INVALIDITY ASSERTION ENTITIES AND INTER PARTES REVIEW: RENT SEEKING AS A TOOL TO DISCOURAGE PATENT TROLLS

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INTRODUCTION

Rent seeking is one of the most criticized aspects of the modern patent system. A primary adherent to the rent-seeking business model is the "patent troll," whose income depends on lawsuits against parties that purportedly infringe one of the troll's patents.[1] These activities create minimal social value,[2] and thus, discouraging this strategy has been a goal of state laws,[3] federal laws,[4] the courts,[5] and the President of the United States.[6] Despite the flurry of activity, the filing of troll lawsuits has not slowed.[7] This Article

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1. Tina M. Nguyen, *Lowering the Fare: Reducing the Patent Troll's Ability to Tax the Patent System*, 22 FED. CIR. B.J. 101, 105–06 (2012); Deepa Varadarajan, *Improvement Doctrines*, 21 GEO. MASON L. REV. 657, 693 (2014).

2. *See* Stephanie Plamondon Bair, *The Psychology of Patent Protection*, 48 CONN. L. REV. 297, 300 (2015) (asserting that patent trolls "reap benefits from the patent regime without contributing the social value the system is meant to encourage").

3. *See* Daniel A. Tagliente, Comment, *Shooting Blanks: The Ineffectiveness of the Executive Branch's Entrance into the Great Patent Troll Hunt*, 45 SETON HALL L. REV. 311, 337 (2015).

4. *See* Daniel J. Sherwinter & Patrick M. Boucher, *The America Invents Act*, COLO. LAW., Jan. 2012, at 47, 53.

5. *See* Anna Mayergoyz, Note, *Lessons from Europe on How to Tame U.S. Patent Trolls*, 42 CORNELL INT'L L.J. 241, 243 (2009).

6. *See* Press Release, Office of the Press Sec'y, White House, Fact Sheet - Executive Actions: Answering the President's Call to Strengthen Our Patent System and Foster Innovation (Feb. 20, 2014), https://www.whitehouse.gov/the-press-office/2014/02/20/fact-sheet-executive-actions-answering-president-s-call-strengthen-our-p ("Building upon the President's State of the Union remarks, the Administration urges Congress to pass a bipartisan law designed to curtail abusive patent litigation and improve transparency in the patent system.").

7. *See, e.g.*, *Lex Machina Releases Annual Patent Litigation Year in Review Report*, LEX MACHINA (Mar. 16, 2016) https://lexmachina.com/media

proposes that patent trolls' rent-seeking endeavors may be discouraged through an unexpected means: more rent seeking.

Invalidity Assertion Entities ("IAEs") were an unexpected response[8] to recent amendments to the Patent Act.[9] Similar to patent trolls, IAEs engage in rent seeking. Their business revolves around threatening to invalidate a patent if its owner refuses to pay a demanded sum.[10] The difference between an IAE and a patent troll is that, unlike trolls who allege patent infringement,[11] IAEs argue only that another's patent is invalid.[12] In this pursuit, IAEs use a newly enacted administrative process called Inter Partes Review ("IPR"), which provides the public a means to challenge the validity of issued patents.[13] This Article discusses why IAEs will rationally choose to target patent trolls and how this discourages troll activity, a policy goal that has been pursued for many years.

This social benefit conflicts with the negative public perception of IAEs. A former Commissioner of Patents has argued this business practice misuses the patent review system,[14] while others have called for wholesale elimination of IAEs.[15] At least one party has been sued for engaging in this type of rent seeking,[16] and unenacted legislation proposed prohibiting use of the patent review system by IAEs.[17]

This Article begins by introducing the IPR process, the administrative proceeding used by IAEs to invalidate (or attempt to

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/press/2015-patent-litigation-year-in-review-report/ ("The parties filing the most patent lawsuits in 2015 are all patent monetization entities (PMEs).").

8. W. Michael Schuster, *Rent-Seeking and Inter Partes Review: An Analysis of Invalidity Assertion Entities in Patent Law*, 22 MICH. TELECOMM. & TECH. L. REV. 271, 272 (2016).

9. *See* Leahy-Smith America Invents Act, Pub. L. 112-29, 125 Stat. 284, 299 (Sept. 16, 2011) (codified at 35 U.S.C. §§ 311–319).

10. Schuster, *supra* note 8, at 272.

11. Tagliente, *supra* note 3, at 313–14.

12. Schuster, *supra* note 8, at 272.

13. *Id.*

14. Patience Haggin, *Judge Dismisses NPE's Extortion Claims*, LAW.COM (Dec. 18, 2014), http://www.law.com/sites/articles/2014/12/18/judge-dismisses-npes-extortion-claims/ (describing how a former Commissioner of Patents at the Patent Office argued that IAEs use IPR in a manner inconsistent with the intent of the law).

15. *See, e.g.*, Joseph Allen, *It's Time to Whack 'IPR Trolls,'* IPWATCHDOG (June 22, 2015), www.ipwatchdog.com/2015/06/22/its-time-to-whack-ipr-trolls/id=58902/ (arguing against the use of IPR by parties that have no interest in the targeted patent).

16. First Amended Complaint at 10–17, Chinook Licensing DE, LLC v. RozMed LLC, No. 1:14-cv-00598-LPS (D. Del. June 13, 2014), ECF No. 9 (lawsuit against a party for pursuing the IAE business model).

17. *See* The Innovation Act of 2015, H.R. 9, 114th Cong. § 9(b)(1) (2015); STRONG Patents Act of 2015, S. 632, 114th Cong. § 102 (2015); Schuster, *supra* note 8, at 276 (discussing fully the proposals to terminate the IAE business model).

invalidate) patents owned by parties who refuse to pay a demanded consideration. Part II continues by discussing the interplay between patent litigation and contemporaneous IPR of the patent being litigated.

Part III introduces IAEs in earnest. It begins by describing their business strategies and introduces a few early adopters of the model. The next Subpart identifies several attributes of patents or patent owners that a rational IAE may look for when identifying targets. Among these characteristics are patents asserted in high-value litigation,[18] repeat litigants,[19] and patents that are weak against validity challenges.[20] Each of these attributes maximizes the chance of successfully obtaining a lucrative settlement from a targeted patent holder.

Part IV discusses why IAEs will rationally target patent trolls and how this disincentivizes the troll business model. The first Subpart examines the practice, scope, and criticisms of patent troll activity. This is followed by an analysis of the attributes of patent trolls (e.g., assertion of weak patents, repeat litigation, etc.) and why these qualities make them likely targets for IAEs. Part IV then presents an evaluation of how IAEs increase costs and decrease income for patent trolls, which in turn, discourages future troll activity. Part IV concludes with a discussion of why IAEs will not pursue nuisance-value settlements or target every patent holder that has recently secured an infringement judgment. If these pursuits made economic sense, IAEs would rationally divert their labors to these strategies and away from patent trolls.

I. INTER PARTES REVIEW

In creating the IPR system, Congress attempted to produce a quicker and less expensive means to challenge patent validity[21] and "improve patent quality."[22] This regime allows almost any party[23]

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18. *See infra* Subpart II.B.2.
19. *See infra* Subpart II.B.5.
20. *See infra* Subpart II.B.1.
21. 157 CONG. REC. S951 (daily ed. Feb. 28, 2011) (statement of Sen. Grassley); *see also* Universal Elecs., Inc. v. Universal Remote Control, Inc., 943 F. Supp. 2d 1028, 1029 (C.D. Cal. 2013).
22. Changes to Implement Inter Partes Review Proceedings, Post-Grant Review Proceedings, and Transitional Program for Covered Business Method Patents, 77 Fed. Reg. 48,680, 48,680 (Aug. 14, 2012) (codified at 37 C.F.R. pt. 42 (2016)).
23. *See* 35 U.S.C. § 311(a) (2012); U.S. Nutraceuticals, LLC v. Cyanotech Corp., No. 5:12–cv–366–Oc–10PRL, 2013 WL 6050744, at *2 (M.D. Fla. Nov. 15, 2013) ("Under 35 U.S.C. § 311(a), anyone who is not the patent owner may petition the [United States Patent and Trademark Office] to initiate an *inter partes* review . . . .").

to contest the validity of a granted patent[24] by arguing that the claimed invention was not novel.[25] Elimination of such ill-granted patents benefits society by removing unwarranted market interferences.[26] The following Subparts describe the origins of patent-validity reviews before the United States Patent and Trademark Office (the "Patent Office"), how IPR operates, and what effect the process may have on co-pending patent litigation.

A. Patent Review Generally

Beginning in the 1980s, the Patent Office offered procedures to challenge the validity of issued patents.[27] These regimes were intended to provide a streamlined means of determining whether a patent was erroneously issued and therefore should be invalidated.[28] The effect of post-grant review is to eliminate patents claiming inventions that were not novel or were obvious variations of earlier creations.[29]

Immediately prior to the current IPR system, Reexamination[30] was the primary method for patent review.[31] Under this system, a patent examiner reviewed the patent in light of allegedly invalidating prior art through an amendment-and-response system.[32] Relevant parties could submit written replies to the

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24. ANDREW S. BALUCH ET AL., AMERICA INVENTS ACT: LAW & ANALYSIS, § 6.01, at 6-3 (2016 ed.).

25. *See* Melissa F. Wasserman, *The Changing Guard of Patent Law:* Chevron *Deference for the PTO*, 54 WM. & MARY L. REV. 1959, 1993 (2013).

26. *See* Schuster, *supra* note 8, at 280–81.

27. Eric C. Cohen, *A Primer on Inter Partes Review, Covered Business Method Review, and Post-Grant Review Before the Patent Trial and Appeal Board*, 24 FED. CIR. B.J. 1, 2 (2014); Andrei Iancu et al., *Inter Partes Review Is the New Normal: What Has Been Lost? What Has Been Gained?*, 40 AIPLA Q.J. 539, 543 (2012).

28. Universal Elecs., Inc. v. Universal Remote Control, Inc., 943 F. Supp. 2d 1028, 1029 (C.D. Cal. 2013); 157 CONG. REC. S951–52 (daily ed. Feb. 28, 2011) (statement of Sen. Grassley); Changes to Implement Inter Partes Review Proceedings, Post-Grant Review Proceedings, and Transitional Program for Covered Business Method Patents, 77 Fed. Reg. 48,680, 48,680 (Aug. 14, 2012) (codified at 37 C.F.R. pt. 42 (2016)); William Hannah, *Major Change, New Chapter: How Inter Partes Review and Post Grant Review Proceedings Created by the America Invents Act Will Shape Litigation Strategies*, 17 INTELL. PROP. L. BULL. 27, 32 (2012).

29. Wasserman, *supra* note 25, at 1993.

30. This Article refers to "Inter Partes Reexamination" simply as "Reexamination," as to avoid confusion with "Inter Partes Review" (IPR). *See generally* Mark D. Janis, Inter Partes *Patent Reexamination*, 10 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 481 (2000) (explaining the differences between the current IPR system and Reexamination).

31. Hannah, *supra* note 28, at 34; Eric J. Rogers, *Ten Years of* Inter Partes *Patent Reexamination Appeals: An Empirical View*, 29 SANTA CLARA COMPUTER & HIGH TECH. L.J. 305, 311 (2012).

32. MATTHEW A. SMITH, *INTER PARTES* REEXAMINATION 11–12, 132–33 (1E ed. 2009); Iancu et al., *supra* note 27, at 541.

examiner's report, and eventually a determination was made on the patent's validity.[33]

The Reexamination system was criticized on multiple grounds, such as not allowing the introduction of sufficient new evidence during Reexamination,[34] limiting the scope of involvement by the requesting (nonpatentee) party,[35] operating on an elongated timeline (usually three to five years without an appeal and five to eight years with an appeal),[36] and failing to achieve decisive results.[37] Shortcomings such as these led to a highly underutilized patent review system,[38] and in 2011, Congress chose to replace Reexamination with a new, more adjudicative process, namely IPR.[39]

B. *Institution of an Inter Partes Review*

The process of (potentially) invalidating a patent via IPR begins when a party files a petition for review with the Patent Office.[40] In this document, the petitioner requests cancellation of one or more of the patent's claims[41] because they were obvious or not novel based on prior art patents or printed publications.[42] The filed petition must include the required $23,000 in fees[43] and

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33. SMITH, *supra* note 32, at 132–33; Matthew John Duane, *Lending a Hand: The Need for Public Participation in Patent Examination and Beyond*, 7 CHI.-KENT J. INTELL. PROP. 57, 65 (2008); Iancu et al., *supra* note 27, at 568.

