to answer these questions.[7]

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1. 28 U.S.C. § 2201 (2010) ("In a case of actual controversy within its jurisdiction . . . any court of the United States . . . may declare the rights and other legal relations of any interested party seeking such declaration, whether or not further relief is or could be sought."); *see* Lisa A. Dolak, *Power or Prudence: Toward a Better Standard for Evaluating Patent Litigants' Access to the Declaratory Judgment Remedy*, 41 U.S.F. L. REV. 407, 408–09 (2007) (explaining that the Declaratory Judgment Act is meant "to alleviate the uncertainty faced by parties, such as alleged patent infringers").

2. Wilton v. Seven Falls Co., 515 U.S. 277, 286 (1995) ("Since its inception, the Declaratory Judgment Act has been understood to confer on federal courts unique and substantial discretion in deciding whether to declare the rights of litigants.").

3. *See infra* notes 23–26 and accompanying text.

4. 35 U.S.C. § 284, ¶ 1 requires courts to award, upon a finding of patent infringement, "damages adequate to compensate for the infringement." 35 U.S.C. § 284 (2000). This includes compensatory damages for the actual monetary loss suffered. JANICE M. MUELLER, PATENT LAW 496 (3d ed. 2009).

5. *See* Danielle M. Conway, *Promoting Indigenous Innovation, Enterprise, and Entrepreneurship through the Licensing of Article 31 Indigenous Assets and Resources*, 64 SMU L. REV. 1095, 1107 (2011).

6. The U.S. Court of Appeals for the Federal Circuit has exclusive nationwide jurisdiction over appeals in cases where the well pleaded complaint asserts a cause of action arising under the patent laws. MUELLER, *supra* note 4, at 38.

7. *See, e.g.*, Sony Elecs., Inc. v. Guardian Media Techs., Ltd., 497 F.3d 1271, 1288 (Fed. Cir. 2007) (stating that "[i]f a district court's decision is consistent with the purposes of the Declaratory Judgment Act and considerations of wise judicial administration, it may

Some scholars have suggested that when considering whether to accept a declaratory relief action, courts should focus on the tone and character of the parties' bargaining conduct.[8] Declaratory relief may be warranted if, for example, Patentee sent letters to Manufacturer with threatening and aggressive language, or Patentee had already sued Manufacturer's main competitor over the same patent.[9] Emphasizing the parties' conduct, however, risks manipulation and gamesmanship.[10]

This Article contends that a crucial factor that substantially impacts the propriety of a grant of declaratory relief in a patent dispute, and one that has not been examined by the courts and the academic literature, is the nature of the patent itself, which lies at the heart of the dispute. More specifically, this Article argues that courts need to consider whether adjudicating particular patents would further fairness and innovation.

Patents often contain vague language that creates uncertainty regarding their claims' scope and value.[11] These kinds of patents are unjust because they do not give the public fair notice of the patents' boundaries.[12] Patent-holders can essentially tell the public: "I won't (or can't) tell you where the boundary is, but put one foot over where I think it is

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exercise its discretion to dismiss (or stay) the case" but not providing any specific guidance on how to exercise this discretion); Minn. Mining & Mfg. Co. v. Norton Co., 929 F.2d 670, 673 (Fed. Cir. 1991) (noting "competing policy considerations of, on the one hand, conserving limited judicial resources by declining jurisdiction and, on the other hand, utilizing the services of a court by permitting a party threatened with legal action to obtain an early adjudication of its rights and liabilities"); *see also* David I. Levine & Charles E. Belle, *Declaratory Relief After* MedImmune, 14 LEWIS & CLARK L. REV. 491, 527–33 (2010) (noting courts are not using their discretion to support decisions to accept or decline declaratory relief patent actions as often as they could). *But cf.* Dolak, *supra* note 1, at 407–08 (arguing that the Federal Circuit is incorrectly blurring the distinction between constitutional requirements and discretion and that courts should better separate their analyses of the jurisdictional and prudential bases for justifiability under the Declaratory Judgment Act).

8. *See* Lorelei Ritchie De Larena, *Re-Evaluating Declaratory Judgment Jurisdiction in Intellectual Property Disputes*, 83 IND. L.J. 957, 988–89 (2008) (when exercising their discretion under the Declaratory Judgment Act, courts should consider (1) contact and correspondence between parties, (2) extent of license negotiations between parties, (3) prior conduct by declaratory judgment defendant, and (4) post-filing conduct by declaratory judgment defendant); Paul J. LaVanway, Jr., Note, *Patent Licensing and Discretion: Reevaluating the Discretionary Prong of Declaratory Judgment Jurisdiction After* MedImmune, 92 MINN. L. REV. 1966, 1991–98 (2008) (arguing that when exercising their discretion under the Declaratory Judgment Act courts should consider "the scope and content of communications between the parties, the extent of ongoing negotiations between parties, and the size of the parties").

9. *See* De Larena, *supra* note 8, at 944.

10. *But cf.* Lisa A. Dolak, 38 B.C. L. REV. 903, 932–33 (1997) (describing situation where patentee could avoid declaratory relief by carefully considering its vocabulary when communicating with the potential infringer and further arguing that courts would need to "unduly scrutinize the patentee's choice of words for evidence of 'threats'").

11. *See infra* Part I.B.

12. WEBSTER'S NEW COLLEGIATE DICTIONARY 1228 (1979) (defining "justice" as, inter alia, "the quality of being . . . impartial[ ] or fair"); BLACK'S LAW DICTIONARY 942 (9th ed. 2009) (defining "justice" as "[t]he fair and proper administration of laws"). Although this Article focuses on aspects of justice such as fairness and impartiality, scholars have also considered whether patents promote the progress of justice, for example, by examining whether "justice [is] served by permitting patent rights to exist and possibly incentivize research that has been explicitly denied federal funding as unduly controversial, or even

and I'll sue you for patent infringement." Unjust patents can impede innovation by inhibiting licensing of the patent to parties that can transform the invention into a commercial product,[13] discouraging other parties from investing in similar technology due to fears of infringement,[14] and improperly rewarding the patentee while penalizing deserving follow-on inventors.[15] When unjust patents are asserted against potential infringers, their indeterminate boundaries prevent parties from reaching mutually agreeable solutions because the parties deadlock over mutually mistaken assumptions regarding the patents' scope and value.[16] This bargaining breakdown often leads to litigation and a request for declaratory relief.[17]

The interplay between unjust patents, bargaining breakdown, and innovation needs to be considered when determining whether a declaratory relief action is appropriate. Specifically, courts should examine whether a declaratory relief action has been filed because high transaction costs—arising from an unjust patent—are preventing the parties from reaching their own bargain.[18] If so, a court should accept the declaratory relief action so that the patent's scope can be vetted by an impartial decisionmaker. By explicitly considering these transaction costs, courts can use their discretion under the Declaratory Judgment Act as a policy lever to address bargaining breakdown in a way that maximizes both private bargaining and innovation.[19] Effective use of declaratory relief in this fash-

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immoral[.]" Cynthia M. Ho, *Do Patents Promote the Progress of Justice? Reflections on Varied Visions of Justice*, 36 LOY. U. CHI. L.J. 469, 469–72 (2005).

13. Gideon Parchomovsky & R. Polk Wagner, *Patent Portfolios*, 154 U. PA. L. REV. 1, 21 (2005) (arguing that when patents "convey little information about the potential commercial value of the invention . . . third parties cannot possibly determine the value of the patented invention"); *cf.* Katherine J. Strandburg, *Users as Innovators: Implications for Patent Doctrine*, 79 U. COLO. L. REV. 467, 484–85 (2008) (noting traditional patent paradigm that "patents encourage invention primarily by excluding competitors . . . or by facilitating a market for licenses and assignments so that inventors can sell their ideas to others," but then arguing that such a paradigm is not applicable to user innovators).

14. Jeanne C. Fromer, *Patent Disclosure*, 94 IOWA L. REV. 539, 590 (2009) (noting that parties "want to use the information that should be disclosed in a patent to design around a patented invention, learn from it for future research, or improve on the invention, but do so without infringing the patent itself").

15. Timothy R. Holbrook, *Possession in Patent Law*, 59 SMU L. REV. 123, 158 (2006) (noting that the "patent reward should be commensurate with the scope of [the inventor's] innovation," or "the patentee would be unduly rewarded for his invention"); Sean B. Seymore, *Heightened Enablement in the Unpredictable Arts*, 56 UCLA L. REV. 127, 144–45 (2008) (noting risk of rewarding inventors with undue patent scope under current framework).

16. *Cf.* Robert Merges, *Intellectual Property Rights and Bargaining Breakdown: The Case of Blocking Patents*, 62 TENN. L. REV. 75, 84–91 (1994) (discussing examples of bargaining breakdown involving blocking patents).

17. *Cf.* Dolak, *supra* note 10, at 947 (noting that many declaratory relief actions "share a common factual predicate: the patentee has asserted that a present activity of the potential infringer invades the patentee's statutory right to exclude").

18. *See infra* Part I.B.

19. A policy lever can be used to sensitize legal regimes "to the technological and industrial contexts they regulate so as to avoid either over-rewarding or under-rewarding innovators." Pamela Samuelson & Suzanne Scotchmer, *The Law and Economics of Reverse Engineering*, 111 YALE L.J. 1575, 1649 (2002).

ion resolves the uncertainty the Declaratory Judgment Act was designed to address and furthers the goals of the patent system by promoting innovation.[20]

Part I introduces the Declaratory Judgment Act and discusses the substantial discretion courts have under the Act to accept or decline cases. This Part explains that courts have failed to articulate clear policy objectives to guide this discretion and argues that when deciding whether to accept or decline a declaratory relief action, courts should consider the patent-at-issue and whether adjudicating the patent would promote fairness and innovation.

Part II of this Article discusses how patents can conflict with our notions of justice and fair play. This Part also explains the impact of unjust patents on bargaining and innovation and argues that these effects need to be considered when deciding whether declaratory relief is appropriate. Furthermore, since unjust patents have varying impediment effects depending on the industry and technology-at-issue, industry-specific characteristics should also be taken into account.

Part III presents specific public policy concerns that courts need to consider when determining whether adjudicating the patent-at-issue would promote fairness and innovation. Specifically, unjust patents are more likely to lead to bargaining breakdown in certain industries, and courts should broadly grant declaratory relief in such industries because more of these patents need to be vetted through an impartial decision-maker. This Part offers an example of how this policy lever could be tailored to the software industry. This Part concludes by arguing that explicit consideration of the goals of the Declaratory Judgment Act and the patent system in this manner creates efficiencies for both patent owners and potential infringers.