34. James W. Beard, Note, *A Better Carrot Incentivizing Patent Reexamination*, 1 HASTINGS SCI. & TECH. L.J. 169, 179 (2009).

35. Michael A. Carrier, *Post-Grant Opposition: A Proposal and a Comparison to the America Invents Act*, 45 U.C. DAVIS L. REV. 103, 114 (2011).

36. Colleen V. Chien, *From Arms Race to Marketplace: The Complex Patent Ecosystem and Its Implications for the Patent System*, 62 HASTINGS L.J. 297, 353 (2011).

37. Brian J. Love & Shawn Ambwani, *Inter Partes Review: An Early Look at the Numbers*, 81 U. CHI. L. REV. DIALOGUE 93, 95 (2014); *see also* Daniel R. Cahoy, *An Incrementalist Approach to Patent Reform Policy*, 9 N.Y.U. J. LEGIS. & PUB. POL'Y 587, 655–56 (2006).

38. Beard, *supra* note 34, at 180.

39. *See* 35 U.S.C. § 311(a) (2012); *see also* Abbott Labs. v. Cordis Corp., 710 F.3d 1318, 1326 (Fed. Cir. 2013); Universal Elecs., Inc. v. Universal Remote Control, Inc., 943 F. Supp. 2d 1028, 1029–30 (C.D. Cal. 2013).

40. 35 U.S.C. § 311(a); 37 C.F.R. § 42.101 (2016).

41. "The scope of a patent's protection is set forth in numbered paragraphs called claims, which are located at the end of the patent[] . . . ." W. Michael Schuster, *Claim Construction and Technical Training: An Empirical Study of the Reversal Rates of Technically Trained Judges in Patent Claim Construction Cases*, 29 QUINNIPIAC L. REV. 887, 889–90 (2011).

42. 35 U.S.C. § 311(b); *see also* 35 U.S.C. §§ 102–103.

43. *See* 37 C.F.R. § 42.103(a) (referencing 37 C.F.R. § 42.15(a)(1)–(4)). The filing fees include a $9000 IPR request fee and a $14,000 IPR Post-Institution fee, which may be refunded if the IPR is not instituted. 37 C.F.R. § 42.15(a)(1); *Patent Review Processing System (PRPS)*, Frequently Asked Questions, at E7, USPTO.GOV, http://www.uspto.gov/ip/boards/bpai/prps.jsp. Additional fees

becomes available for public inspection shortly after submission.[44]

For IPR to be initiated, the Director of the Patent Office must determine that, premised on the cited prior art, "there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition."[45] This determination is based on the petition's required "detailed explanation of the significance of the evidence including material facts"[46] and a proposed claim construction[47] that supports these arguments.[48] In reply, the patent owner may submit a nonmandatory "preliminary response" opposing the petition.[49]

The Director has three months after filing of the patent owner's response (or three months after it was due, whichever is earlier) to determine whether to institute a review.[50] The Patent Office can choose to review all, some, or none of the challenged claims.[51]

The IPR system is available to almost anyone, except for patent infringement defendants (and parties in privity thereto) against whom the subject patent has been asserted in a lawsuit filed more than one year before filing of the petition.[52] This requirement is intended to prevent defendants from abusing the system as a means of delaying litigation.[53]

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apply for petitions that request review of more than twenty claims in the subject patent. 37 C.F.R. § 42.15(a)(3)–(4).

44. 35 U.S.C. § 312(b).

45. 35 U.S.C. § 314(a). It is arguable that, premised on the language of 35 U.S.C. § 314(a), the USPTO Director has discretion to deny an IPR petition, even if a reasonable likelihood of success is established. *See* Andrei Iancu & Ben Haber, *Post-Issuance Proceedings in the America Invents Act*, 93 J. PAT. & TRADEMARK OFF. SOC'Y 476, 481 (2011). It is notable that IPR's "reasonable likelihood" standard "is more stringent than the previous 'substantial new question of patentability' standard," which was applied to Reexamination. Universal Elecs., Inc. v. Universal Remote Control, Inc., 943 F. Supp. 2d 1028, 1030 (C.D. Cal. 2013).

46. 37 C.F.R. § 42.22(a)(2).

47. "Claim construction is the determination of the exact meaning of a patent's claims." Schuster, *supra* note 41, at 890.

48. 37 C.F.R. § 42.104(b)(3).

49. 35 U.S.C. § 313; *Universal Elecs., Inc.*, 943 F. Supp. 2d at 1030; 37 C.F.R. § 42.107(b).

50. 35 U.S.C. § 314(b).

51. 37 C.F.R. § 42.108(a).

52. 35 U.S.C. §§ 311(a), 315(b); U.S. Nutraceuticals, LLC v. Cyanotech Corp., No. 5:12–cv–366–OC–10PRL, 2013 WL 6050744, at *2 (M.D. Fla. Nov. 15, 2013).

53. *Universal Elecs., Inc.*, 943 F. Supp. 2d at 1030. Similarly, a party that has previously filed a declaratory judgment suit alleging patent invalidity (not counting declaratory judgment counterclaims) cannot subsequently seek IPR of that patent. 35 U.S.C. § 315(a)(1), (3).

C. *Conducting an IPR*

After an IPR is instituted, it proceeds before the Patent Trial and Appeal Board ("PTAB")[54] and is conducted by a panel of three technically trained administrative patent judges.[55] During the trial-like proceeding,[56] the petitioner must prove the subject patent is not patentable by a preponderance of the evidence.[57] This standard is less burdensome than that applied in litigation, wherein invalidity must be established by clear and convincing evidence.[58]

The IPR progresses much like an ordinary trial, including motion practice and the right to oral argument before the three-judge panel.[59] To provide evidentiary support for the process, parties may engage in limited discovery, such as witness affidavits and declarations.[60] "The record of a proceeding, including documents and things," is made public, unless a judge orders otherwise.[61]

During the review, the patent's language must be construed.[62] In doing so, the PTAB gives the terms their "broadest reasonable construction in light of the specification of the patent in which [they] appear[ ]."[63] This methodology gives the terms a broader meaning when compared to the standard used in litigation, wherein terms are given the definition "that the term would have to a person of ordinary skill in the art in question at the time of the invention."[64] While the PTAB's claim construction may be informative to a

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54. 35 U.S.C. § 316(c); BALUCH ET AL., *supra* note 24, at 6-3.

55. 35 U.S.C. § 6(a), (c); Target Training Int'l, Ltd. v. Lee, 1 F. Supp. 3d 927, 930 n.3 (N.D. Iowa 2014); *Universal Elecs., Inc.*, 943 F. Supp. 2d at 1030.

56. Cuozzo Speed Techs., LLC v. Lee, 136 S.Ct. 2131, 2149 (2016) (Alito, J., concurring and dissenting) ("If inter partes review is instituted, the Patent Office conducts a trial that culminates in a 'final written decision' on the patentability of the challenged claims."); 37 C.F.R. § 42.100(a) ("An *inter partes* review is a trial subject to the procedures set forth in subpart A of this part."); Rules of Practice for Trials Before the Patent Trial and Appeal Board and Judicial Review of Patent Trial and Appeal Board Decisions, 77 Fed. Reg. 48,612 (Aug. 14, 2012) (codified at 37 C.F.R. pts. 1, 42, 90).

57. 35 U.S.C. § 316(e).

58. Microsoft Corp. v. i4i Ltd. P'ship, 564 U.S. 91, 102 (2011).

59. *Universal Elecs., Inc.*, 943 F. Supp. 2d at 1030 (citing 35 U.S.C. § 316(a)(5), (8), (10), (13)); Matthew Fedowitz et al., *Overview of the Patent Trial and Appeal Board*, FED. LAW., Aug. 2014, at 40, 40–41.

60. Alicia Russo, *Patent Litigation Under the America Invents Act*, *in* RECENT TRENDS IN PATENT INFRINGEMENT LAWSUITS 61, 63 (2014 ed.).

61. 37 C.F.R. § 42.14.

62. *See* Arti K. Rai, *Improving (Software) Patent Quality Through the Administrative Process*, 51 HOUS. L. REV. 503, 538 (2013).

63. 37 C.F.R. § 42.100(b); *see also* Cuozzo Speed Techs., LLC v. Lee, 136 S. Ct. 2131, 2136 (2016).

64. Phillips v. AWH Corp., 415 F.3d 1303, 1313 (Fed. Cir. 2005). It is notable that recent proposed legislation would require the PTAB to utilize the same claim construction methodology as district courts. *See* Innovation Act, H.R. 3309, 113th Cong. § 9(b) (2013).

district court (or vice versa), neither body is bound by the other's respective construction.[65]

From the grant of an IPR petition, a final written determination must be issued within a year, though this period may be extended "by not more than 6 months" for good cause.[66] The review may be terminated by a joint request from the petitioner and patent holder prior to a decision on the merits from the PTAB.[67] The patent owner may additionally request cancellation of a challenged patent claim or suggest a "reasonable number of substitute claims [for the challenged claim]," which the validity of will also be ruled on.[68] A party that is dissatisfied with the PTAB's holding can appeal to the Federal Circuit.[69]

Despite the broad scope of the IPR process, early estimates signal that Congress succeeded in creating a "cost-effective alternative to litigation."[70] The expense of preparing an IPR petition has been approximated at $46,000,[71] and the cost of fully prosecuting or defending an IPR has been estimated as ranging from anywhere between $150,000–$500,000, with some estimates that are higher.[72]

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65. Samsung Elecs. Co. v. Va. Innovation Scis., Inc., No. IPR2013-000569, at 2 (P.T.A.B. Feb. 12, 2014); PI-Net Int'l, Inc. v. Focus Bus. Bank, No. C–12–4958, 2013 WL 5513333, at *2 (N.D. Cal. Oct. 3, 2013) (Order Re: Defendants' Motion for Reconsideration of Order Conditionally Granting Defendants' Motions to Stay Litigation Pending Inter Partes Review and Presidio Bank's Response to the Court's Conditional Stay Order).

66. 35 U.S.C. §§ 316(a)(11), 318 (2012); St. Jude Med., Cardiology Div., Inc. v. Volcano Corp., 749 F.3d 1373, 1374 (Fed. Cir. 2014).

67. 35 U.S.C. § 317(a). The filing of a notice of settlement usually terminates the IPR unless the PTAB has already decided the case. JP Morgan Chase & Co. v. Maxim Integrated Prods., Inc., No. CBM2014-00180, 2015 WL 1009218, at *2 (P.T.A.B. Feb. 27, 2015); Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,768 (Aug. 14, 2012) (codified at 37 C.F.R. § 42.74).

68. 35 U.S.C. §§ 316(d)(1), 318(a).

69. Cooper v. Lee, 86 F. Supp. 3d 480, 486 (E.D. Va. 2015), *appeal transferred* No. 15-1205 (4th Cir. Oct. 2, 2015), *and aff'd* Nos. 15-1483, 16-1071 (Fed. Cir. Jan. 14, 2016).

70. Universal Elecs., Inc. v. Universal Remote Control, Inc., 943 F. Supp. 2d 1028, 1029 (C.D. Cal. 2013) (quoting Changes to Implement Inter Partes Review Proceedings, Post-Grant Review Proceedings, and Transitional Program for Covered Business Method Patents, 77 Fed. Reg. 48,680 (Aug. 14, 2012) (codified at 37 C.F.R. §§ 42.100–42.123) (2016)).

71. Changes to Implement Derivation Proceedings, 77 Fed. Reg. 7028, 7033 (proposed Feb. 10, 2012) (codified at 37 C.F.R. pt. 42, subpt. E).

72. *See* Gideon Mark & T. Leigh Anenson, *Inequitable Conduct and* Walker Process *Claims After* Therasense *and the America Invents Act*, 16 U. PA. J. BUS. L. 361, 413 n.322 (2014) ("One projection of the average cost for PGR/IPR is $150,000 to $300,000 per party, 'an order of magnitude less expensive than district court litigation.'" (quoting Matthew Cutler, *Inter Partes Review and Post-Grant Review Are Game-Changers*, LAW360 (Jan. 8, 2013, 12:14 PM), http://www.law360.com/articles/402322/why-inter-partes-and-post-grant-review-are-game-changers)); Scott D. Marty & Marc S. Segal, Inter Partes *Review:*

D. Stays Pending Inter Partes Review

If a patent that is the subject of an infringement lawsuit is challenged in an IPR, courts have inherent power to stay the case pending resolution of the validity challenge before the Patent Office.[73] Despite a liberal judicial policy of granting these stays,[74] it is not required by statute.[75] The moving party bears the burden to establish the propriety of a stay; this burden is not satisfied by simply showing that an IPR petition has been filed.[76] The decision to stay a case involves consideration of three factors: (1) "whether a stay would unduly prejudice or present a clear tactical disadvantage to the non-moving party;" (2) "whether a stay will simplify the issues in question and trial of the case;" and (3) "whether discovery is complete and whether a trial date has been set."[77]

Regarding the first factor, the mere expectation that a proposed stay will delay resolution of patent litigation does not establish undue prejudice.[78] A stay may be disfavored where it would slow judgment of co-pending claims that do not hinge on patent validity (e.g., causes of action unrelated to infringement).[79] Courts further look to whether litigants are direct competitors in the marketplace, as delays may "have outsized consequences to the party asserting infringement . . . including the potential for loss of market share and

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It's No Party for University Patent Owners, 33 BIOTECH. L. REP. 52, 52 (2014) ("To file an IPR petition and to litigate to completion, the costs will likely be in the range of $200,000 to $500,000."); Daniel G. Barry, *Invalidating Patents Through Inter Partes Review*, ORANGE COUNTY BUS. J., July 8–14, 2013, https://www.swlaw.com/assets/pdf/news/2013/07/08/InvalidatingPatentsThroughInterPartesReview_Barry.pdf ("[T]otal costs for each party in an inter partes review are currently estimated at around $150,000 to $300,000."); Andrew J. Lagatta & George C. Lewis, *How Inter Partes Review Became a Valuable Tool So Quickly*, LAW360.COM (Aug. 16, 2013, 12:01 PM), http://www.law360.com/articles/463372/how-inter-partes-review-became-a-valuable-tool-so-quickly ("Although very few IPRs have reached a final decision, expected costs from an IPR [range] from $300,000 to $800,000.").

73. ACQIS, LLC v. EMC Corp., 109 F. Supp. 3d 352, 355–56 (D. Mass. 2015).

74. Wonderland Nursery Goods Co. v. Baby Trend, Inc., No. EDCV 14–01153–VAP (SPx), 2015 WL 1809309, at *5 (C.D. Cal. Apr. 20, 2015).

75. Va. Innovation Scis., Inc. v. Samsung Elecs. Co., 983 F. Supp. 2d 713, 753 (E.D. Va. 2014), *vacated on other grounds*, 614 F. App'x 503 (Fed. Cir. 2015); *see also* Saurabh Vishnubhakat et al., *Strategic Decision Making in Dual PTAB and District Court Proceedings*, 31 BERKELEY TECH. L.J. 45, 63 (2016) (discussing IPRs and stays of litigation generally).

76. CANVS Corp. v. United States, 118 Fed. Cl. 587, 591–92 (2014).

77. Tric Tools, Inc. v. TT Techs., Inc., No. 12–CV–3490 YGR, 2012 WL 5289409, at *1 (N.D. Cal. Oct. 25, 2012), *reconsideration granted*, 2012 WL 6087483 (N.D. Cal. Dec. 6, 2012).

78. CANVS Corp. v. Nivisys, LLC, No. 2:14–cv–99–FtM–38DNF, 2014 WL 6883123, at *5 (M.D. Fla. Dec. 5, 2014).

79. Andersons, Inc. v. Enviro Granulation, LLC, No. 8:13–cv–3004–T–33MAP, 2014 WL 4059886, at *3 (M.D. Fla. Aug. 14, 2014).

an erosion of goodwill."[80] In contrast, a noncompeting plaintiff is unlikely to be prejudiced by a stay, as monetary damages are usually sufficient to compensate for any continuing infringement during the pause in litigation.[81]

On the second factor (simplification of the issues in the case), stays are favored where IPR is likely to assist in the determination of the validity of the claims being asserted in litigation.[82] A stay may further simplify patent litigation by avoiding inconsistent validity determinations between the PTAB and district courts, limiting the needless expenditure of judicial resources, and allowing the district court to "obtain guidance from the PTAB."[83]

In considering the third factor, courts are most likely to issue a stay if requested early in a patent litigation,[84] such that "there remains a significant amount of work ahead for the parties and the court."[85] In making this assessment, significant weight is given to "whether discovery is complete, whether a trial date has been set, the status of pending pretrial motions, and pretrial orders."[86]

Lastly, courts are willing to stay patent litigation pending resolution of IPRs filed by nonparties to the lawsuit.[87] A nonmovant could argue that the nonparty status of the IPR petitioner (e.g., an IAE) might disfavor a stay under one of the above-discussed considerations, but this issue is not an absolute bar for the grant of a stay.

II. INVALIDITY ASSERTION ENTITIES

IAEs are a recent addition to the patent landscape. These rent seekers pursue a business model by which they demand consideration from patent holders in exchange for not attempting to

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80. CDX Diagnostics, Inc. v. U.S. Endoscopy Grp., Inc., No. 13–cv–05669 (NSR), 2014 WL 2854656, at *4 (S.D.N.Y. June 20, 2014).

81. Intellectual Ventures II LLC v. U.S. Bancorp, No. CIV. 13–2071 (ADM/JSM), 2014 WL 5369386, at *5 (D. Minn. Aug. 7, 2014).

82. Evolutionary Intelligence, LLC v. Apple, Inc., No. C 13–04201 WHA, 2014 WL 93954, at *2 (N.D. Cal. Jan. 9, 2014).

83. PersonalWeb Techs., LLC v. Apple Inc., 69 F. Supp. 3d 1022, 1027 (N.D. Cal. 2014).

84. Destination Maternity Corp. v. Target Corp., 12 F. Supp. 3d 762, 770 (E.D. Pa. 2014).

85. LakeSouth Holdings, LLC v. Ace Evert, Inc., No. 3:14-CV-1348-N, 2015 WL 10818619, at *3 (N.D. Tex. June 17, 2015) (quoting *Destination Maternity Corp.*, 12 F. Supp. 3d at 770).

86. *Destination Maternity Corp.*, 12 F. Supp. 3d at 770.

87. e-Watch, Inc. v. ACTi Corp., No. SA–12–CA–695–FB, 2013 WL 6334372, at *4, *9 (W.D. Tex. Aug. 9, 2013), *adopted by*, 2013 WL 6334304 (W.D. Tex. Aug. 26, 2013) (granting a stay pending an IPR filed by a nonparty); CANVS Corp. v. Nivisys, LLC, No. 2:14–cv–99–FtM–38DNF, 2014 WL 6883123, at *1, *5 (M.D. Fla. Dec. 5, 2014) (same); Intellectual Ventures II LLC v. SunTrust Banks, Inc., No. 1:13–CV–02454–WSD, 2014 WL 5019911, at *1, *3 (N.D. Ga. Oct. 7, 2014) (same).

invalidate their patents through IPR.[88] They target patents currently in litigation, as shown by the following examples.

New Bay Capital ("New Bay") is an example of an IAE. In 2013, it filed an IPR petition targeting several patents asserted by VirnetX Holding Corp.[89] ("VirnetX," a patent troll),[90] which had recently secured a $368 million patent-infringement judgment against Apple.[91] New Bay allegedly offered to terminate its petitions if VirnetX agreed to pay it approximately $36.8 million.[92] The petitions, which were largely redundant of invalidity positions raised in prior litigation and proceedings before the Patent Office,[93] were cancelled after VirnetX sought discovery relating to whether New Bay was in privity with Apple.[94] If VirnetX were related to Apple, it would have been acting in violation of IPR statutes regarding who can petition for review.[95]

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88. *See* Schuster, *supra* note 8, at 272; *see also* Patience Haggin, *Trolls Taste Own Medicine*, RECORDER (Dec. 12, 2014), http://www.therecorder.com /id=1202678962497/Trolls-Taste-Own-Medicine?slreturn=20141128202429.

89. Petition for Inter Partes Review of U.S. Patent No. 6,502,135 at 1, New Bay Capital, LLC, v. VirnetX Inc., No. IPR2013-00375, 2013 WL 5592739, at *5 (P.T.A.B. June 23, 2013); Petition for Inter Partes Review of U.S. Patent No. Patent 7,490,151 at 1, New Bay Capital, LLC, v. VirnetX Inc., No. IPR2013-00376, 2013 WL 5592742, at *5 (P.T.A.B. June 23, 2013); Petition for Inter Partes Review of U.S. Patent No. Patent 7,418,504 at 1, New Bay Capital, LLC, v. VirnetX Inc., No. IPR2013-00377, 2013 WL 5592745, at *4 (P.T.A.B. June 23, 2013); Petition for Inter Partes Review of U.S. Patent No. Patent 7,921,211 at 1, New Bay Capital, LLC, v. VirnetX Inc., No. IPR2013-00378, 2013 WL 5497904, at *3 (P.T.A.B. June 23, 2013).

90. 1 GEORGE B. DELTA & JEFFREY H. MATSUURA, LAW OF THE INTERNET § 7.04[B], at 7-34.2 (3d ed. 2016-1 Supp.); James Bessen & Michael J. Meurer, *The Direct Costs from NPE Disputes*, 99 CORNELL L. REV. 387, 403 (2014).

91. Nathan P. Anderson, *Striking A Balance: The Pursuit of Transparent Patent Ownership*, 30 BERKELEY TECH. L.J. 395, 406 n.62 (2015); Ryan Davis, *Patent 'Interceptor' Facing RICO Suit Loses AIA Review Bid*, LAW360.COM (Oct. 10, 2014, 6:54 PM), http://www.law360.com/articles/586391/patent-interceptor -facing-rico-suit-loses-aia-review-bid.

92. Davis, *supra* note 91. As discussed *infra* in Subpart III.C.4, this type of attack on a patent owner who "has obtained, but not collected, an infringement judgment," is unlikely to prove particularly lucrative.

93. *See, e.g.*, Patent Owner's Preliminary Response to Petition for *Inter Partes* Review of U.S. Patent No. 6,502,135 at 4–5, New Bay Capital, LLC, v. VirnetX Inc., IPR2013-00375, 2013 WL 5592741, at *3–4 (P.T.A.B. Sept. 27, 2013); Patent Owner's Preliminary Response to Petition for *Inter Partes* Review of U.S. Patent No. 7,418,504 at 2–3, New Bay Capital, LLC, v. VirnetX Inc., IPR2013-00377, 2013 WL 5592747, at *2–3 (P.T.A.B. Sept. 27, 2013).