I. THE DECLARATORY JUDGMENT ACT

The Declaratory Judgment Act states: "In a case of actual controversy within its jurisdiction . . . any court of the United States . . . *may* declare the rights and other legal relations of any interested party seeking such declaration, whether or not further relief is or could be sought."[21] The Act is intended to give parties who are uncertain of their legal rights a way to seek judicial determination of their rights.[22] While the Act is applicable to all areas of the law, part of the impetus behind the Act's passage was the plight of potential patent infringers.[23] As stated by one of the Act's supporters during Senate hearings to consider the Act:

> I assert that I have a right to use a certain patent. You claim that you have a patent. What am I going to do about it? There is no way that I can litigate my right, which I claim, to use that device, except

20. Dolak, *supra* note 10, at 904, 914.
21. 28 U.S.C. § 2201 (2000) (emphasis added).
22. Dolak, *supra* note 1, at 408–09.
23. *Id.*; LaVanway, *supra* note 8, at 1968–69.

> by going ahead and using it, and you [the patent holder] can sit back as long as you please and let me run up just as high a bill of damages as you wish to have me run up, and then you may sue me for the damages, and I am ruined, having acted all the time in good faith and on my best judgment, but having no way in the world to find out whether I had a right to use that device or not.[24]

Although declaratory relief is not limited to patent disputes, it is particularly important to potential patent infringers because of the magnitude of possible losses.[25] Moreover, studies have demonstrated that potential infringers who file for declaratory judgment, rather than waiting to be sued by the patentee, have a significantly higher chance of winning at trial.[26] Indeed, approximately fourteen percent of patent cases that reach trial are declaratory judgment actions brought by potential infringers.[27] The prominence of declaratory judgment actions in patent litigation makes for a compelling argument to further explore the potential of the Declaratory Judgment Act as a policy lever to advance the goals of the patent system.

A. "No Limiting Principle Whatsover"

In order for a court to have subject matter jurisdiction over a declaratory relief action, the parties must establish the existence of "a case of actual controversy."[28] Prior to 2007, the Federal Circuit applied a two-prong test to determine whether an actual controversy existed in suits

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24. *Hearings on H.R. 5623 Before a Subcomm. of the Senate Comm. on the Judiciary*, 70th Cong. 35 (1928). For additional information on the legislative history of the Declaratory Judgment Act, see Dolak, *supra* note 1, at 408 n.6. *See also* Elecs. for Imaging, Inc. v. Coyle, 394 F.3d 1341, 1346 (Fed. Cir. 2005) (quoting Arrowhead Indus. Water, Inc. v. Ecolochem, Inc., 846 F.2d 731, 735 (Fed. Cir. 1988)) ("[A] patent owner . . . attempts extra-judicial patent enforcement with scare-the-customer-and-run tactics that infect the competitive environment of the business community with uncertainty and insecurity. . . . Before the Act, competitors victimized by that tactic were rendered helpless and immobile so long as the patent owner refused to grasp the nettle and sue. After the Act, those competitors were no longer restricted to an *in terrorem* choice between the incurrence of a growing potential liability for patent infringement and abandonment of their enterprises; they could clear the air by suing for a judgment that would settle the conflict of interests."); Red Wing Shoe Co. v. Hockerson-Halberstadt, Inc., 148 F.3d 1355, 1360 (Fed. Cir. 1998) (quoting *Arrowhead Indus. Water, Inc.*, 846 F.2d at 735) (internal quotation marks omitted) ("Before the Declaratory Judgment Act, competitors victimized by scare-the-customer-and-run tactics were rendered helpless and immobile so long as the patent owner refused to grasp the nettle and sue.").

25. The mean defendant in an infringement case loses 3% of its market value, or $28.7 million, upon the filing of an infringement suit against it. James Bessen & Michael J. Meurer, Patent Failure: How Judges, Bureaucrats, and Lawyers Put Innovators at Risk 56, 135–37 (2008); *see also* Levine & Belle, *supra* note 7, at 493 ("Actions for declaratory relief are particularly common in patent litigation because of the large costs involved and the potential for substantial damages.").

26. Kimberly A. Moore, *Forum Shopping in Patent Cases: Does Geographic Choice Affect Innovation?*, 79 N.C. L. Rev. 889, 921 (2001) ("When the patent holder selects the forum, the patent holder wins 58% of the claims. When the accused infringer brings a declaratory judgment action and thereby chooses the forum, the patent holder win rate drops to 44%.").

27. *Id.*

28. 28 U.S.C. § 2201 (2000).

involving patent infringement.[29] A declaratory judgment plaintiff was required to demonstrate a reasonable apprehension of being sued by the patentee and to present activity that could constitute infringement or meaningful preparation to conduct potentially infringing activity.[30] The Supreme Court, however, in *MedImmune, Inc. v. Genentech, Inc.*,[31] rejected the first prong of the test (reasonable apprehension of suit)[32] and concluded that it is more appropriate to consider "whether the facts alleged, under all the circumstances, show that there is a substantial controversy, between parties having adverse legal interests, of sufficient immediacy and reality to warrant the issuance of a declaratory judgment."[33] Dissenting from the decision, Justice Thomas complained that the test "contain[ed] no limiting principle whatsoever."[34]

In the aftermath of *MedImmune's* "more lenient legal standard" the Federal Circuit has struggled to define a workable, predictable test for declaratory judgment jurisdiction in patent cases.[35] The lower courts have been instructed to consider the "totality of the circumstances" but have not been given any specific factors to guide this analysis.[36] As a result, many lower courts have returned to the Federal Circuit's outdated pre-*MedImmune* two-prong test, finding an actual controversy whenever the declaratory judgment plaintiff's product practices a patent and the patentee has given an indication that it will enforce its rights.[37]

To further complicate the analysis, even when jurisdiction is present, the Declaratory Judgment Act gives courts "unique and substantial dis-

29. *Arrowhead Indus. Water, Inc.*, 846 F.2d at 736 (citing Goodyear Tire & Rubber Co. v. Releasomers, Inc., 824 F.2d 953, 955 (Fed. Cir. 1987)).

30. *Id.*

31. MedImmune, Inc. v. Genetech, Inc., 549 U.S. 118 (2007).

32. *Id.* at 132–33 n.11.

33. *Id.* at 127.

34. *Id.* at 146 (Thomas, J., dissenting).

35. Micron Tech., Inc. v. Mosaid Techs., Inc., 518 F.3d 897, 902 (Fed. Cir. 2008).

36. *See* Innovative Therapies, Inc. v. Kinetic Concepts, Inc., 599 F.3d 1377, 1379 (Fed. Cir. 2010) (stating *MedImmune* established a "totality of the circumstances" test); Prasco, LLC v. Medicis Pharm. Corp., 537 F.3d 1329, 1336 (Fed. Cir. 2008) (noting that a "general all-the-circumstances test [is used] to establish that an action presents a justiciable Article III controversy").

37. "[T]he trend is to find an actual controversy, at least where the declaratory judgment plaintiff's product arguably practices a patent and the patentee has given some indication it will enforce its rights." Diamonds.net LLC v. Idex Online, Ltd., 590 F. Supp. 2d 593, 597–98 (S.D.N.Y. 2008). Post-*MedImmune*, there generally must first be some affirmative act by the patent owner relating to enforcement of its patent rights. *See, e.g.*, *Prasco*, 537 F.3d at 1338–39; SanDisk Corp. v. STMicroelectronics, Inc., 480 F.3d 1372, 1380–81 (Fed. Cir. 2007) ("[J]urisdiction generally will not arise merely on the basis that a party learns of the existence of a patent owned by another or even perceives such a patent to pose a risk of infringement, without some affirmative act by the patentee."). Second, "although a party need not have engaged in the actual manufacture or sale of a potentially infringing product to obtain a declaratory judgment of non-infringement, there must be a showing of 'meaningful preparation' for making or using that product." Cat Tech LLC v. TubeMaster, Inc., 528 F.3d 871, 880–81 (Fed. Cir. 2008) ("[W]hether there has been meaningful preparation to conduct potentially infringing activity remains an important element in the totality of circumstances which must be considered in determining whether a declaratory judgment is appropriate.").

cretion in deciding whether to declare the rights of litigants."[38] As stated by the Supreme Court, "[t]he statute's textual commitment to discretion, and the breadth of leeway we have always understood it to suggest, distinguish the declaratory judgment context from other areas of the law in which concepts of discretion surface."[39] Yet neither the Supreme Court nor the Federal Circuit has instructed lower courts on how to exercise this important discretion in patent cases.[40] The lack of guidance in this area led Federal Circuit Judge Bryson to complain that there is "no practical stopping point short of allowing declaratory judgment actions in virtually any case" when patent licensing negotiations breakdown.[41]

The academic literature has attempted to provide some guidance by suggesting that courts look to the behavior of the parties.[42] These scholars propose that the history, nature, and extent of the parties' bargaining conduct should determine whether a court should accept a declaratory relief action.[43] Declaratory relief is warranted if, for example, the character and content of the negotiations between the parties is particularly aggressive or the patentee has a history of being an aggressive litigant.[44] The problem with focusing on the parties' conduct, however, is that such conduct is easily molded by adroit counsel and therefore can be misleading.[45] For example, patentees could avoid declaratory judgment by merely remaining "cooperative and compliant" during negotiations, and

38. MedImmune, Inc. v. Genentech, Inc., 549 U.S. 118, 136 (2007) (citing Wilton v. Seven Falls Co., 515 U.S. 277, 286 (1995)); *see also Micron Tech., Inc.*, 518 F.3d at 903.

39. *Wilton*, 515 U.S. at 286–87; *see also Innovative Therapies, Inc.*, 599 F.3d at 1385 ("[T]he discretion afforded to district courts to administer the declaratory judgment practice is broad.").

40. The Supreme Court has merely stated that the "propriety of declaratory relief in a particular case will depend upon a circumspect sense of its fitness informed by the teachings and experience concerning the functions and extent of federal judicial power." *Wilton*, 515 U.S. at 287 (citing Pub. Serv. Comm'n of Utah v. Wycoff Co., 344 U.S. 237, 243 (1952)). The Federal Circuit has only stated that "when deciding whether to exercise [their] discretion, [courts] should decide whether hearing the case would 'serve the objectives for which the Declaratory Judgment Act was created.'" *Micron Tech., Inc.*, 518 F.3d at 903 (citing Capo, Inc. v. Dioptics Med. Prods., Inc., 387 F.3d 1352, 1355 (Fed. Cir. 2004)); *Cat Tech LLC*, 528 F.3d at 883 ("Even assuming that the immediacy and reality prerequisites for declaratory judgment relief have been met, the district court's exercise of its declaratory judgment authority is discretionary. . . . In deciding whether to entertain a declaratory judgment request, a court must determine whether resolving the case serves the objectives for which the Declaratory Judgment Act was created.").

41. *SanDisk Corp.*, 480 F.3d at 1385 (Bryson, J., concurring).

42. *See, e.g.*, De Larena, *supra* note 8, at 988; LaVanway, *supra* note 8, at 1991–98.

43. *See* De Larena, *supra* note 8, at 988–89 (when exercising their discretion under the Declaratory Judgment Act, courts should consider (1) contact and correspondence between parties, (2) extent of license negotiations between parties, (3) prior conduct by declaratory judgment defendant, and (4) post-filing conduct by declaratory judgment defendant); LaVanway, *supra* note 8, at 1991–98 (arguing that when exercising their discretion under the Declaratory Judgment Act courts should consider the scope and content of communications, extent of ongoing negotiations, and size of parties).

44. *See* De Larena, *supra* note 8, at 992.

45. *But cf.* Dolak, *supra* note 10, at 932–33 (describing a situation where the patentee could avoid declaratory relief by carefully considering its vocabulary when communicating with the potential infringer and further arguing that courts would need to "unduly scrutinize the patentee's choice of words for evidence of 'threats'").

potential infringers could trigger declaratory judgment by simply forcing patentees to answer specific questions during negotiation.[46] A limiting principle needs to be articulated that is not so easily manipulated.

B. HARNESSING THE COURTS' "UNIQUE AND SUBSTANTIAL DISCRETION"

This Article contends that the limiting principle can be found in the courts' "unique and substantial discretion" to accept or decline an action for declaratory relief.[47] The courts must turn their focus away from whether they have the power to hear a declaratory relief action, to consider whether they *should*.[48] If clear policy objectives can be articulated to guide the exercise of this discretion, it can be used as a policy lever to resolve uncertainty and promote innovation.

The Declaratory Judgment Act is intended to resolve legal uncertainty.[49] In order to understand how this discretion can be used to serve the objectives of the Act while at the same time promoting innovation, we need to examine why potential patent infringers file declaratory relief actions in the first place.[50] It is doubtful that a potential infringer would preemptively seek an "advisory opinion" on "merely contemplated activity" without first being contacted by a patentee.[51] First, given that the median litigation cost to take a patent case through to the end of discovery is $1.5 million, the costs of initiating such a suit would be enormous and clearly prohibitive.[52] Second, given the complexity of modern technology and the sheer number of possible patents that might cover such technology, most parties are completely unaware of troublesome patents

46. Dugal S. Sickert et al., *Navigating the Declaratory Judgment Minefield to a Patent License*, ACC DOCKET, Sept. 2009, at 54, 60–62 (advising patentees seeking to avoid jurisdiction to "appear cooperative and compliant during negotiations rather than a steadfast entity standing on its rights" and accused infringers to "do everything possible to show that both parties have adverse legal interests with regard to the patent" and to "ask questions during negotiations that will elicit answers sufficient to establish jurisdiction under the 'all the circumstances' test").

47. MedImmune, Inc. v. Genentech, Inc., 549 U.S. 118, 136 (2007) (citing Wilton v. Seven Falls Co., 515 U.S. 277, 286 (1995)).

48. Dolak, *supra* note 1, at 433–34 (arguing that it is important for courts to clearly distinguish between the jurisdictional and the discretionary factors of the Declaratory Judgment Act).

49. *Id.* at 408–09.

50. An examination into the reasons why potential patent infringers file declaratory relief actions is currently being undertaken by the Author.

51. The jurisdictional inquiry ensures that a party does not seek a declaratory judgment "merely because it would like an advisory opinion on whether it would be liable for patent infringement if it were to initiate some merely contemplated activity." Ass'n for Molecular Pathology v. U.S. Patent & Trademark Office, 669 F. Supp. 2d 365, 387 (S.D.N.Y. 2009) (citing Arrowhead Indus. Water, Inc. v. Ecolochem, Inc., 846 F.2d 731, 736 (Fed. Cir. 1988)) (citations omitted).

52. The median litigation cost to take a patent case, where there is $1–$25 million at risk, through to the end of discovery is $1.5 million, and $2.5 million through the end of the case. AM. INTELL. PROP. LAW ASS'N, 2009 REPORT OF THE ECONOMIC SURVEY 29 (2009); *see also* Dolak, *supra* note 1, at 428 ("[T]he expense and aggravation of patent litigation would deter purely academic attacks on patents.").

until the patentee brings one to their attention.[53] Finally, the "actual case or controversy" requirement, even under the current lax standards, would foreclose any attempt to seek declaratory relief where the patentee has made no indication of her intent to enforce her rights and the potential infringer has not made meaningful preparations to make or use a potentially infringing product.[54]

Thus, the classic scenario that leads to a request for declaratory relief is a failed attempt to license the patent-at-issue.[55] The scenario begins with the patentee approaching a party that makes or uses a product that arguably practices the patentee's patent, much like the hypothetical provided in the introduction. Patentee offers the alleged infringer a license. At this point, the alleged infringer is now on notice that her activities potentially infringe upon another's patent.[56] Since the cost of negotiating a license is much lower than the cost of litigating a patent,[57] one would reasonably expect the alleged infringer to examine the patent, determine whether or not she is infringing, and negotiate the license accordingly.[58]

But sometimes, rather than entering into a license, the potential infringer makes the very costly decision to file for a declaratory judgment.[59] Why would she do this?[60] As stated by Dan Burk and Mark Lemley, "[L]itigation . . . is usually an outcome due to mutual mistake. If both parties know the real value of their disputed claims, it is in their interests

53. *See infra* notes 96–97 and accompanying text.

54. *See supra* notes 33–35 and accompanying text.

55. *See* SanDisk Corp. v. STMicroelectronics, Inc., 480 F.3d 1372, 1384–85 (Fed. Cir. 2007) (Bryson, J., concurring) (explaining how patent license negotiations can lead to declaratory relief actions).

56. Once a potential infringer becomes aware of the patent, she risks liability for willful infringement and increased damages up to three times the amount of the compensatory award. MUELLER, *supra* note 4, at 510–15. Companies can be liable for willful infringement if they learn of a patent and exhibit "objective recklessness" in responding to it. *See In re* Seagate Tech., LLC, 497 F.3d 1360, 1384 (Fed. Cir. 2007) (en banc).

57. One scholar has estimated the cost of negotiating a patent license at $50,000 per licensee per patent. Mark A. Lemley, Essay, *Rational Ignorance at the Patent Office*, 95 Nw. U. L. REV. 1495, 1507 (2001).

58. Merges, *supra* note 16, at 78 (noting that it is more efficient for the rights holder to set the terms of a license agreement because "(1) there are only two parties to the transaction, and they can easily identify each other; (2) the costs of a transaction between the parties are otherwise low; and (3) a court setting the terms of the exchange would have a difficult time doing so quickly and cheaply, given the specialized nature of the assets and the varied and complex business environments in which the assets are deployed."); *see* Dolak *supra* note 1, at 430 (noting that parties are "at the negotiation table . . . to try to avoid the substantial costs associated with patent litigation"); *cf.* Stuart J.H. Graham et al., *High Technology Entrepreneurs and the Patent System: Results of the 2008 Berkeley Patent Survey*, 24 BERKELEY TECH. L.J. 1255, 1280–81, 1318 (2009) (finding ten percent of "venture-backed IT hardware [start-up companies] take a patent license solely to avoid or to settle a patent dispute").

59. The median litigation cost to take a patent case, where there is $1–$25 million at risk, through to the end of discovery is $1.5 million, and $2.5 million through the end of the case. AM. INTELL. PROP. LAW ASS'N, *supra* note 52, at 29.

60. *See supra* note 47 and accompanying text.

to settle the dispute privately and avoid the costs of litigation."[61] What, then, is the root of such a mistake? As explained below, it is often the very subject of the dispute—the patent itself—that is unclear. If the boundaries of the patent are unclear, the parties may each reach independent, rational, and yet radically different conclusions regarding the scope and value of the patent. Put another way, the patent has failed to communicate critical information to the parties. This uncertainty leads to bargaining breakdown.[62] This intractable uncertainty is exactly what declaratory relief is meant to address.[63]

Of course, a declaratory relief action may be filed for reasons unrelated to bargaining breakdown triggered by a good faith disagreement as to the patent's scope. Such a suit may be filed with the intent of decreasing the patent's market value to improve bargaining position or to intimidate the patentee.[64] Or a potential infringer may file suit—knowing that the probability of success is low—in order to threaten the patentee's solvency or to force the patentee out of the market.[65] Some suits are filed merely to secure a more favorable forum for the potential infringer.[66] When uncertainty surrounding the patent's scope and value is not driving the request for declaratory relief, granting such a request would not further the goals of the Declaratory Judgment Act.[67] In such instances, the court should tread more carefully.

Obviously, at the moment a request for declaratory relief is filed, the factual record is minimal and so it is not possible to definitively examine the reasons behind the request and determine whether the patent's scope is, in fact, uncertain. But, as discussed below, the likelihood that an un-

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61. DAN L. BURK & MARK A. LEMLEY, THE PATENT CRISIS AND HOW THE COURTS CAN SOLVE IT 23, 28 (2009) (citing GORDON TULLOCK, TRIALS ON TRIAL: THE PURE THEORY OF LEGAL PROCEDURE 50–51 (1980)).

62. Merges, *supra* note 16, at 89–91 (citing 4 KENNETH J. ARROW, *The Economics of Information*, *in* COLLECTED PAPERS OF KENNETH J. ARROW 224 (1984)); Dan L. Burk & Mark A. Lemley, *Fence Posts or Sign Posts? Rethinking Patent Claim Construction?*, 157 U. PA. L. REV. 1743, 1749 (2009) ("[I]f a competitor thinks that a patent means one thing and the patentee thinks it means something different, they are unlikely to be able to conclude a licensing transaction efficiently.").