94. Haggin, *supra* note 88.

95. *See* 35 U.S.C. § 311(a) (2012); U.S. Nutraceuticals, LLC v. Cyanotech Corp., No. 5:12–cv–366–Oc–10PRL, 2013 WL 6050744, at *2 (M.D. Fla. Nov. 15, 2013). Others speculated that New Bay could have a financial interest in a decline in VirnetX's stock. Michelle Carniaux & Michael E. Sander, *The Curious Case of New Bay Capital LLC and VirnetX Inc.*, IPR BLOG.COM (Nov. 22, 2013), http://interpartesreviewblog.com/curious-case-new-bay-capital-llc

Iron Dome, LLC ("Iron Dome") is another example of an IAE. In 2014, it threatened to file an IPR petition targeting a patent being litigated by Chinook Licensing DE, LLC ("Chinook," a patent troll[96]) unless it was granted three transferable licenses to the patent.[97] The demand letter included a draft of the threatened petition.[98] Chinook refused the offer, and Iron Dome filed for IPR shortly thereafter.[99] Iron Dome's actions were consistent with its prior dealings[100] and its stated business plan, namely preparing IPR petitions and seeking consideration for not filing them.[101]

Chinook did not take Iron Dome's actions lightly. Shortly after the petition was filed, Chinook brought suit against Iron Dome, asserting various causes of action, including tortious interference with business relations and Racketeer Influenced and Corrupt Organizations Act ("RICO") claims.[102] The complaint was met with a motion to dismiss for failure to state a claim upon which relief can be granted, arguing (among other things) that a good-faith offer to settle an IPR dispute cannot give rise to sanctions.[103]

The court held in Iron Dome's favor, ruling that the IAE's communications were settlement offers that could not lead to liability,[104] Chinook's charges were based on "flawed premises," and "much of what [wa]s alleged [in this case] [wa]s merely conclusory."[105] This ruling disappointed some, including Robert Stoll, a former Commissioner of Patents at the Patent Office, who argues that IAEs use IPR in a manner inconsistent with the intent of the law.[106] A former administrative patent judge at the Patent Office, Neil Smith, stated that he expects the Iron Dome ruling to

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-virnetx-inc/. VirnetX's stock lost approximately a quarter of its value shortly after New Bay filed for IPR of VirnetX's patents. *Id.*

96. Michael Rosen, *Patent "Trolls" Claiming Extortion? Not So Fast*, TECHPOLICYDAILY.COM (Dec. 23, 2014, 6:00 AM), http://www.techpolicydaily.com/technology/patent-trolls-claiming-extortion-not-fast/.

97. First Amended Complaint, *supra* note 16, at 4.

98. *Id.*

99. *Id.* at 6.

100. *Id.* at 7–10.

101. Defendants' Opening Brief in Support of Their Motion to Dismiss at 4, Chinook Licensing DE, LLC v. RozMed LLC, No. 1:14-cv-00598-LPS (D. Del. June 25, 2014), ECF No. 11; Andrews Kurth Kenyon LLP, *Iron Dome Launches a Third IPR Missile, While Another Flies Out to Sea*, LEXOLOGY (Nov. 19, 2014), http://www.lexology.com/library/detail.aspx?g=7fea437f-1dfa-428a-a249-fba94dacdff3.

102. First Amended Complaint, *supra* note 16, at 10–17.

103. Defendants' Opening Brief in Support of Their Motion to Dismiss, *supra* note 101, at 7–18.

104. *See* Transcript of Oral Argument at 44–46, Chinook Licensing DE, LLC, v. RozMed LLC, No. 1:14-cv-00598-LPS (D. Del. Dec. 18, 2014), ECF No. 30; *see also* Haggin, *supra* note 14.

105. Transcript of Oral Argument, *supra* note 104, at 44.

106. Haggin, *supra* note 14.

encourage more IAEs to join the market.[107] These comments beg the question: even if the IPR system is being used in an unexpected way by a growing number of parties, does this mean that the unintended use cannot have a positive social effect?

The following Subparts describe the expected business choices of profit-motivated IAEs. Subsequent portions of this Article detail manners in which these decisions affect the U.S. patent system and, more specifically, how they serve the policy goal of discouraging patent troll litigation.

A. IAEs and Reputation Effects

A firm's market reputation is an asset through which it can gain market advantage.[108] More specifically, reputation is important where market participants have incomplete information about other actors, including their business goals and strategy.[109] Past actions give rise to reputations, which competitors use to form beliefs about expected future actions.[110] The influence that a party's reputation has on the strategic choices of other entities is called "reputation effects."[111]

These ideas are particularly relevant to IAEs and their rent-seeking endeavors. To profitably secure settlements, IAEs must present a credible threat of patent invalidation.[112] This reputation encourages patent holders to pay the demanded sum, lest the IAE invalidate their patent. The target is—not surprisingly—unlikely to pay a settlement if it believes that its patent is not in harm's way. This business necessity encourages profit-driven IAEs to undertake several reputation-building activities.

1. Drafting a Strong Petition

The first step in creating the reputation as a threat to invalidate a target's patent is drafting a strong IPR petition.[113] This

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107. *Id.*

108. *See generally* John F. Mahon, *Corporate Reputation: A Research Agenda Using Strategy and Stakeholder Literature*, 41 BUS. & SOC. 415 (2002) (discussing the role a firm's reputation plays in the marketplace of goods and services and in the marketplace of ideas).

109. *See* Keith Weigelt & Colin Camerer, *Reputation and Corporate Strategy: A Review of Recent Theory and Applications*, 9 STRATEGIC MGMT. J. 443, 443 (1988).

110. *See id.* at 443–44.

111. *See id.* at 446–47.

112. *See, e.g.*, BRIAN T. YEH, CONG. RESEARCH SERV., R42668, AN OVERVIEW OF THE "PATENT TROLLS" DEBATE 13 (2013).

113. *See* Aplix IP Holdings Corp. v. Sony Comput. Entm't, Inc., 137 F. Supp. 3d 3, 4 (D. Mass. 2015) ("The PTO may grant an *inter partes* review only if 'there is a reasonable likelihood that the petitioner would prevail with respect to at least one of the claims challenged in the petition.'" (quoting 35 U.S.C. § 314(a) (2012))).

is a time-intensive[114] and costly endeavor,[115] but the associated reputation effects are invaluable to an IAE. The petition may be included in the IAE's first substantive correspondence to a targeted patent owner[116] and such communications will, in the aggregate, influence the IAE's public persona.[117] It is thus important that an IAE's petition identify and clearly present the "best non-redundant and noncumulative arguments and prior art references."[118]

Beyond presenting a strong first impression, a well-crafted petition is also more likely to lead to the successful institution of an IPR,[119] a necessary threshold to invalidating a patent. As described in the following Subpart, invalidation of a target patent is a primary means of cultivating important reputation effects for an IAE.

2. Vigorous Prosecution of an IPR

To develop the required reputation, an IAE must incur the cost of filing and prosecuting an IPR against any noncompliant party, despite the fact that doing so is unlikely to produce an immediate financial benefit.[120] No rational patent holder will settle after a review has been filed for the reasons set forth below. An IAE, therefore, cannot expect to reap tangible gains from the prosecution of an IPR, but it is necessary to cultivate much-needed reputation effects.

Patent holders will only settle with an IAE prior to filing of an IPR because the IAE's petition will be made public.[121] Contained in

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114. Signal IP, Inc. v. Fiat U.S.A., Inc., No. 14-cv-13864, 2015 WL 5719670, at *6 (E.D. Mich. Sept. 30, 2015) ("[T]he Court recognizes that searching for prior art and drafting an *inter partes* review petition does take a significant amount of time.").

115. Changes to Implement Derivation Proceedings, 77 Fed. Reg. 7028, 7033 (proposed Feb. 10, 2012) (codified at 37 C.F.R. pt. 42, subpt. E).

116. *See, e.g.*, First Amended Complaint, *supra* note 16, at 4–6, Exhibits A & C.

117. Andrea M. Sjovall & Andrew C. Talk, *From Actions to Impressions: Cognitive Attribution Theory and the Formation of Corporate Reputation*, 7 CORP. REPUTATION REV. 269, 270 (2004) ("The strength and homogeneity of the individual impressions in a group comprise reputation; if the members all have weak or differing opinions, then no clear reputation is formed. Homogeneity of opinion may develop through common observations of the entity's behavior . . . .").

118. Yasser El-Gamal et al., *The New Battlefield: One Year of Inter Partes Review Under the America Invents Act*, 42 AIPLA Q.J. 39, 62 (2014).

119. Universal Elecs., Inc. v. Universal Remote Control, Inc., 943 F. Supp. 2d 1028, 1030 (C.D. Cal. 2013) ("[T]he PTO will [only grant an] *inter partes* review request if 'there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.'" (quoting 35 U.S.C. § 314(a) (2012))).

120. *See* Erik Hovenkamp, *Predatory Patent Litigation: How Patent Assertion Entities Use Reputation to Monetize Bad Patents* 19 (Aug. 5, 2013) (unpublished manuscript), http://papers.ssrn.com/abstract=2308115.

121. 35 U.S.C. § 312(b); 37 C.F.R. § 42.14 (2016).

this document is a description of the allegedly invalidating prior art, an argument about why the patent is invalid, and a proposed claim construction that supports the petition's position.[122] All of this information is thus available to other IAEs.

Settlement of an IPR after it has been filed signals publicly that the petition's arguments pose a threat that the patent holder is willing to pay to avoid. Since unrelated parties are not estopped from raising the same prior art in subsequent petitions, rational third-party IAEs will threaten to file a petition based on the same arguments set forth in the original with the expectation that the patent holder will again pay to avoid the argument.[123]

The patent holder is accordingly left with the choice to either face the same IPR arguments that it just paid to settle (with the earlier-filing IAE) or settle with any and all future IAEs before they file petitions. Neither choice is better than settling before the filing of the petition or fully fighting the IPR. A rational patent holder will therefore never choose to settle an already filed (i.e., publicly available) IPR.[124]

Despite this limitation on immediate financial reward, IAEs must incur the cost of an IPR to create the reputation effects necessary to pursue their business model. Patent holders' actions must be guided by fear of patent invalidation[125] if an IAE is to prove profitable. The only means to create these incentives for patent

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122. 35 U.S.C. § 314(a); 37 C.F.R. §§ 42.22(a)(2), 42.104(b)(3)–(4).

123. Signal IP, Inc. v. Volkswagen Grp. of Am., Inc., No. CV14–3113 JAK (JEMx), 2015 WL 5764831, at *3 (C.D. Cal. May 26, 2015) ("[T]he estoppel provisions attendant to *inter partes* review only automatically attach to the petitioning party and those in privity with that party." (citing 35 U.S.C. § 315(e)). For evidence of the reuse of IPR petitions, compare, e.g., Petition for Inter Partes Review of U.S. Patent No. 5,839,108, IPR2014–01429, (P.T.A.B. Aug. 29, 2014), with Petition for Inter Partes Review of U.S. Patent No. 5,839,108, IPR2015-01120, (P.T.A.B. Apr. 28, 2015).

124. For the same reasons, a patent owner will refuse to settle with an IAE before the IAE files a petition, unless the IAE agrees to keep the contents of the threatened petition secret. Schuster, *supra* note 8, at 277 ("[I]f the threatened IPR petition [that a patent owner paid an IAE to not file] became public, a later IAE could use the threat of filing it as leverage to extract a second settlement."); *see also* Patent Owner's Preliminary Response to Petition for *Inter Partes* Review of U.S. Patent No. 6,502,135 at 3–4, IPR2013–00375 (P.T.A.B. Sept. 27, 2013) (describing "reuse" of prior art in an IPR). Aside from concerns about disclosure of invalidity arguments, publicly conceding to an IAE's demands signals (correctly or not) that the patent holder is willing to pay off IAEs, which encourages attack from other rent-seekers. *Cf.* Spencer Hosie, *Patent Trolls and the New Tort Reform: A Practitioner's Perspective*, 4 I/S: J. L. & POL'Y FOR INFO. SOC'Y 75, 79–80 (2008) (discussing the same phenomena in the realm of parties being sued by non-practicing entities ("NPEs")).

125. An IAE can also create beneficial reputation effects simply by forcing noncompliant patent holders to incur the cost to defend against an IPR. *See* Lagatta & Lewis, *supra* note 72 ("Although very few IPRs have reached a final decision, expected costs of an IPR [range] from $300,000 to $800,000.").

owners is by creating a history of successful IPRs. Profit-driven IAEs will, accordingly, exert all reasonable energies to emerge victorious from an IPR.

B. Attributes of Likely IAE Targets

All businesses strive to maximize net income.[126] With this in mind, a rationally behaving IAE will employ strategies to increase settlements paid by targeted patent holders.[127] This Part discusses the attributes of patents and parties that IAEs will target to bring in the most income.

1. Assertion of Weak Patents

Litigated patents are valuable patents.[128] Not surprisingly, patent owners prefer to prevent the loss of these assets and will rationally act to avoid invalidation.[129] This concern is heightened for the plaintiff asserting a weak patent.[130] Invalidation ends a lawsuit, and the party asserting a likely invalid patent is thus highly incentivized to avoid validity challenges. Profit-driven IAEs will take advantage of this situation.

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126. *See, e.g.*, Edward O. Correia, *Resale Price Maintenance — Searching for A Policy*, 18 J. LEGIS. 187, 231 (1992) (describing how businesses "will choose the strategy that maximizes [their] own profits.").

127. *See* Schuster, *supra* note 8, at 279 ("Profit-driven IAEs will target parties that are most likely to pay them a settlement . . . .").

128. John R. Allison & Thomas W. Sager, *Valuable Patents Redux: On the Enduring Merit of Using Patent Characteristics to Identify Valuable Patents*, 85 TEX. L. REV. 1769, 1769 (2007) (noting that there is a "consensus that litigated patents are on average more valuable than unlitigated ones and thus represent a subset of all valuable patents"); John R. Allison & Emerson H. Tiller, *The Business Method Patent Myth*, 18 BERKELEY TECH. L.J. 987, 998–99 (2003) ("On average, patents that become the subject of infringement litigation appear to be more valuable than those that do not . . . ."); Jonathan H. Ashtor, *Redefining "Valuable Patents": Analysis of the Enforcement Value of U.S. Patents*, 18 STAN. TECH. L. REV. 497, 499 (2015) ("'Valuable patents' as the term is defined in leading scholarship are generally understood to be those patents that have been asserted in litigation or maintained to full term."); Seán M. Coughlin, Comment, *Is the Patent Paradox a Result of a Large Firm Perspective? – Differential Value of Small Firm Patents Over Time Explains the Patent Paradox*, 23 SANTA CLARA COMPUTER & HIGH TECH. L.J. 371, 390 (2007) ("[I]t seems that litigated patents tend to have higher value than non-litigated patents."); *see also* Kimberly A. Moore, *Worthless Patents*, 20 BERKELEY TECH. L.J. 1521, 1522 (2005) (noting that litigated patents are valuable patents, but they are not the only valuable patents).

129. For instance, patent owners commonly settle infringement disputes to avoid the possibility of patent invalidation. Aashish Kapadia, *Inter Partes Review: A New Paradigm in Patent Litigation*, 23 TEX. INTELL. PROP. L.J. 113, 134 (2015); Michael J. Meurer, *The Settlement of Patent Litigation*, 20 RAND J. ECON. 77, 77–80 (1989).

130. *See* Stuart J.H. Graham & Ted Sichelman, *Why Do Start-Ups Patent?*, 23 BERKELEY TECH. L.J. 1063, 1080 (2008) (explaining that weak patents are more likely to be invalidated).

The primary goal of an IAE is securing settlements,[131] which is more likely where the targeted patent owner wants to avoid validity challenges. IAEs will therefore target weak patents that are in litigation, as these plaintiffs have particular reason to pay a settlement to avoid IPR.[132] It is notable that, as used here, a "weak" patent should be understood as having a higher than usual likelihood of being invalidated on innovation-based grounds.[133]

A corollary to the likelihood of weak patents being invalidated is that prior art for these patents should be relatively easier to locate.[134] Drafting an IPR petition against a weak patent is therefore less expensive because it requires fewer man-hours to identify relevant prior art. This will, in turn, reduce operating expenses for an IAE challenging such a patent. IAEs will therefore rationally target parties perceived to assert weak patents, as they are more likely to pay a settlement and the cost associated to secure that settlement is lower.

2. Valuable Infringement Claims

The higher the expected verdict or settlement is in patent litigation, the more the cause of action[135] and the asserted patent

131. *See* Schuster, *supra* note 8, at 279.

132. For a more thorough discussion of this incentive structure, see Schuster, *supra* note 8, at 275, 277–79.

133. John P. Hanish, *Effectively Defending Against Patent Trolls and the Effects of Increasing Troll Litigation on Patent Law and Patent Dispute Procedures*, *in* THE IMPACT OF RECENT PATENT LAW CASES AND DEVELOPMENTS 167, 179 (2014) ("Most [patent trolls'] asserted patents are weak, subject to attack on the grounds of anticipation or obviousness in view of prior art or invalidating prior uses."). This is a slightly narrower definition of "weak" than some academics may proffer, though it has no influence on the present discussion. Henry M. Gladney, *Digital Intellectual Property: Controversial and International Aspects*, 24 COLUM.-VLA J.L. & ARTS 47, 84 (2000) ("The real difficulty is created by weak patents, whose inventors claim something that fails the obviousness test—"not obvious to someone versed in the state of the art"—or something that is not even new . . . " (footnote omitted)); *see also* Michael F. Werno, Note, *More Questions Than Answers? The Uncertainties Surrounding Reverse Payment Settlements in the Post-*Actavis *World*, 21 B.U. J. SCI. & TECH. L. 200, 204 n.33 (2015) ("One law professor describes a weak patent as one that '(i) is likely to be found or held invalid; or (ii) even if valid, its claims are so narrow that they are not likely to encompass many potentially competing products.'" (citing Glynn S. Lunney, Jr., FTC v. Actavis*: The Patent-Antitrust Intersection Revisited* (Tulane Univ. Sch. of Law Pub. Law and Legal Theory Working Paper Series, Working Paper No. 13-19, 2013))).

134. *See* Rahul Pathak, *Maximizing a Life Sciences Patent Portfolio's Value by Limiting the Effects of Prior Art*, *in* DEVELOPING A PATENT STRATEGY 117, 123 (2013) (stating that strong patents will have multiple distinguishing characteristics when compared to the prior art).

135. *See* Maya Steinitz, *How Much Is That Lawsuit in the Window? Pricing Legal Claims*, 66 VAND. L. REV. 1889, 1903–04 (2013).

are worth.[136] Likewise, the more a lawsuit and related patent are worth, the greater the interest that a rational patent plaintiff has in avoiding patent invalidation.[137] These considerations help IAEs select their targets.

As discussed in the last Subpart, an IAE will challenge patent holders that are most likely to pay to avoid IPR. Similarly, profit-driven IAEs are likely to approach patent owners that are more likely to pay a higher relative settlement. With this in mind, IAEs prefer targeting patents involved in particularly valuable lawsuits, as these plaintiffs have the most to lose financially from invalidation and have the greatest interest in paying a substantial sum to avoid IPR.

While no single factor determines the value of a patent[138] or patent lawsuit,[139] IAEs can identify common attributes of a valuable case. Claim construction is particularly important in patent litigation, and a plaintiff-friendly construction is indicative of value.[140] Court documents associated with claim construction are generally available to the public.[141] Similarly, a successful defense

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136. *See* Michael R. Annis & Brad L. Pursel, *Intellectual Property Valuation Under U.S. GAAP and the Impact on Intellectual Property Litigation*, 38 AIPLA Q.J. 373, 387 (2010) (discussing the interplay of a patent's value and damages awards); David O. Taylor, *Using Reasonable Royalties to Value Patented Technology*, 49 GA. L. REV. 79, 94 (2014) (noting that a patent's value is a function of, among other things, the ability to obtain and collect an infringement verdict); *see also* Joseph G. Hadzima, Jr., *How To Tell What Patents Are Worth*, FORBES LEADERSHIP FORUM (June 25, 2013, 11:13 AM), http://www.forbes.com/sites/forbesleadershipforum/2013/06/25/how-to-tell-what-patents-are-worth/#309610ae6ac7 (describing how the capacity to monetize a patent elevates its value).

137. *See* Kapadia, *supra* note 129, at 134.

138. *See generally* Yu-Jing Chiu & Yuh-Wen Chen, *Using AHP in Patent Valuation*, 46 MATHEMATICAL & COMPUTER MODELING 1054 (2007) (detailing a variety of considerations that go into valuing a patent); J. Timothy Cromley, *20 Steps for Pricing a Patent*, 198 J. ACCT. 31 (2004) (discussing various steps and factors for valuating a patent).

139. Estate of Davis v. Commissioner, 65 T.C.M. (CCH) 2365, 1993 WL 102487, at *3 (T.C. 1993) ("[T]he valuation process for lawsuits does not appear to be as objectively achievable as other types of assets."); Robert J. Rhee, *A Price Theory of Legal Bargaining: An Inquiry into the Selection of Settlement and Litigation Under Uncertainty*, 56 EMORY L.J. 619, 686 (2006) ("The fundamental problem in the valuation of a legal dispute is that there is no market for competitive pricing and uncertainty is the governing condition of a lawsuit.").

140. Emily Michiko Morris, Res *or Rules? Patents and the (Uncertain) Rules of the Game*, 18 MICH. TELECOMM. & TECH. L. REV. 481, 491 (2012) ("[P]atent claim construction is also dispositive of a patent's strength, or scope, which in turn determines the patent's possible economic value."); *see also* Thomas Chen, Note, *Patent Claim Construction: An Appeal for* Chevron *Deference*, 94 VA. L. REV. 1165, 1169 (2008) ("Claim construction similarly affects patent licensing negotiations, as parties must agree on patent claim scope when assessing the value of potential licenses.").

141. Fadi Micaelian et al., *Patent Infringement Risk Exposure Analysis*, 46 LES NOUVELLES 334, 336 (2011) ("While some sensitive information may be

against prior validity attacks (e.g., survival of a motion for judgment on the pleadings on patentable subject matter grounds[142]) may indicate an increased value.[143] Criteria such as these allow IAEs to rationally target patent plaintiffs that are asserting valuable patents and, thus, are incentivized to settle with an IAE.

3. Availability of Stays of Litigation

Plaintiffs don't want their cases to be stayed.[144] They will therefore take steps to avoid stays in their lawsuit, including those that a court may grant after initiation of an IPR.[145] Rational IAEs must consider this fact in choosing targets. More specifically, profit-driven IAEs prefer to target a patent plaintiff whose case is likely to be stayed because this increases the pressure to settle with the IAE and avoid the possibility of a stay.

As discussed above, courts are more likely to issue a stay where the litigants are not direct competitors.[146] With this in mind, an IAE will rationally favor targeting a patent plaintiff that is not in direct competition with the defendants because the specter of a delay incentivizes settlement by the patent owner.

4. Cases with Many Small Defendants

An IAE will prefer to target patents asserted against a group of "small" defendants—who do not have sufficient individual exposure

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redacted upon request and court approval, nearly all documents filed in support of a patent infringement action are publicly available on [a] government-hosted website . . . .").

142. *See* P. Andrew Riley et al., *The Surprising Breadth of Post-Grant Review for Covered-Business-Method Patents: A New Way to Challenge Patent Claims*, 15 COLUM. SCI. & TECH. L. REV. 235, 240 (2014) ("[T]he day after litigants assert a patent in court, defendants can file a Rule 12(b)(6) motion to invalidate an iffy patent under § 101."); Maria R. Sinatra, Note, *Do Abstract Ideas Have the Need, the Need for Speed?: An Examination of Abstract Ideas After* Alice, 84 FORDHAM L. REV. 821, 842 & n.208 (2015).

143. Dietmar Harhoff et al., *Citations, Family Size, Opposition and the Value of Patent Rights*, 32 RES. POL'Y 1343, 1345 (2003) ("Patents which are upheld against opposition . . . are particularly valuable.").