63. Dolak, *supra* note 1, at 408–09.

64. *See* LaVanway, *supra* note 8, at 1975 & n.65; Lemley, *supra* note 57, at 1505 (noting that suits can be used as settlement strategies, forcing the other side to the bargaining table); *see also* Sony Elecs. Inc. v. Guardian Media Techs., Ltd., 497 F.3d 1271, 1281 (Fed. Cir. 2007) (citing district court's conclusion that the suit was filed as "an intimidation tactic" but reversing that court's denial of declaratory judgment jurisdiction).

65. *See* Michael J. Meurer, *Controlling Opportunistic and Anti-Competitive Intellectual Property Litigation*, 44 B.C. L. REV. 509, 512–525 (2003) (describing opportunistic and anti-competitive intellectual property lawsuits); Graham et al., *supra* note 58, at 1315 (describing "bullying" suits that attempt to put a start-up company out of business); Colleen V. Chien, *Of Trolls, Davids, Goliaths, and Kings: Narratives and Evidence in the Litigation of High-Tech Patents*, 87 N.C. L. REV. 1571, 1587–88 (2009) (discussing "patent predation" where established companies use patent litigation to impose distress on financially disadvantaged rivals).

66. *See generally* Chester S. Chuang, *Offensive Venue: The Curious Use of Declaratory Judgment to Forum Shop in Patent Litigation*, 80 GEO. WASH. L. REV. (forthcoming 2012).

67. *See* Dolak, *supra* note 1, at 408–09.

just patent is causing bargaining breakdown differs by industry.[68] Therefore, even at this preliminary stage, courts should consider these differences. Acknowledging these industry-specific characteristics is the key to harnessing the court's discretionary exercise of declaratory relief as a policy lever to promote both certainty and innovation.

II. UNJUST PATENTS, BARGAINING BREAKDOWN, AND INNOVATION

When determining whether to accept or deny an action for declaratory relief in a patent case, courts should consider both the patent itself and the industry-specific nature of the patent system. These factors are important because some industries are more likely to produce patents with broad, vague claims, which can make it particularly difficult for parties negotiating over such a patent to resolve disputes on their own.[69] This uncertainty is exactly what the Declaratory Judgment Act was designed to address.[70]

A. UNJUST PATENTS

For something to be "just" it must be fair and impartial.[71] For patents, fairness and impartiality should be measured by the quality of information they communicate to the public.[72] As stated by the Supreme Court,

68. *See infra* Part II.C.

69. *See* Dolak, *supra* note 1, at 408–09.

70. *See* BESSEN & MEURER, *supra* note 25, at 152.

71. *See* definitions *supra* note 12.

72. There is significant scholarship regarding the types of information patents communicate:

First, patents tell the public what the inventor invented. *See* 35 U.S.C. § 112 (2006) (setting out the enablement, written description, and best mode requirements); CRAIG ALLEN NARD, THE LAW OF PATENTS 49 (2008) (noting that patents must disclose "the invention to persons having ordinary skill in the art . . . to facilitate the dissemination of technical information and follow-on innovation"); Fromer, *supra* note 14, at 560 ("[T]he patent document is the principal way for an interested technologist to locate useful information about a patented invention.").

Second, patents define the patentee's right to exclude. *See* 35 U.S.C. § 112 (setting out the definiteness requirement); NARD, *supra*, at 49 (noting that claims provide notice to the public of the boundaries of the patentee's property rights); Christopher A. Cotropia, *Patent Claim Interpretation Methodologies and Their Claim Scope Paradigms*, 47 WM. & MARY L. REV. 49, 61–62 (2005) (patents are expected to clearly inform the public of the subject matter that is protected by the patent and define the boundaries of the patentee's right to exclude); Kelly Casey Mullally, *Patent Hermeneutics: Form and Substance in Claim Construction*, 59 FLA. L. REV. 333, 349–50 (2007) (noting that patentees must know who is infringing their claims and third parties must know whether their conduct will render them liable for infringement); Note, *The Disclosure Function of the Patent System (or Lack Thereof)*, 118 HARV. L. REV. 2007, 2010 (2005) (noting that patents notify the public of the patentee's exclusive rights).

Third, patents signal information about the companies that own them to potential investors. Graham et al., *supra* note 58, at 1303–09 (finding patent-holding is important to securing venture investment); Clarisa Long, *Patent Signals*, 69 U. CHI. L. REV. 625, 647–54 (2002) (noting patents can indicate a company's research trajectory, productivity, and innovative activity).

Fourth, patents facilitate licensing. NARD, *supra*, at 30 (noting that patents reduce transaction costs and facilitate coordination efforts, "resulting in the patent efficiently ending up

"[N]othing can be more *just and fair*, both to the patentee and to the public, than that the former should understand, and correctly describe, just what he has invented, and for what he claims a patent."[73] Unfortunately, most modern patents miss this standard by a wide mark.[74]

Fundamentally, a patent describes an invention, erects a fence around that invention, and grants the owner the right to exclude anyone else from practicing that invention.[75] When a patent clearly communicates this information to the public, the public can learn about the invention, design around it, or improve upon it. Additionally, competitors can avoid liability for patent infringement, and the patentee can attract potential partners and investors.[76] Unfortunately, throughout the patent application process, several factors conspire to obscure the very information the patent needs to communicate.

In order to obtain a patent, the applicant must prepare a patent application and submit it to the United States Patent and Trademark Office (USPTO).[77] Once received by the USPTO, the application is reviewed by a patent examiner to see if the application complies with the statutory requirements of patentability: subject matter,[78] utility,[79] novelty,[80] obvi-

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in the hands of the party who is best suited to bring the technology to market"); Dan L. Burk & Brent H. McDonnell, *The Goldilocks Hypothesis: Balancing Intellectual Property Rights at the Boundary of the Firm*, 2007 U. ILL. L. REV. 575, 585 ("Licensees need only look at the patent to determine whether the information will be valuable to them."); *see* Edmund W. Kitch, *The Nature and Function of the Patent System*, 20 J.L. & ECON. 265, 276 (1977) (presenting the "prospect theory" of patents and arguing that the patentee will coordinate the search for technological and market enhancement of the patent's value).

Fifth, patents teach the public important technical information. Kewanee Oil Co. v. Bicron Corp., 416 U.S. 470, 481 (1974) (Patent disclosures add to the "general store of knowledge" and "stimulate ideas and the eventual development of further significant advances in the art."); Sean B. Seymore, *The Teaching Function of Patents*, 85 NOTRE DAME L. REV. 621, 624 (2010) (noting that the patent document itself can serve as a form of "technical" literature and add to the "storehouse of knowledge").

Lastly, patents can express the government's view regarding what societal norms ought to be. Timothy R. Holbrook, *The Expressive Impact of Patents*, 84 WASH. U. L. REV. 573, 581 (2006) (arguing that "[g]ranting patents on genes related to sexual orientation . . . communicates government approval that [homosexuals] are pathological and should be cured").

73. Merrill v. Yeomans, 94 U.S. 568, 573–74 (1876) (emphasis added); *see* 35 U.S.C. § 112 (requiring claims to "particularly point[ ] out and distinctly claim[ ] the subject matter which the applicant regards as his invention")

74. *See* BESSEN & MEURER, *supra* note 25, at 46.

75. *See* 35 U.S.C. § 112 (setting forth patent disclosure requirements); *id.* § 271 (defining patent infringement); *see also* Fromer, *supra* note 14, at 545–46.

76. Fromer, *supra* note 14, at 549–50.

77. MUELLER, *supra* note 4, at 42.

78. Patentable subject matter is "any . . . process, machine, manufacture, or composition of matter, or any . . . improvement thereof." 35 U.S.C. § 101.

79. Patents are granted only for useful inventions. U.S. CONST. art. I, § 8, cl. 8; 35 U.S.C. § 101.

80. Patents are granted only for inventions that are new. 35 U.S.C. § 102.

ousness,[81] and written description.[82] The applicant's goals throughout this process are twofold. First, provide the minimum amount of information necessary to meet these statutory requirements because disclosing too much information, or using the wrong words, can restrict the scope of the patent.[83] Second, employ broad or ambiguous language to cover a wide array of potentially infringing activity to maximize possible infringement opportunities.[84] The application process is completely ex parte, which gives the applicant every incentive to engage in puffing and deception to achieve these goals.[85] Indeed, as early as 1886, the Supreme Court acknowledged this problem, lamenting "[s]ome persons seem to suppose that a claim in a patent is like a nose of wax, which may be turned and twisted in any direction . . . so as to make it include something more than, or something different from, what its words express."[86] While examiners are supposed to guard against such vagueness and ambiguity, the system clearly favors the applicants.[87] Any doubts as to patentability are re-

81. Patents are granted only for inventions that are not obvious improvements on existing knowledge. *Id.* § 103.

82. Patents must disclose a written description of the invention, the manner and process of making and using the invention (i.e., enablement), the best mode of carrying out the invention, and distinctly claim the invention. *Id.* § 112.

83. *See* Seymore, *supra* note 72, at 635 (noting "several linguistic pitfalls . . . patentee[s] must evade . . . to avoid a narrow claim construction"); *see also* Timothy R. Holbrook, *Substantive Versus Process-Based Formalism in Claim Construction*, 9 LEWIS & CLARK L. REV. 123, 133 (2005) (noting that Federal Circuit's claim construction jurisprudence has "embraced harsh estoppels and evidentiary exclusions that should be viewed as suspect").

84. Fromer, *supra* note 14, at 658 (patentee's goal is to maximize legal protection). To guard against the possibility that broad claim language will be invalidated, applicants also include progressively narrower dependent claims that refer back to the broader independent claim while adding more limitations. Seymore, *supra* note 72, at 633 (patent application drafter wants claims that are easily infringed); *see also* MUELLER, *supra* note 4, at 84–86.

85. *See* Brenner v. Manson, 383 U.S. 519, 534 (1966) (describing the "highly developed art of drafting patent claims so that they disclose as little useful information as possible-while broadening the scope of the claim as widely as possible"); BESSEN & MEURER, *supra* note 25, at 57 (noting that applicants draft "ambiguous patent claims that can be read narrowly during examination" and "broadly during litigation"); Seymore, *supra* note 72, at 633 ("[P]atentees intentionally draft ambiguous claims in an effort to expand their patent rights as far as possible."); Michael Risch, *The Failure of Public Notice in Patent Prosecution*, 21 HARV. J.L. & TECH. 179, 180 (2007) ("Patent applicants have an incentive to keep issued patent claims vague because vagueness allows for ex post gaming.").