144. Robert Greene Sterne et al., *Reexamination Practice with Concurrent District Court Litigation or Section 337 USITC Investigations*, 11 SEDONA CONF. J. 1, 9 (2010) ("Litigation stays are usually contested, with accused infringers typically arguing for the stay of the litigation and patent owners arguing against the stay."); *see also* David I. Ferber SEP IRA v. Fairfield Greenwich Grp., No. 600469/2009, 2010 WL 2927274, at *3 (N.Y. Sup. Ct. 2010); Joshua L. Sohn, *Can't the PTO Get a Little Respect?*, 26 BERKELEY TECH. L.J. 1603, 1636–37 (2011). This is obviously a generalization, but as the citations make clear, this is generally a true proposition.

145. *See supra* Subpart I.D.

146. Matthew R. Frontz, *Staying Litigation Pending Inter Partes Review and the Effects on Patent Litigation*, 24 FED. CIR. B.J. 469, 482 (2015) (noting that courts "have been reluctant to stay litigation where direct competition [between the litigants] is shown").

to warrant independently financing an IPR.[147] The literature discussed below recognizes it is not always possible to predict if such a group will seek IPR. This strengthens the IAE's bargaining position, as it may be the first to file a petition and, thus, is able to utilize the best prior art without any fear of redundant argument.[148] The IAE can further exert pressure against a patent owner that—because it sued multiple small defendants—rationally discounted the likelihood that it would face an IPR and associated stay. Potential realization of these discounted events encourages the plaintiff to settle.

The filing of an IPR by infringement defendants has become commonplace to the point that not submitting a petition has been equated to malpractice.[149] Where any one defendant has a large enough stake in a lawsuit, it will invariably follow this advice.[150] The choice to file a petition is, however, not so clear where a patent is asserted against a group of smaller defendants, none of which has enough exposure to warrant individually financing an IPR.[151]

The question then becomes whether a group of rationally behaving, low-exposure codefendants will collectively seek IPR. Literature regarding collective action to attain public goods is instructive on this topic. The two primary attributes of public goods are that enjoyment of the good by one party does not diminish the quantum available to another party (nonrivalrous) and it is difficult to exclude a member of the public from enjoying the public good (nonexcludability).[152] Invalidation of an asserted patent satisfies these elements, as benefits from invalidity for one defendant does not diminish enjoyment by others, and it is not possible to exclude a defendant from enjoying this benefit.

The likelihood that small defendants (parties without sufficient exposure to rationally warrant individually financing an IPR) will seek IPR of a patent asserted against them depends upon the size of the group of codefendants. Where the number of alleged infringers

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147. Peter Zura, *Employing Successful Strategies For Patent Litigation*, *in* RECENT TRENDS IN PATENT INFRINGEMENT LAWSUITS 73, 74 (2010 ed.).

148. *Cf.* Yasser El-Gamal et al., *supra* note 118, at 62 (noting that many "prior art references are rejected by the PTAB on redundancy and cumulative grounds").

149. Joseph Casino & Michael Kasdan, *Trends From 2 Years of AIA Post-Grant Proceedings*, LAW360.COM (Sept. 29, 2014, 10:06 AM), http://www.law360.com/articles/581512/trends-from-2-years-of-aia-post-grant-proceedings ("We have also heard it called tantamount to malpractice not to file an IPR in every case.").

150. *See* MANCUR OLSON, THE LOGIC OF COLLECTIVE ACTION 22, 33–34 (1965).

151. *See id.* at 34.

152. Broad. Music, Inc. v. Moor-Law, Inc., 527 F. Supp. 758, 763 (D. Del. 1981), *aff'd*, 691 F.2d 490 (3d Cir. 1982), and *aff'd sub nom.* Appeal of Moor-Law, Inc., 691 F.2d 491 (3d Cir. 1982); H. Spencer Banzhaf, *The Market for Local Public Goods*, 64 CASE W. RES. L. REV. 1441, 1445 (2014).

is so great that one defendant's financial support of an IPR (or a lack thereof) will not be noticed by the group, a rationally behaving group will not seek IPR.[153] This inactivity is due to the problem of freeriding defendants who recognize, regardless of whether they contribute to the IPR, they will enjoy the gains from the patent's invalidation.[154] With each defendant rationally behaving in this manner, no one will pay their share of the cost to file an IPR.

The literature further states that in a group of small defendants, where one party's failure to pay their share *will* be noticed, whether the public good (e.g., IPR) will be pursued is indeterminate.[155] Should a party choose not to pay and attempt to freeride, the cost for other parties will noticeably go up and they may cease to pursue the public good.[156] Recognizing that this chain of events would leave the defendant without the benefit of IPR, he might decide to not freeride and pay his share.[157] Economic modeling cannot predict how this defendant will behave.[158]

In summation, where no single defendant has sufficient exposure to warrant individually financing an IPR, a group of defendants will either not seek IPR or it is indeterminate whether they will do so. This has significant effects regarding how a patent plaintiff expects a case to proceed and thus will influence the business choices made by IAEs.

When suing a group of small defendants, a patent plaintiff recognizes—for the reasons stated above—there is no certainty that an IPR will be filed. The plaintiff's expected timeline and litigation budget will reflect this. Since defendants cannot seek IPR more than a year after filing of the suit,[159] a plaintiff may be surprised to face a possible IPR and an associated stay of litigation after one year. Thus, IAE threats against a plaintiff suing small defendants imposes partially unforeseen costs and delays on the plaintiff. The potential realization of these somewhat unexpected harms may disrupt the time and cost of the litigation, and the plaintiff is incentivized to settle to avoid these inconveniences.

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153. *See* OLSON, *supra* note 150, at 22, 33–34.

154. E. Christi Cunningham, *Identity Markets*, 45 HOW. L.J. 491, 583 (2002) ("The freerider problem describes the unwillingness of individuals, left to their own devices, to contribute to the creation of public goods because everyone benefits whether she contributes or not.").

155. *See* OLSON, *supra* note 150, at 43–44.

156. *See id.*

157. *See id.*

158. *See id.*

159. MCM Portfolio LLC v. Hewlett-Packard Co., 812 F.3d 1284, 1287 (Fed. Cir. 2015). In addition, "[a]n inter partes review may not be instituted if, before the date on which the petition for such a review is filed, the petitioner or real party in interest filed a civil action challenging the validity of a claim of the patent." 35 U.S.C. § 315(a) (2012).

Similarly, since it is uncertain that small-defendant groups will file an IPR, an IAE may file the first petition against an asserted patent. This has several benefits. The first-filed petition cannot be joined with (and the impact of it weakened by) previously filed challenges.[160] The IAE, furthermore, has the full gamut of prior art to choose from in crafting an optimal petition. The petition's strength (and thus threat) is not reduced by the possibility of overlap with earlier IPR arguments.[161]

For these reasons, an infringement plaintiff has elevated incentives to avoid IPR of a patent asserted against multiple small defendants. A rationally behaving IAE will, therefore, choose to target such patents to secure a settlement, all other things being equal.

5. Lawsuits Filed by Repeat Plaintiffs

The IAE business model depends on the ability to secure settlements in exchange for not attempting to invalidate a target patent. The patent owner's willingness to settle is a function of reputation effects arising from the IAE's past endeavors.[162] The benefits of a threatening repute can, of course, only be enjoyed against parties who are subjectively aware of the reputation.[163] This truism informs decision making conducted by rational IAEs.

Continuously targeting repeat infringement plaintiffs ensures that the patent holder is personally aware of the IAE's reputation, which may be leveraged into a settlement. This assumes, as discussed previously, that the IAE has followed through on past threats and created a strong reputation.[164]

Similarly, an IAE will rationally prefer to target parties represented by law firms that represent repeat litigants. An attorney's subjective knowledge of a threatening reputation can likewise inform the decision on whether to yield to an IAE's demands. With this in mind, profit-driven IAEs should prefer to target patents asserted by repeat litigants and their counsel.

Having outlined the expected business choices of rationally behaving IAEs, this discussion now evaluates what these

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160. 37 C.F.R. § 42.122(b) (2016) ("Joinder may be requested by a patent owner or petitioner. Any request for joinder must be filed, as a motion under § 42.22, no later than one month after the institution date of any *inter partes* review for which joinder is requested.").

161. *See* Microsoft Corp. v. SurfCast, Inc., No. IRP2013-00292, 2013 WL 8595977, at *25 (P.T.A.B. Nov. 19, 2013) ("[A]ll other grounds raised in Microsoft's petitions are *denied* because they are redundant in light of the grounds on the basis of which an *inter partes* review is being instituted[.]"); Yasser El-Gamal et al., *supra* note 118, at 59 (noting "the need to present only the best, non-redundant arguments and prior art references in IPR petitions").

162. YEH, *supra* note 112, at 13.

163. *Id.*

164. *See supra* Subpart II.A.

expectations mean in the real world. The Article concludes that, by behaving in a profit-driven manner, IAEs unintentionally discourage patent troll activity.

III. PATENT TROLLS & THE INFLUENCE OF IAEs ON TROLL LITIGATION

Rent seeking and abusive litigation are primary concerns in modern patent law.[165] Chief among the purported instigators of these ills is the patent troll,[166] a business whose primary goal is extracting funds from parties that allegedly infringe their patents.[167] These entities do not produce goods utilizing the asserted patents.[168]

This Part begins by introducing patent trolls and their role in the patent landscape. The discussion continues by describing why IAEs will rationally target patents held by patent trolls and how this disincentivizes troll activities. This Part closes by discussing why IAEs will not rationally pursue other potential strategies, which would reduce their emphasis on targeting trolls.

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165. Overstock.com, Inc. v. Furnace Brook, LLC, 420 F. Supp. 2d 1217, 1223 (D. Utah 2005), *aff'd*, 191 F. App'x 959 (Fed. Cir. 2006) ("Members of Congress, for example, have expressed their concerns regarding patent trolls when introducing patent reform legislation."); Grace Heinecke, Note, *Pay the Troll Toll: The Patent Troll Model Is Fundamentally at Odds with the Patent System's Goals of Innovation and Competition*, 84 FORDHAM L. REV. 1153, 1173 (2015); Thomas H. Kramer, Note, *Proposed Legislative Solutions to the Non-Practicing Entity Patent Assertion Problem: The Risks for Biotechnology and Pharmaceuticals*, 39 DEL. J. CORP. L. 467, 469 (2014); Jared A. Smith & Nicholas R. Transier, Note, *Trolling for an NPE Solution*, 7 HASTINGS SCI. & TECH. L.J. 215, 216 (2015); Gene Sperling, *Taking on Patent Trolls to Protect American Innovation*, WHITE HOUSE BLOG (June 4, 2013, 1:55 PM), https://www.whitehouse.gov/blog/2013/06/04/taking-patent-trolls-protect-american-innovation; Press Release, White House Office of Commc'n, Fact Sheet: White House Task Force on High-Tech Patent Issues (June 4, 2013), https://www.whitehouse.gov/the-press-office/2013/06/04/fact-sheet-white-house-task-force-high-tech-patent-issues.

166. Eric Rogers & Young Jeon, *Inhibiting Patent Trolling: A New Approach for Applying Rule 11*, 12 NW. J. TECH. & INTELL. PROP. 291, 296 (2014). The author recognizes that there is some discussion about whether patent trolls are necessarily a bad thing. *See* Samuel F. Ernst, *Introduction to the 2015* Chapman Law Review *Symposium: Trolls or Toll-Takers: Do Intellectual Property Non-Practicing Entities Add Value to Society?*, 18 CHAP. L. REV. 611, 611–13 (2015). For purposes of this Article, the author accepts the majority viewpoint, namely that patent trolls are a social ill and disincentivizing their activity is a good thing. *See* Marc Morgan, Comment, *Stop Looking Under the Bridge for Imaginary Creatures: A Comment Examining Who Really Deserves the Title Patent Troll*, 17 FED. CIR. B.J. 165, 165–66 (2008).

167. Mark A. Lemley & A. Douglas Melamed, *Missing the Forest for the Trolls*, 113 COLUM. L. REV. 2117, 2118 (2013).

168. Jason Rantanen, *Slaying the Troll: Litigation As an Effective Strategy Against Patent Threats*, 23 SANTA CLARA COMPUTER & HIGH TECH. L.J. 159, 167–68 (2006).

A. *The Patent Troll Business Model*

Patent owners whose primary source of income is collecting money from purported infringers of their patents go by many names: patent assertion entities, nonpracticing entities, patent monetization entities, or the common name, patent trolls.[169] While specific definitions of these terms vary, the shared attribute among them is that each utilizes a patent licensing model to make money through direct patent licensing or infringement litigation.[170] For ease of presentation, this Article uses "patent troll" (or "troll") as shorthand for this group of business models.

Though the practices of individual patent trolls vary, the generalized business model begins by obtaining patents arguably practiced by working businesses.[171] Once the patents are purchased, demand letters offering to sell a license to the patents are sent to anyone who arguably uses the claimed technology.[172] The patent troll will then file an infringement lawsuit against some subset of those receiving demand letters and aggressively seek to settle before trial.[173]

It is notable that the literature recognizes several variations on this theme, some of which deviate from the above generalization.[174] One subgroup targets a small number of very large alleged infringers, hoping that their patent will be deemed valid and infringed, leading to a single large payday.[175] A second type, "bottom-feeder trolls," targets a very large number of purported infringers, with hopes of obtaining a settlement below the targets' cost to defend the allegations in court.[176] The patent's validity is not

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169. Christopher A. Cotropia et al., *Unpacking Patent Assertion Entities (PAEs)*, 99 MINN. L. Rev. 649, 650 (2015).

170. Kristen Osenga, *Formerly Manufacturing Entities: Piercing the "Patent Troll" Rhetoric*, 47 CONN. L. REV. 435, 445 (2014); *see also* David Orozco, *Administrative Patent Levers*, 117 PENN ST. L. REV. 1, 10 (2012) (discussing generally the patent troll business model); Robert E. Thomas, *Vanquishing Copyright Pirates and Patent Trolls: The Divergent Evolution of Copyright and Patent Laws*, 43 AM. BUS. L.J. 689, 692 (2006).

171. John Rigby & Jennifer Hayden, *Are IPR and Open Innovation Good for Each Other: Surely an Open and Shut Case?*, *in* INNOVATION POLICY CHALLENGES FOR THE 21ST CENTURY 89, 98 (Deborah Cox & John Rigby eds., 2013).

172. Colleen V. Chien, *Of Trolls, Davids, Goliaths, and Kings: Narratives and Evidence in the Litigation of High-Tech Patents*, 87 N.C. L. REV. 1571, 1579 & n.36 (2009); James E. Bessen & Brian J. Love, Opinion, *Tax the Patent Trolls*, USA TODAY (July 24, 2013, 12:03 PM), http://www.usatoday.com/story/opinion/2013/07/24/tax-patent-trolls-lawsuits-column/2578675/.

173. Chien, *supra* note 172, at 1579 & n.36.

174. Lemley & Melamed, *supra* note 167, at 2120 ("We see at least three different troll business models developing . . . .").

175. *Id.* at 2126.

176. David L. Schwartz, *On Mass Patent Aggregators*, 114 COLUM. L. REV. SIDEBAR 51, 54 (2014); Bryan J. Cannon, Comment, *The Travesty of Patent Opinion Use: Advancing the AIA to Fix the Misguided Patent Infringement*

important to bottom feeders, as they hope to settle prior to a validity challenge.[177] Patent aggregators are the third variation; they amass huge numbers of patents in a technological area and offer licenses to use the entire group.[178]

Trolls now own a large number of the most litigated patents[179] and file most of the infringement lawsuits in the United States.[180] The significant majority of these cases end in settlement, commonly priced below the defendant's expected cost of litigation (per the "bottom feeder" troll's modus operandi).[181] When patent trolls go to trial, they usually lose,[182] with one study finding that they win 9.2% of cases that reach a decision on the merits (including default judgments).[183] The expense of pursuing a likely losing trial is, however, a necessary one. A willingness to go to trial furthers a troll's future bargaining power by establishing a reputation of forcing defendants to incur the expense of a full trial should they prove recalcitrant.[184]

Critics of this business model allege that it is a "tax on innovation," which undermines patent law's goal of encouraging invention.[185] Several studies argue that the prospect of troll

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Enhanced Damages Framework, 22 GEO. MASON L. REV. 439, 441 & nn.10–12 (2015).

177. Lemley & Melamed, *supra* note 167, at 2128.

178. FED. TRADE COMM'N, THE EVOLVING IP MARKETPLACE: ALIGNING PATENT NOTICE AND REMEDIES WITH COMPETITION 65–66 (2011), https://www.ftc.gov/sites/default/files/documents/reports/evolving-ip-marketplace-aligning-patent-notice-and-remedies-competition-report-federal-trade/110307patentreport.pdf; Daniel Papst, *NPEs and Patent Aggregators—New, Complementary Business Models for Modern IP Markets*, 48 LES NOUVELLES 94, 97 (2013).

179. Stijepko Tokic, *The Role of Consumers in Deterring Settlement Agreements Based on Invalid Patents: The Case of Non-Practicing Entities*, 2012 STAN. TECH. L. REV. 2, 2. One study found that, within a group of highly litigated patents, patent trolls settle 89.6% of their cases before a judgment on the merits. John R. Allison et al., *Patent Quality and Settlement Among Repeat Patent Litigants*, 99 GEO. L.J. 677, 694 (2011).

180. Gaia Bernstein, *The Rise of the End User in Patent Litigation*, 55 B.C. L. REV. 1443, 1455 (2014) (citing Colleen V. Chien, Assistant Professor of Law, Santa Clara Univ., Presentation at FTC/DOJ Workshop on PAEs, Patent Assertion Entities 23 (Dec. 10, 2012), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2187314); Bessen & Love, *supra* note 172.

181. YEH, *supra* note 112, at 1.

182. Hovenkamp, *supra* note 120, at 2–3; Lemley & Melamed, *supra* note 167, at 2120.

183. Allison et al., *supra* note 179, at 693.

184. YEH, *supra* note 112, at 13. This is similar to the above discussion of IAEs and reputation effects. *See supra* Subpart II.A.

185. YEH, *supra* note 112, at 6; Thomas, *supra* note 170, at 689; Tokic, *supra* note 179, at 6. One study recently found that patent troll litigation costs businesses "$29 billion in out-of-pocket expenses in 2011 alone." Bessen & Love, *supra* note 172 (citation omitted). Another "recent academic study calculates that trolls cost society approximately $30 billion per year and have cost a total of $500 billion over the past twenty years." Lemley & Melamed,

litigation encourages corporations to rationally divert funds from research and development activities.[186] Other commenters note that venture capitalists shy away from investments because of troll entanglements, including one study that estimated $21.7 billion more would be invested were it not for trolls.[187] Similarly, a survey of 200 venture capitalists found that every participant "might refrain from investing" in a company with a patent asserted against it.[188]

With the above discussion of the patent troll business model and its criticisms in mind, the following subsections address the intersection between IAEs and patent trolls. The analysis concludes that rationally behaving IAEs will disincentivize troll activity as a side effect of their business practices.

B. IAEs Are Incentivized to Target Patent Trolls

This Subpart of the Article presents attributes of patent trolls and describes how these qualities influence IAE decisions on who to target in their rent-seeking activities. The analysis concludes that, based on properties of patent trolls, IAEs will disproportionately target patents asserted by these actors. To the extent a particular attribute is associated with a respective variant of the patent troll business model, that issue will be discussed.

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supra note 167, at 2119 (footnote omitted) (citing Bessen & Meurer, *supra* note 90, at 389; James Bessen et al., *The Private and Social Costs of Patent Trolls* 17 (Bos. Univ. Sch. of Law, Working Paper No. 11-45, 2011), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1930272).

Of course, patent trolls are not without their supporters, who argue that their business model promotes innovation by creating financial incentives for small businesses and inventors, creating liquidity for inventions, and distributing some of the risk that would otherwise by placed on the inventor. YEH, *supra* note 112, at 6 (citing Nathan Myhrvold, *The Big Idea: Funding Eureka!*, HARV. BUS. REV. (Mar. 2010), https://hbr.org/2010/03/the-big-idea-funding-eureka); Giordana Mahn, Comment, *Keeping Trolls Out of Courts and Out of Pocket: Expanding the Inequitable Conduct Doctrine*, 45 LOY. UNIV. CHI. L.J. 1245, 1265–67 (2014).

186. YEH, *supra* note 112, at 7; Mahn, *supra* note 185, at 1271.

187. Michael C. Mims, *Don't Bake—Litigate! A Practitioner's Guide on How Walter White Should Have Protected His Interests in Gray Matter, and His Litigation Options for Building an "Empire Business" Through the Courts, Not the Cartel*, 45 N.M. L. REV. 673, 699–700 (2015) (citing Catherine Tucker, *The Effect Of Patent Litigation And Patent Assertion Entities On Entrepreneurial Activity* 36 (2014), http://cdn.arstechnica.net/wp-content/uploads/2014/06/Tucker-Report-5.16.14.pdf).

188. *Id.* at 700 (quoting Robin Feldman, *Patent Demands & Startup Companies: The View from the Venture Capital Community*, 16 YALE J.L. & TECH. 236, 243 (2014)).

1. Assertion of Weak Patents

A common criticism of patent trolls is that they assert weak patents,[189] which are likely to be invalidated if fully litigated.[190] Consistent with the balance of this Article, a "weak" patent is defined as one that is apt to be invalidated on innovation-based grounds (i.e., a ground that could be raised during an IPR).[191] The propensity to assert weak patents makes trolls an attractive target for IAEs.

While weak patents add little to the fields of innovation or economic welfare,[192] allegations of infringement of these patents maintain significant value to a troll.[193] Due to the high cost of patent cases, inherent uncertainty of litigation, potential for large damage awards, and availability of injunctive relief, infringement defendants may rationally choose to settle an infringement claim, even if the patent is likely invalid.[194] In turn, this choice by defendants encourages the continued assertion of weak patents, even if they may be invalidated at trial or during an IPR. The empirical literature supports the belief that trolls assert weak patents.

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189. Chien, *supra* note 172, at 1580; Lemley & Melamed, *supra* note 167, at 2128 ("[S]ome critics say, the problem with the patent system is trolls asserting too many patents and, in particular, too many weak patents."); Mitch Kline, Comment, *The Parable of the Non-Planting Entity and the Apple Tree: Understanding the Role of Non-Practicing Entities*, 3 CASE W. RES. J.L. TECH. & INTERNET 405, 405 (2012).

190. Joseph Farrell & Carl Shapiro, *How Strong Are Weak Patents?*, 98 AM. ECON. REV. 1347, 1347 (2008); Anup Malani & Jonathan S. Masur, *Raising the Stakes in Patent Cases*, 101 GEO. L.J. 637, 677 (2013).

191. Gladney, *supra* note 133, at 84 ("The real difficulty is created by weak patents, whose inventors claim something that fails the obviousness test—"not obvious to someone versed in the state of the art"—or something that is not even new . . . ."); Hanish, *supra* note 133, at 179 ("Most of [patent troll's] asserted patents are weak, subject to attack on the grounds of anticipation or obviousness in view of prior art or invalidating prior uses."). This is a slightly narrower definition of "weak" than some academics may proffer, though it has no influence on the present discussion. *See* 35 U.S.C § 311(b) (2012); Werno, *supra* note 133, at 204 n.33 ("One law professor describes a weak patent as one that '(i) is likely to be found or held invalid; or (ii) even if valid, its claims are so narrow that they are not likely to encompass many potentially competing products.'" (quoting Glynn S. Lunney, Jr., FTC v. Actavis*: The Patent-Antitrust Intersection Revisited* (Tulane Univ. Sch. of Law Pub. Law and Legal Theory Working Paper Series, Working Paper No. 13-19, 2013))). Restated, a weak patent should probably not have been issued because it was anticipated or made obvious by the prior art. *See* 35 U.S.C. §§ 102, 103.