86. White v. Dunbar, 119 U.S. 47, 51 (1886). Some of this uncertainty is inherent in the process of describing new, complex and unfamiliar technologies in words. BESSEN & MEURER, *supra* note 25, at 55; BURK & LEMLEY, *supra* note 61, at 27 (noting that indeterminacy "may well be inherent in the process of mapping words to things"); Robin Feldman, *Plain Language Patents*, 17 TEX. INTELL. PROP. L.J. 289, 296 (2009) (noting that patent drafting is particularly challenging because existing language must "describe something that did not exist when the language was developed" and "[l]anguage will always be subject to varying interpretations"); Burk & Lemley, *supra* note 62, at 1752 ("[P]atents cover new scientific terminology that doesn't have a fixed meaning in the art, so . . . scientists in the field can reasonably disagree over the meaning of those terms.").

87. BESSEN & MEURER, *supra* note 25, at 56 ("The game is stacked in favor of inventors and against examiners and the public.").

For example, while applicants must submit relevant prior art that they are aware of, the applicant has no affirmative obligation to search for information that might reflect poorly on the application. *See* Lemly, *supra* note 57, at 1499–1500; BURK & LEMLEY, *supra* note

solved in favor of the applicant, and examiners are rewarded for expedient disposal of applications and allowance is encouraged.[88]

The problem of vague and ambiguous patents could be ameliorated somewhat by the courts, but there are several reasons why the courts are also unable to adequately police patent boundaries. First, judicial interpretation of patent claims in litigation is extremely unpredictable.[89] In fact, approximately forty percent of district court decisions interpreting patent claims contain at least one wrongly-construed claim term.[90] Second, even though the patent statute requires applicants to particularly point out and distinctly claim their invention, this requirement is not rig-

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61, at 23. This means, for example, that the applicant has no obligation to search for information that might show that the purported invention has already been invented by someone else or that might demonstrate that the purported invention would be obvious to anyone with ordinary skill in the art. This kind of information is not easy to find and as one might expect, few applicants voluntarily perform these kinds of searches. *See* Lemley, *supra* note 57, at 1500.

88. Seymore, *supra* note 15, at 151–52; BURK & LEMLEY, *supra* note 61, at 23 (Patent examiners' "incentive is to dispose of cases as quickly as possible."); *see also* Risch, *supra* note 85, at 180 ("Patent examiners have an incentive to issue valid patents; since the question for examiners is whether the claims are valid, they have no incentive to clarify vague patents if the claims otherwise appear valid."). Patent examiners spend an average of eighteen hours per application. Lemley, *supra* note 57, at 1500; *see also* BURK & LEMLEY, *supra* note 61, at 24–25. (noting that the "unlimited number of do-overs means that the error costs of the patent system are systematically skewed in an applicant's favor"). Over 70% of patent applications issue as patents. Mark A. Lemley & Bhaven Sampat, Essay, *Is the Patent Office a Rubber Stamp?*, 58 EMORY L.J. 181, 193 (2008). *But see* BURK & LEMLEY, *supra* note 61, at 25 (discussing reform efforts by the USPTO in recent years).

89. The process of determining the meaning and scope of a patent claim in litigation is called claim construction. AMY L. LANDERS, UNDERSTANDING PATENT LAW 257 (2008). The rules governing claim construction are in flux and their implementation by individual judges is highly variable. BESSEN & MEURER, *supra* note 25, at 58–60 (noting that the Federal Circuit has not formulated a predictable method of claim interpretation); BURK & LEMLEY, *supra* note 61, at 27 (noting that judges "define an element almost arbitrarily, and even when judges disagree as to the proper definition they offer no principled basis for doing so"); Burk & Lemley, *supra* note 62, at 1762 ("Claim construction is sufficiently uncertain that many parties don't settle a case until after the court has construed the claims, because there is no baseline for agreement on what the patent might possibly cover."); *see* Timothy R. Holbrook, *Equivalency and Patent Law's Possession Paradox*, 23 HARV. J.L. & TECH. 1, 14 (2009) ("On multiple levels, courts struggle to assess the meaning of claim terms and the consequent scope of the right to exclude. The construction of the literal meaning of a claim is rife with uncertainty."); *see also* Enzo Biochem, Inc. v. Applera Corp., 605 F.3d 1347, 1349 (Fed. Cir. 2010) (Plager, J., dissenting) ("The court now spends a substantial amount of judicial resources trying to make sense of unclear, overbroad, and sometimes incoherent claim terms."). *But see* Jeffrey A. Lefstin, *Claim Construction, Appeal, and the Predictability of Interpretive Regimes*, 61 U. MIAMI L. REV. 1033, 1037–39 (2007) (questioning whether district courts are reversed more frequently on claim construction than on other issues).

90. Kimberly A. Moore, Markman *Eight Years Later: Is Claim Construction More Predictable?*, 9 LEWIS & CLARK L. REV. 231, 239 (2005) (finding that in 37.5% of the cases studied, the Federal Circuit held at least one term was wrongly construed); *see also* David L. Schwartz, *Practice Makes Perfect? An Empirical Study of Claim Construction Reversal Rates in Patent Cases*, 107 MICH. L. REV. 223, 248–49 (2008) (finding 32.5% of claim terms were "wrongly" construed, by the lower court, 38.2% of district court cases had at least one term wrongly construed, and 29.7% of district court cases had to be reversed, vacated, and/or remanded because of an erroneous claim construction).

orously enforced.[91] This has led one Federal Circuit judge to complain that even claims made of "quicksand" can pass muster.[92] Third, patent law allows the scope of a patent's claim to expand to include technology that did not exist at the time the patent application was filed.[93] This means that what the patent covers is purposely allowed to change and expand over time, possibly encompassing technology the inventor had never conceived of at the time the invention was invented.[94] All of these factors make it difficult to ascertain a patent's scope ex ante, short of litigating it to a non-appealable decision.[95] This reality further encourages applicants to game the patent prosecution process to yield patents that can be twisted and stretched to cover whatever technology the patentee wants it to cover.

In sum, a patent with vague or ambiguous claims is unjust and unfair. Such claims do not provide the public with fair notice of the patent's scope, which means that the public does not know what the inventor invented and the boundaries of the patentee's right to exclude.[96] As explained in the next section, when parties attempt to bargain over such patents, uncertainty leads to bargaining breakdown, thereby impeding innovation.[97]

B. How Unjust Patents Lead to Bargaining Breakdown

The main reason we issue patents is to encourage innovation.[98] Patents encourage innovation by facilitating the transformation of the inventions

91. This requirement is referred to as the definiteness requirement. 35 U.S.C. § 112 (2006). The Federal Circuit has stated that a claim is indefinite only if the claim "is insolubly ambiguous, and no narrowing construction can properly be adopted." Exxon Research & Eng'g Co. v. United States, 265 F.3d 1371, 1375 (2001). Only 5.8% of 138 invalid patents in the studied sample were invalidated on claim indefiniteness. John R. Allison & Mark Lemley, *Empirical Evidence on the Validity of Litigated Patents*, 26 AIPLA Q.J. 185, 208 (1998); *see also* Bessen & Meurer, *supra* note 25, at 57.

92. *Enzo Biochem, Inc.*, 605 F.3d at 1349 ("It is time for us to move beyond sticking our fingers in the never ending leaks in the dike that supposedly defines and figuratively surrounds a claimed invention. Instead, we might spend some time figuring out how to support the PTO in requiring that the walls surrounding the claimed invention be made of something other than quicksand.").

93. Tun-Jen Chiang, *Fixing Patent Boundaries*, 108 Mich. L. Rev. 523, 524–27 (2010); Holbrook, *supra* note 89, at 14 ("[I]f the accused device is close enough to be considered effectively the same as the claimed invention, then there is still infringement."); Bessen & Meurer, *supra* note 25, at 61–62. *See generally* Christopher A. Cotropia, *"After-Arising" Technologies and Tailoring Patent Scope*, 61 N.Y.U. Ann. Surv. Am. L. 151 (2005).

94. Bessen & Meurer, *supra* note 25, at 67.

95. *See* Burk & Lemley, *supra* note 61, at 28 ("The only way to find out whether a patent covers what you are doing is to go to . . . the appeals court.").

96. Many scholars have suggested ways to improve patent disclosure. *See, e.g.*, Fromer, *supra* note 14, at 564–88 (2009) (proposing, inter alia, marking layers of the patent document, requiring dynamic models and improving the index); Seymore, *supra* note 15, at 156 (proposing prima facie non-enablement if applicant fails to provide working examples in disclosure); Note, *supra* note 72, at 2027 (suggesting that applicants disclose source code and provide summaries).

97. *See infra* Part II.C.

98. Fromer, *supra* note 14, at 547 ("It is well-accepted that the principal goal of the American patent system is to stimulate innovation."); *see also* Nard, *supra* note 72, at 28–30 (referring to the incentive to innovate, along with the incentive to invent and the

described within them into commercial products.[99] To perform this function effectively, the patent must clearly communicate information about the invention and the scope of the patent to potential investors, licensors, manufacturers, developers, and distributors.[100]

Unjust patents do not clearly communicate this information and make it more difficult for the patentee to commercialize the invention and know who to approach for help.[101] In addition, potential partners, investors, and licensees are not able to know if the commercial arrangement being offered by the patentee is a good fit for their business.[102] Uncertainty causes bargaining breakdown, preventing commercialization of the patent.[103]

Unjust patents, and the bargaining breakdown that accompanies them, also have deleterious effects on the innovative activities of would-be competitors and follow-on inventors.[104] When patent boundaries are unclear, other companies cannot accurately predict whether their own development activities will infringe upon another's patent and thus must always consider the possibility of being sued for inadvertent infringement.[105]

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incentive to disclose as the three major economic theories for the existence of a patent system).

99. Fromer, *supra* note 14, at 547 n.31; BURK & LEMLEY, *supra* note 61, at 30. Of course, there is considerable debate regarding how successfully patents perform this function.

100. Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 535 U.S. 722, 730–31 (2002) ("The [patent] monopoly is a property right; and like any property right, its boundaries should be clear. This clarity is essential to promote progress, because it enables efficient investment in innovation."); Alan Devlin, *The Misunderstood Function of Disclosure in Patent Law*, 23 HARV. J.L. & TECH. 401, 402 (2010) (noting that patent disclosure facilitates efficient bargaining by clarifying property rights); Graham et al., *supra* note 58, at 1317–18 (finding that in general, biotechnology start-up companies license patents to acquire knowledge); *see also* BURK & LEMLEY, *supra* note 61, at 30.

101. *See* BURK & LEMLEY, *supra* note 61, at 28 ("If a patentee cannot know what her patent covers or whether it is valid, she cannot know who to license or sue."); *see also* NARD, *supra* note 72, at 30 (noting that patents reduce transactions costs and facilitate coordination efforts, "resulting in the patent efficiently ending up in the hands of the party who is best suited to bring the technology to market").

102. *See* Devlin, *supra* note 100, at 439–40 (noting that where property rights are difficult to identify and construe efficient contractual bargaining is difficult).

103. *See* Merges, *supra* note 16, at 84–91 (discussing examples of bargaining breakdown involving patents).

104. *See* Ian Ayres & Paul Klemperer, *Limiting Patentees' Market Power Without Reducing Innovation Incentives: The Perverse Benefits of Uncertainty and Non-Injunctive Remedies*, 97 MICH. L. REV. 985, 999 (1999) (arguing that uncertainty and delay due to patent litigation induce limited interim infringement and eliminate a substantial portion of the deadweight loss of monopoly pricing).

105. Parties can be liable for infringement even if they invented independently or made good faith efforts to design around the patent. Intel Corp. v. U.S. Int'l Trade Comm'n, 946 F.2d 821, 832 (Fed. Cir. 1991) (emphasis omitted) ("[T]here is no intent element to direct infringement."); BESSEN & MEURER, *supra* note 25, at 124 ("[T]he more a firm invests in technology, the more it inadvertently exposes itself to patents of which it is not aware."); *see also* BURK & LEMLEY, *supra* note 61, at 28 ("[A] company that wants to sell a new product in the [Information Technology] space cannot know who will assert a patent against it, whether that patent is one that really should have issued, or whether the patent actually covers what they are doing.").

But, although the potential monies at risk are tremendous,[106] many companies simply ignore others' patents.[107] In some industries, the numbers of patents that must be evaluated and the fact that many of those patents are unjust, make the costs of investigating, identifying, and clearing these rights ex ante prohibitive.[108] Instead, companies take a "wait and see" approach, hoping that a patent owner does not emerge claiming infringement.[109] Yet even once an infringement suit is threatened, many companies continue to ignore the threat and only rarely withdraw or redesign accused products.[110] How can accused infringers take such a cavalier attitude towards potential infringement? They can do so because the scope and value of the patent is so indeterminate that they know that even a diligent assessment of the patent and fair-minded negotiations with the patentee are unlikely to lead to a mutually agreeable and commercially viable solution.[111] The accused infringer cannot determine the scope and the value of the patent ex ante, so rather than resolve the dispute privately, he takes his chances in court and hopes that he can avoid infringement or invalidate the patent.[112] All of this litigation is extremely expensive and, in many cases, exceeds the net profits attributable to the

106. The mean defendant in an infringement case loses 3% of his market value, or $28.7 million, upon the filing of an infringement suit against him. BESSEN & MEURER, *supra* note 25, at 135–37.

107. Mark A. Lemley, *Ignoring Patents*, 2008 MICH. ST. L. REV. 19, 21–23. The possibility of being liable for willful infringement also creates a strong incentive not to read patents. *See* Mark A. Lemley & Ragesh K. Tangri, *Ending Patent Law's Willfulness Game*, 18 BERKELEY TECH. L.J. 1085, 1100–01 (2003) (explaining that "any time an individual or company learns of a patent that might be relevant to its products, the company is in trouble"). Companies can be liable for willful infringement if they learn of a patent and are objectively reckless in responding to it. *See In re* Seagate Tech., LLC, 497 F.3d 1360, 1371 (Fed. Cir. 2007) (en banc).

108. BESSEN & MEURER, *supra* note 25, at 70. Modern products are made of hundreds, if not thousands, of components. Because patent boundaries are so malleable, a product is potentially covered by thousands, if not tens of thousands, of different patent rights, all of which must be evaluated and dealt with. *See* BURK & LEMLEY, *supra* note 61, at 27. Scholars have dubbed these nests of overlapping patent rights "patent thickets." Ian Ayres & Gideon Parchomovsky, *Tradable Patent Rights*, 60 STAN. L. REV. 863, 869–76 (2007) (explaining patent thickets and noting that they are especially problematic in the software, Internet, and semiconductor industries); *see also* BURK & LEMLEY, *supra* note 61, at 26. Indeed, one estimate suggests that a modern e-commerce company needs to be concerned with approximately 11,000 patents with an estimated cost of clearance pegged at $5,000 per patent. BESSEN & MEURER, *supra* note 25, at 213. These staggering costs deter most companies from performing clearance checks. *Id.* at 70 ("There is abundant evidence that many technology firms . . . invest little in patent search and clearance."); BURK & LEMLEY, *supra* note 61, at 32.

109. Lemley, *supra* note 107, at 22.

110. *Id.*

111. *See* Devlin, *supra* note 100, at 409 ("Potential infringers and patentees can bargain efficiently ex ante to ensure that resources are devoted to their highest value uses only if property rights are clear."); *see also* Burk & Lemley, *supra* note 62, at 1749 ("[I]f a competitor thinks that a patent means one thing and the patentee thinks it means something different, they are unlikely to be able to conclude a licensing transaction efficiently.").

112. BURK & LEMLEY, *supra* note 61, at 32; Lemley, *supra* note 107, at 32–33; *see also* Devlin, *supra* note 100, at 440 (noting that it can be particularly difficult to bargain where an innocent company accidentally infringes a patent and has devoted considerable investment into commercializing its infringing product).

relevant patents.[113] Companies must take this significant risk into account when deciding how much to invest in a particular technology, which in turn may discourage investment in wide bands of technology where the anticipated benefits do not outweigh the considerable costs.[114]

C. The Extent of Bargaining Breakdown Is Industry-Specific

It is important to understand, however, that unjust patents—and the bargaining breakdowns that accompany them—are not prevalent to the same degree in each industry and that their effect on innovation also depends on the characteristics of a particular industry.[115] Accordingly, these differences should be taken into account when considering how to address bargaining breakdowns and communication failures.[116]

First of all, it is important to realize that certain technologies can be more easily defined in a patent than others. For example, DNA sequences are clearly identified by their order of nucleotide bases.[117] Similarly, an inventor who invents a new molecule can describe that molecule using its unique chemical formula. Since these inventions can be clearly defined, it is easier to determine whether the invention is novel or infringed.[118] Patents of this type are common in the chemical and pharmaceutical industries.[119]

Consider how much more difficult it is to describe a business method or software invention than a molecule.[120] Broadly characterized, software is nothing more than a set of machine-readable instructions capable of performing a particular task.[121] Moreover, software inventions perform calculations and manipulate data in ways that cannot be easily perceived by people, especially not without access to human-readable source code or other documentation.[122] Because a tangible manifestation of a software invention is not necessarily evident, it is easier to obtain

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113. *See* Bessen & Meurer, *supra* note 25, at 145.

114. *Id.* ("[P]atents today constitute a brake on innovation."); *cf.* Fromer, *supra* note 14, at 547 (noting that "innovative rivalry" is more beneficial to society).

115. *See* Burk & Lemley, *supra* note 62, at 1760; Graham et al., *supra* note 58, at 1326 (finding "deep difference" in the use and utility of patents by start-ups across industries); Bessen & Meurer, *supra* note 25, at 93 (patents' effect on innovation varies by industry); *see also* Nard, *supra* note 72, at 56 ("Each industry has its own norms and customs, each relies on the patent system to varying degrees . . . .").

116. Dan L. Burk & Mark A. Lemley, *Policy Levers in Patent Law*, 89 Va. L. Rev. 1575, 1674 (2003) ("It is important not just to make patent policy intelligently, but to tailor it to specific industries.").

117. Burk & Lemley, *supra* note 62, at 1760.

118. Bessen & Meurer, *supra* note 25, at 107.

119. *Id.* at 152.

120. *Id.* at 67 ("[A]bstract patent claims are particularly endemic to computer-related patents."); Burk & Lemley, *supra* note 62, at 1760.

121. Martin J. Adelman, Randall R. Rader & John R. Thomas, Cases and Materials on Patent Law 77 (3d ed. 2009); MPEP § 2106.01(I) (8th ed. Rev. 8, July 2010) ("[A] computer program is merely a set of instructions capable of being executed by a computer . . . .").

122. Burk & Lemley, *supra* note 116, at 1690–91.

patent claims subject to shifting and expansive interpretations.[123] This becomes a particular problem as technology advances.[124] For example, if a software patent written in 1999 claims a set of instructions to be executed by a "central processing unit," does that patent cover calculations performed by a smartphone developed in 2012?[125] The difficulty of describing business method and software inventions means that these kinds of patents lead to bargaining breakdowns and cause communication failures that are more likely to result in litigation than patents in other technology groups.[126]

Perceptions of a patent's value are also affected by industry differences in the way patents are mapped with products. Complex systems that combine numerous components covered by multiple, interrelated patents are particularly common in the computer and electronics industries.[127] Because distribution of the entire system can be stymied by a patent that covers only one small feature of the total package, the value of each individual patent is distorted.[128] For a recent example, consider the patent infringement suit brought against Microsoft Corporation by a small software company named i4i Limited.[129] The patentee alleged that the custom XML editor feature in Microsoft Word infringed its patent and, using a royalty rate that valued this feature more than the price of some versions of Microsoft Word,[130] was awarded $240 million in damages.[131] Microsoft was also permanently enjoined from selling Microsoft Word with this infringing feature.[132] Patentees in similar situations can thus engage in "patent holdup" by demanding royalties that far exceed the individual value of the patented feature.[133] By contrast, in the chemical and pharmaceutical industry, a single patent normally covers a single prod-

123. BESSEN & MEURER, *supra* note 25, at 201–03; Devlin, *supra* note 100, at 410 (noting that Information Technology patents convey little information and are notoriously vague).

124. BESSEN & MEURER, *supra* note 25, at 200 ("[T]he progress of technology will render [mapping of words in a claim to a set of technologies] increasingly uncertain over time.").

125. *See* F. Russell Denton, *Plumb Lines Instead of a Wrecking Ball: A Model for Recalibrating Patent Scope*, 16 J. INTELL. PROP. L. 1, 8 (2008) (identifying "central processing unit" as an abstract term commonly found in software patents); *see also* BESSEN & MEURER, *supra* note 25, at 194 (citing U.S. Patent No. 4,528,643 (filed Jan. 10, 1983)) (identifying "point of sale location" and "material object" as abstract terms).

126. BESSEN & MEURER, *supra* note 25, at 152–53.

127. *Id.* at 107–08; Burk & Lemley, *supra* note 116, at 1591 (noting that semiconductor products can incorporate thousands of different inventions).

128. Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEX. L. REV. 1991, 1991–93 (2007); BURK & LEMLEY, *supra* note 61, at 29; *see also* Ayres & Parchomovsky, *supra* note 108, at 872–73 (explaining how patent thickets lead to holdout problems).

129. *See generally* i4i Ltd. P'ship v. Microsoft Corp., 598 F.3d 831 (Fed. Cir. 2010), *cert. granted*, 131 S. Ct. 647 (U.S. Nov. 29, 2010).

130. *Id.* at 853 (using a $98 royalty rate to calculate damages even though Microsoft argued that this rate was exorbitant given that certain Word products only cost $97).

131. *Id.* at 839.

132. *Id.*

133. BURK & LEMLEY, *supra* note 61, at 160; Graham et al., *supra* note 58, at 1319 (complex technologies may increase transactions costs associated with commercialization

uct.[134] It is much easier to reach an agreement regarding the value of an individual patent when that patent only covers one product.[135]

D. Innovation Is Industry-Specific

Different industries also innovate differently. Some industries, like the pharmaceutical industry, are characterized by slow, non-cumulative innovation.[136] Development of a new drug can take a decade or more and cost hundreds of millions of dollars.[137] There are complicated federal statutes and regulations that industry players must abide by, which further slows market entry.[138] "Once a drug is developed and tested, it tends not to be improved."[139] Because potential inventors in the pharmaceutical industry are not looking to build upon existing inventions, the likelihood that an existing patent is blocking follow-on innovation is low.[140] In this kind of an industry, strong, broad patent rights will not impede innovation, and in fact, are necessary to give inventors the opportunity to recoup their substantial up-front investment.[141]

The picture in other industries is much different. The software industry innovates cumulatively.[142] Software inventions are generally modifications and improvements of existing technology.[143] Software products also develop at a rapid pace.[144] It takes less money to develop a new software

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and costs of clearance); *see also* Ayres & Parchomovsky, *supra* note 108, at 871–72 (explaining how patent thickets raise information costs and negotiation costs).

134. Burk & Lemley, *supra* note 116, at 1591.

135. This is not to imply that it is an easy thing to do. Henry E. Smith has cataloged various reasons why patents inherently give rise to greater information costs. Henry E. Smith, *Intellectual Property as Property: Delineating Entitlements in Information*, 116 Yale L.J. 1742, 1801–03 (2007) (explaining that inventions protected by patent law are often subject to multiple unforeseeable uses, the range of actions taken to increase the value of the patent is large, and the contribution of a patent to an overall product is very difficult to measure).

136. Cotropia, *supra* note 93, at 196.

137. Burk & Lemley, *supra* note 116, at 1581–82.

138. Burk & Lemley, *supra* note 61, at 33. In order for a generic drug manufacturer to enter the market, it must follow the procedures set forth in the Hatch-Waxman Act of 1984. Pub. L. No. 98-417, 98 Stat. 1585 (codified as amended at 21 U.S.C. § 355 (2006)). For a discussion of the applicable procedures, see *Mova Pharmaceutical Corp. v. Shalala*. 140 F.3d 1060, 1063–65 (D.C. Cir. 1998).

139. Burk & Lemley, *supra* note 61, at 47.

140. Cotropia, *supra* note 93, at 190.

141. Burk & Lemley, *supra* note 61, at 80–81 (noting that pharmaceutical innovation would drop substantially without effective patent protection). *But see* Cynthia M. Ho & Ann Weilbaecher, *Patents versus Patients: Must We Choose?*, 18 Annals Health L. i, i–iv (2009) (questioning whether patents are essential for pharmaceutical innovation and arguing that patent profits have created a disproportionate focus on drugs that have mass appeal, the potential to generate large profits, and an overabundance of drugs that all treat the same condition).

142. Cotropia, *supra* note 93, at 188.

143. *Id.*; Burk & Lemley, *supra* note 61, at 47 ("The expectation is that [software] will be incrementally improved over time.").

144. Burk & Lemley, *supra* note 61, at 57 (noting that by the time a patent is filed, issued and enforced "the software industry has moved on").

product, so new technologies come to the market quickly and often.[145] The rapid, cumulative nature of innovation in the software industry results in fast turnover of products in the market, each building upon the one before.[146] In such an industry, patents of indeterminate scope are a particular drag on innovation because they can cover several generations of product improvements.[147] Accordingly, software patents typify the kind of patents that should be clearly and narrowly defined so that potential inventors are not deterred from improving upon existing technology and the patentee's reward is commensurate with her contribution.[148]

The ability of patents to communicate clearly and effectively is, in many ways, dependent on the kind of technology claimed. Unjust patents are less common in industries where the technology can be uniquely described. Patent value is easier to ascertain in industries where patents correspond to single products. Precise patent boundaries are particularly important in industries characterized by rapid, cumulative innovation. This suggests that bargaining breakdown also has industry-specific characteristics. Accordingly, any proposal to address bargaining breakdowns should take these characteristics into consideration.

III. USING DECLARATORY RELIEF TO INTERVENE WHEN BARGAINING BREAKS DOWN

There are several approaches one might take to address bargaining breakdowns. We can improve the clarity of the patent document itself by implementing more concrete patent disclosure requirements[149] or by requiring patents to disclose a working example.[150] We could try to improve the predictability of patent claim interpretation in the courts by increasing the deference the Federal Circuit gives to lower courts' claim construction rulings[151] or by establishing specialized patent district courts.[152] What all of these solutions have in common is that they require Congress, the courts, or the USPTO to affirmatively change the status quo. They also do not address uncertainty and bargaining breakdowns

145. Cotropia, *supra* note 93, at 193; BURK & LEMLEY, *supra* note 61, at 40 (noting that a new software product takes considerably less time to develop than a new drug or microprocessor and that automated processes are available to help develop software).

146. Cotropia, *supra* note 93, at 193.

147. *Id.* at 196.

148. BURK & LEMLEY, *supra* note 61, at 159 (noting that software patents "should be narrow and . . . should not generally extend across several product generations for fear of stifling subsequent incremental improvements"); Cotropia, *supra* note 93, at 196 ("Seeing existing patentees' possible coverage of later-developed technologies, potential subsequent developers may choose to forgo melding new developments with existing technologies.").

149. Fromer, *supra* note 14, at 580–85.

150. Seymore, *supra* note 72, at 641–42.

151. The current standard of review for claim constructions rulings is de novo. BESSEN & MEURER, *supra* note 25, at 237–38.

152. *Id.* at 238.

presently occurring due to unjust patents that have already issued.[153] This Article argues that courts already have a potent tool that can be used right now to address unjust patents that are leading to bargaining breakdown: the power to grant or withhold declaratory relief.

A. Tailoring Declaratory Relief by Industry Characteristics

Given the marked difference between industries, courts "should apply the general rules of patent law with sensitivity to the characteristics of particular industries."[154] Indeed, patent law is already differentiated by technology type.[155] For example, the written-description requirement is more stringent for biotechnology inventions than for software inventions.[156] More proof of utility is required in applications seeking to protect gene markers than for other types of inventions.[157] In this vein, scholars have proposed various industry-specific policy levers that can be used to further the goals of the patent system, such as tailoring injunctive relief to certain industries[158] and tailoring the doctrine of equivalents to rapidly developing industries.[159]

This Article identifies an important new policy lever that can be tailored in an industry-specific fashion to effectively promote innovation. Specifically, this Article argues that courts should use their discretion to accept more declaratory judgment cases in industries where patents are more likely to be unjust and where unjust patents are more likely to lead to bargaining breakdown.[160] In such industries, expansive court intervention is justified because indeterminate patents impede both private dispute resolution and technological innovation.

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153. Scholars have argued that liability rules in patent law can operate as a safety valve to mitigate the effects of patent uncertainty. Holbrook, *supra* note 89, at 46–48; Smith, *supra* note 135, at 1818–19.

154. Burk & Lemley, *supra* note 116, at 1641. There are a variety of ways to select patents belonging to various industries. Chien, *supra* note 65, at 1593. The National Bureau of Economic Research has divided patents into six main technology categories: Computers and Communications, Drugs and Medical, Electrical and Electronics, Chemical, Mechanical and Others. *See* Bronwyn H. Hall, Adam B. Jaffe, & Manuel Trajtenberg, *The NBER Patent Citation Data File: Lessons, Insights and Methodological Tools* 1 (Nat'l Bureau of Econ. Research, Working Paper No. 8498, 2001), *available at* http://papers.nber.org/papers/w8498.pdf. Or one could categorize patents based on company or by the patent's USPTO classification. Chien, *supra* note 65, at 1593–96.

155. Bessen & Meurer, *supra* note 25, at 246; Burk & Lemley, *supra* note 61, at 59.

156. Burk & Lemley, *supra* note 61, at 59–60. *But see* Ariad Pharm., Inc. v. Eli Lilly & Co., 598 F.3d 1336, 1345, 1351 (Fed. Cir. 2010) (stating that all patents must comply with written description requirement).

157. Burk & Lemley, *supra* note 61, at 60.

158. *Id.* at 138.

159. Cotropia, *supra* note 93, at 192.

160. It is beyond the scope of this Article to recommend specific outcomes for the declaratory relief cases courts accept. Instead, this Article posits that certain industries suffer bargaining breakdown due to unjust patents more often than others and that these industries will benefit from early, frequent court intervention to clarify patent rights, no matter the ultimate decision regarding validity or infringement of the patent under consideration. *See infra* Part II.C.

B. THE SOFTWARE INDUSTRY: ACCEPT MORE CASES

The software industry has a particular problem with patents of indeterminate scope, not just because they are so common but also because such patents have an outsized effect on software innovation.[161] These problems make it more difficult for parties to resolve licensing disputes on their own and it is especially important for courts to clarify patent scope. Accordingly, courts should use their discretion to accept more declaratory relief actions arising from software patent disputes.

First, as explained above, the prevalence of abstract claims in software patents militates for frequent court intervention because bargaining breakdown is more likely when the scope of the patent is uncertain.[162] There are other characteristics of the software industry that further complicate private resolution of patent disputes. A high number of software patents are asserted by entities that do not make anything.[163] Such entities are only seeking to extract royalties and are not interested in a cross-license.[164] Royalty demands are often inflated because software products have multiple components and can be blocked by a patent that covers only one small feature of the total package.[165] Because each party has markedly different perceptions of the value of the patent, court adjudication will often be necessary because it will be that much more difficult to resolve the matter privately.[166]

Frequent court intervention is also beneficial to the software industry as a whole because software innovation is quite susceptible to the detrimental effects of unjust patents. Because the software industry is characterized by rapid, cumulative innovation, patentees often "imaginatively

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161. BESSEN & MEURER, *supra* note 25, at 187–94; Devlin, *supra* note 100, at 403 (noting that patents in the IT industry are "notorious for their vague language"). *But see* Andrew Chin, *On Abstraction and Equivalence in Software Patent Doctrine: A Response to* Bessen, Meurer *and* Klemens, 16 J. INTELL. PROP. L. 197, 200 (2009) (arguing that the abstract nature of software does not necessarily pose patent scope problems).

162. *See supra* Part I.B; Merges, *supra* note 16, at 89.

163. BURK & LEMLEY, *supra* note 61, at 139. These entities are called "nonpracticing entities" or "patent trolls." Chien, *supra* note 65, at 1579–81 (describing "nonpracticing entities" and noting that they historically focused on high-tech inventions). One study found that nonpracticing entities brought thirty percent of suits involving software patents (based on number of defendants sued). *Id.* at 1601–02. For a recent example, Interval Licensing LLC (a nonpracticing entity owned by Microsoft Corp. co-founder Paul Allen) sued eleven technology companies, including Google, Facebook, eBay, and Apple, for allegedly infringing four of its software and internet-related patents. *E.g.*, Dionne Searcey, *Microsoft Founder Launches Patent War*, WALL ST. J., Aug. 28, 2010, at A1; Jennifer Valentino-DeVries, *The Paul Allen Suit: A Look at the Patents*, WALL ST. J. (Aug. 27, 2010, 5:56 PM), http://blogs.wsj.com/digits/2010/08/27/the-paul-allen-suit-a-look-at-the-patents/; Dennis Crouch, *Interval Licensing v. AOL, Apple, eBay, Facebook, Google, etc.*, PATENTLY-O (Aug. 27, 2010), http://www.patentlyo.com/patent/2010/08/interval-licensing-v-aol-apple-ebay-facebook-google-etc.html.

164. Chien, *supra* note 65, at 1579 (noting that NPEs cannot be countersued for infringement and that their core business is patent enforcement); BURK & LEMLEY, *supra* note 61, at 56–57.

165. Lemley & Shapiro, *supra* note 128, at 1991; BURK & LEMLEY, *supra* note 61, at 29.

166. Merges, *supra* note 16, at 89; Burk & Lemley, *supra* note 62, at 1749 ("[I]f a competitor thinks that a patent means one thing and the patentee thinks it means something different, they are unlikely to be able to conclude a licensing transaction efficiently.").

reinterpret[ ]" their patents to cover new and unforeseen products.[167] By stretching their patents in this way, patentees increase the uncertainty surrounding the patents' scope and value, thereby increasing the likelihood of bargaining breakdown. In addition, the pace and type of innovation in this industry make it particularly important to resolve patent disputes quickly and clarify patent boundaries so as not to inhibit follow-on inventors.[168] Thus when patentees broadly assert software patents of indeterminate scope, these industry characteristics amplify the resulting negative effects and impede innovation. This makes it especially important for courts to intervene in order to guard against this kind of behavior.

In sum, when a declaratory relief action is filed over a software patent, it is probably because the parties cannot successfully conclude the bargaining process because of a disagreement over what the patent covers and the value of that patent.[169] This disagreement is likely due to the patent's inability to clearly communicate critical information to the parties. Furthermore, given the costs involved, a potential patent infringer in this industry who brings an action under the Declaratory Judgment Act is likely signaling to the court that the patent's boundaries are uncertain enough to be impeding commercially significant innovative activity. This kind of intractable uncertainty is exactly what the Declaratory Judgment Act was enacted to resolve.

C. Safety Valve

If courts use their discretion under the Declaratory Judgment Act to clarify patent scope in those industries where vague and ambiguous patents are most problematic, significant efficiencies will be created regardless of the ultimate outcome of the suit. If the patent is found valid and infringed, then the patentee will be afforded the remedies justly owed to

167. Burk & Lemley, *supra* note 61, at 57 (citing Julie E. Cohen & Mark A. Lemley, *Patent Scope and Innovation in the Software Industry*, 89 Calif. L. Rev. 1 (2001)); Burk & Lemley, *supra* note 62, at 1762 (noting risk that patentees can creatively interpret claims to own inventions they did not have in mind when they wrote the claims); *see* Valentino-DeVries, *supra* note 163 (describing two of the four patents at issue in a patent infringement suit filed by Microsoft co-founder Paul Allen and noting how broad the scope of those patents might be). A substantial number of suits involving high-tech patents between public companies involve firms that are not market competitors or even technologically close. Chien, *supra* note 65, at 1607.

168. Burk & Lemley, *supra* note 61, at 57, 156–57, 159 (discussing the speed and cumulative nature of technological advancement in the software industry); Cotropia, *supra* note 93, at 188.

169. Burk & Lemley, *supra* note 62, at 1749 ("[I]f a competitor thinks that a patent means one thing and the patentee thinks it means something different, they are unlikely to be able to conclude a licensing transaction efficiently."); *see also* Burk & Lemley, *supra* note 61, at 28 ("The only way to find out whether a patent covers what you are doing is to go to court."); Bessen & Meurer, *supra* note 25, at 157, 191 (noting that software patents are "particularly prone to notice problems" and providing data that shows high relative frequency of claim construction issues with software patents); Burk & Lemley, *supra* note 61, at 58 (noting that in the software industry "the central issue in a patent lawsuit is figuring out what the patent actually covers").

her, and subsequent parties will know how to avoid the patent and be able to divert their resources into valuable design-around activities.[170] If the patent is invalidated, then an impediment to innovation will have been removed, and the public will be free to conduct research and development activities in this area. Either way, declaratory relief clears the path for follow-on innovation; thus, expansive use of this remedy can help maintain the proper balance between our interest in rewarding the inventor and our interest in protecting third parties from uncertainty. In this way, expansive grants of declaratory relief can work as a "safety valve" to mitigate the negative effects of uncertainty caused by unjust patents.[171]

D. IMPLEMENTATION

To use declaratory relief as an effective policy lever, courts must recognize that the patents themselves are often causing uncertainty and bargaining breakdown that needs to be resolved through declaratory relief and that the adverse effects of this uncertainty are more acute in some industries than others. Courts need to be more willing to grant declaratory relief in industries characterized by abstract technology and rapid, cumulative innovation because patent scope is more likely to be uncertain and because it is more likely that this uncertainty is blocking follow-on innovation. Thus, both the goals of the Declaratory Judgment Act and the patent system justify expansive grants of declaratory relief in such industries. Courts should make these goals explicit in their analyses to encourage the development of better policy and better judicial decision-making. First, a district court's exercise of judicial discretion is not reviewed de novo but rather under the abuse of discretion standard.[172] Thus, district courts can better insulate their decisions from reversal by making their policy considerations explicit.[173] Second, making these considerations explicit increases the predictability of judicial decision-making ex ante.[174] Moreover, if courts make clear that they are using the goals of the Declaratory Judgment Act and the patent system to inform their decisions, both judges and litigants will be compelled to carefully consider these important issues.[175] Once sufficient precedent is established, third parties will also be able to conform their behavior to these same goals. All of this may promote clearer patent disclosure during the patent appli-

170. *Cf.* Slimfold Mfg. Co. v. Kinkead Indus., Inc., 932 F.2d 1453, 1457 (Fed. Cir. 1991) ("Designing around patents is, in fact, one of the ways in which the patent system works to the advantage of the public in promoting progress in the useful arts, its constitutional purpose.").

171. *Cf.* Holbrook, *supra* note 89, at 46–48 (explaining how liability rules may act to mitigate uncertainty surrounding patent scope).

172. Wilton v. Seven Falls Co., 515 U.S. 277, 289 (1995).

173. Dolak, *supra* note 1, at 433.

174. *Id.* at 433–34.

175. Although it is beyond the scope of this Article to catalogue all the ways declaratory relief could be used to advance important policy goals, as another example, judges and litigants could also consider how declaratory relief may be used to promote the development of the assets and resources of indigenous peoples. *See* Conway, *supra* note 5, at 1097.

cation process as well as increase the pressure for more systemic reform to address patent disclosure problems.

CONCLUSION

Modern patents are often vague and ambiguous. Such patents are unjust because they do not give the public fair notice of the patents' scope and boundaries. When a patent's scope is unclear, both commercialization of the invention described in the patent and follow-on innovation are hampered because interested parties are unable to negotiate a mutually agreeable solution. This uncertainty can lead to litigation and requests for declaratory relief. When analyzing these requests for declaratory relief, courts must recognize that they can use their discretion under the Declaratory Judgment Act to effectively address the uncertainty caused by unjust patents and create efficiencies that will foster innovation. To use this tool successfully, courts must focus on the nature of the patent-in-dispute and consider that, in some industries, it is more likely that the patent itself is preventing the parties from negotiating to a mutually agreeable solution. Expansive grants of declaratory relief in such industries are justified because vetting these kinds of patents through an impartial decision maker resolves uncertainty, facilitating private dispute resolution and furthering innovation. Thus, explicitly using this discretion as a policy lever hews to both the goals of the Declaratory Judgment Act and the patent system. By making these goals explicit in their consideration of declaratory relief actions, courts can address the recalcitrant problem of uncertainty in the patent system, thereby promoting fairness and innovation.