192. Schuster, *supra* note 8, at 280–81.

193. Robert G. Harris, *Patent Assertion Entities & Privateers: Economic Harms to Innovation and Competition*, 59 ANTITRUST BULL. 281, 295 n.39 (2014).

194. Brad A. Greenberg, *Copyright Trolls and Presumptively Fair Uses*, 85 U. COLO. L. REV. 53, 79 (2014); Harris, *supra* note 193, at 284–85.

A study by Shawn Miller found troll-owned patents were more likely to be invalidated during litigation than their peers.[195] Miller analyzed validity determinations of 980 patents, finding that troll patents were at least partially invalidated 61% of the time on obviousness or anticipation grounds, as opposed to 37% for patents generally.[196] These are the same invalidity grounds that can be raised during an IPR.[197] Patent troll ownership was the only attribute determined to be predictive of invalidity rates.[198]

Other studies have found that troll-owned patents are more likely than the balance of patents to be found invalid.[199] The Miller study was, however, the only one to have sufficient data on invalidation specific to obviousness and anticipation, which are relevant to IPR.[200]

To maximize profits, IAEs are incentivized to target parties asserting weak patents because invalidation equals the end of their infringement case, which the plaintiff wants to avoid.[201] Patent trolls are known to assert weak patents, relative to other parties.[202] IAEs will therefore prefer to target patent trolls, as compared to the balance of patent owners.

2. *Repeated Filing of Infringement Lawsuits*

The business model employed by patent trolls is premised on monetization of their intellectual property rights through litigation

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195. Shawn P. Miller, *Where's the Innovation: An Analysis of the Quantity and Qualities of Anticipated and Obvious Patents*, 18 VA. J.L. & TECH. 1, 49 (2013) ("I found that regardless of technology, licensing firm-owned patents are more likely to be invalidated on innovation-based grounds."). Dr. Miller used the term "licensing firm" to describe NPEs that are "in the business of generating revenue from the patents they own." *Id.* at 30. Miller intentionally narrowly defined which companies were "licensing firms," opting in the negative for close calls. *Id.* Thus, the attributes of Miller's "licensing firms" are the same as the "patent trolls" discussed herein, even if his data set excludes some parties that would generally be considered patent trolls.

196. *Id.* at 6–7, 22.

197. Conair Corp. v. Tre Milano, LLC, No. 3:14–cv–1554(AWT), 2015 WL 4041724, at *1 (D. Conn. July 1, 2015) ("A petitioner may challenge the validity of a patent claim in an inter partes review petition 'only on a ground that could be raised under section 102 [(i.e., anticipation)] or 103 [(i.e., obviousness)] . . . .'" (alteration in original) (quoting 35 U.S.C. § 311(b)).

198. Miller, *supra* note 195, at 44 (2013) ("Licensing firm is the only significant ownership predictor that a patent is invalidated.").

199. *See, e.g.*, Michael Risch, *A Generation of Patent Litigation*, 52 SAN DIEGO L. REV. 67, 69 (2015).

200. *See, e.g.*, *id.* at 69–71 (studying invalidation generally, including all types of invalidation). Risch did briefly address the reasons for invalidation, though he noted that "[t]he numbers are too small to reach any definitive conclusions." *Id.* at 113.

201. *See supra* Subpart II.B.1.

202. Miller, *supra* note 195, at 49–50.

or the threat thereof.[203] They are therefore repeat litigants by definition. IAEs will rationally target repeat players because recurring interactions with these plaintiffs reinforce the IAE's reputation for prosecuting IPRs, making profitable settlement more likely.[204]

The literature supports the conclusion that patent trolls are repeat litigants. One study found that, since 1985, 560 distinct trolls have each filed an average of more than ten cases targeting approximately four parties per case.[205] Another source noted that trolls were the ten most prodigious filers of infringement lawsuits in 2013[206] and 2014.[207]

Due to the litigation-dependent nature of patent trolls, IAEs have the ability to repeatedly interact therewith by targeting them each time a new patent is asserted. Assuming the IAE has been diligent about fully prosecuting threatened IPRs, the repeated interplay between the parties favors compliance with the IAE's demands, because the target knows firsthand that the IAE presents an actual threat. They are thus encouraged to comply with the IAE's demands, making them a preferred target.

3. Lawsuits Against Small Defendants

In recent years, small businesses have become a primary target for patent trolls.[208] These parties include mom-and-pop retailers, startup companies, and downstream purchasers of allegedly

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203. Chien, *supra* note 172, at 1579; Robin M. Davis, Note, *Failed Attempts to Dwarf the Patent Trolls: Permanent Injunctions in Patent Infringement Cases Under the Proposed Patent Reform Act of 2005 and* Ebay v. Mercexchange, 17 CORNELL J.L. & PUB. POL'Y 431, 438 (2008).

204. This, of course, assumes that the IAE has made good on prior threats to file and fully prosecute an IPR. *See supra* Subparts II.A & II.B.5.

205. Jaconda Wagner, *Patent Trolls and the High Cost of Litigation to Business and Start-Ups – A Myth?*, MD. B.J., Sept./Oct. 2012, at 12, 16 (discussing the results of a study conducted by Patent Freedom, a membership organization of companies that share information about nonpracticing entities, and noting that "NPEs have litigated . . . about 5,700 actions for more than 22,000 events").

206. OWEN BYRD & BRIAN HOWARD, LEX MACHINA, 2013 PATENT LITIGATION YEAR IN REVIEW 8 (2014), http://www.law.berkeley.edu/files/2013_Patent_Litigation_Year_in_Review_Full_Report_%28MLex_Machina%29.pdf ("All top 10 plaintiffs are patent monetization entities (PMEs).").

207. BRIAN C. HOWARD, LEX MACHINA, 2014 PATENT LITIGATION YEAR IN REVIEW 18 (2015), http://pages.lexmachina.com/rs/lexmachina/images/2014%20Patent%20Litigation%20Report.pdf.

208. EXEC. OFFICE OF THE PRESIDENT, PATENT ASSERTION AND INNOVATION 10 (2013), https://www.whitehouse.gov/sites/default/files/docs/patent_report.pdf ("[T]he majority of PAE suits target small and inventor-driven companies."); Cheryl Milone, *Stopping Abusive Patent Litigants, Not Innovation: Judicial Tools That Do No Harm*, FED. LAW., Oct./Nov. 2013, 38, 44.

infringing products manufactured by other entities.[209] Small companies cannot afford to defend a patent lawsuit, and as such, are easy targets from which to extract settlements below the cost of litigation.[210] While this state of affairs is beneficial to trolls, it comes with a drawback; targeting groups of small defendants in patent litigation encourages IAE activity.

As discussed in Section II.B.4, it is not guaranteed that a group of small defendants will seek IPR where no single entity has sufficient exposure to warrant individually financing a validity challenge. Patent plaintiffs are cognizant of this fact, and will discount the likelihood of IPR and associated problems or costs. That state of affairs incentivizes IAE activity, as they hope to secure a settlement from a plaintiff who hopes to avoid disruption of the status quo.[211] This presents an incentive for profit-driven IAEs to rationally prefer to target patent trolls.

4. Available Stays Pending Review

Courts are willing to issue a stay pending IPR where the litigants are not direct competitors,[212] as is the case for patent trolls (who do not have traditional market competitors) and the parties they sue.[213] The possibility of a stay pending IPR pressures patent litigants—who want to avoid delays—to settle with an IAE and avoid the filing of a petition.[214] IAEs will thus rationally prefer to target patent trolls.

It is notable that, while rulings are not completely uniform, courts have been willing to stay litigation pending an IPR filed by a third party, such as an IAE.[215] Should the infringement

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209. Colleen Chien, *Startups and Patent Trolls*, 17 STAN. TECH. L. REV. 461, 471 (2014) ("In a companion survey, I asked VCs and startups if they had been impacted by a patent demand from a non-practicing entity. Among all VCs that responded (N=114), 75% responded that NPEs had made demands of their portfolio, close to the number others have reported."); Tagliente, *supra* note 3, at 320–21.

210. Zura, *supra* note 147, at 74; Tammy W. Cowart et al., *Two Methodologies for Predicting Patent Litigation Outcomes: Logistic Regression Versus Classification Trees*, 51 AM. BUS. L.J. 843, 843 (2014) ("Patent litigation is expensive—very expensive.").

211. For a full description, see *supra* Subpart II.B.4.

212. *See* Neste Oil OYJ v. Dynamic Fuels, LLC, No. 12–1744–GMS, 2013 WL 3353984, at *3–4 (D. Del. July 2, 2013).

213. *See* Brixham Solutions Ltd. v. Juniper Networks, Inc., No. 13–cv–00616–JCS, 2014 WL 1677991, at *2 (N.D. Cal. Apr. 28, 2014).

214. *See supra* Subpart II.B.3.

215. PersonalWeb Techs., LLC v. Apple Inc., 69 F. Supp. 3d 1022, 1024 (N.D. Cal. 2014) (considering outstanding third-party IPRs when granting a stay); Pi-Net Int'l, Inc. v. Hertz Corp., No. CV 12–10012 PSG (JEMx), 2013 WL 7158011, at *1 (C.D. Cal. June 5, 2013). *But see* Endotach LLC v. Cook Med. Inc., No. 1:13–cv–01135–LJM–DKL, 2014 WL 852831, at *1 (S.D. Ind. Mar. 5, 2014) (denying motion to stay litigation pending an IPR filed by a third-party).

defendants—who would be seeking the stay—want to increase the likelihood of a stay, they might offer to be bound by the same prior art estoppel provisions as the third-party IPR petitioner.[216] Similarly, a court might grant a stay pending IPR, so long as defendants acquiesce to being bound by the IPR estoppel provisions.[217] With these possibilities at their disposal, defendants have a greater chance of obtaining a stay pending an IPR filed by an IAE, which pressures the patent troll plaintiff to avoid the filing of an IAE.

5. Valuable Lawsuits

In hopes of securing the largest possible settlement, an IAE will rationally target patents asserted in the most valuable lawsuits.[218] In calculating the value of an infringement case (and associated patent), the plaintiff's recovery—by settlement or judgment—is of primary importance. Troll lawsuits secure significant settlements and judgments, and therefore, the patents asserted in these suits are expected targets for IAEs.

This conclusion is supported by a recent study finding troll settlements to be more valuable than their counterparts,[219] with an average troll settlement at $1.6 million (as estimated by a second commenter).[220] Another researcher found, for the years 2005 to 2011, the mean settlement for a suit filed by a troll was even higher, coming in at $6.53 million (with a $1.76 million standard deviation).[221]

Similarly, a further study found the median damages awarded for a successful patent troll case is over $8.8 million (versus $5.35

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216. *See* VirtualAgility Inc. v. Salesforce.com, Inc., 759 F.3d 1307, 1311 n.2 (Fed. Cir. 2014); Intellectual Ventures II LLC v. Commerce Bancshares, Inc., No. 2:13–CV–04160–NKL, 2014 WL 2511308, at *3 (W.D. Mo. June 4, 2014); *cf.* e-Watch Inc. v. Avigilon Corp., No. H–13–0347, 2013 WL 6633936, at *3 (S.D. Tex. Dec. 17, 2013) (holding that imposing a more limited estoppel on the defendant is adequate to justify a stay).

217. PersonalWeb Techs., LLC v. Google Inc., No. 5:13–CV–01317–EJD, 2014 WL 4100743, at *5 (N.D. Cal. Aug. 20, 2014); Evolutionary Intelligence, LLC v. Millenial Media, Inc., No. 5:13–CV–04206–EJD, 2014 WL 2738501, at *4 (N.D. Cal. June 11, 2014); *cf.* Evolutionary Intelligence, LLC v. Sprint Nextel Corp., No. C–13–4513–RMW, 2014 WL 819277, at *6 (N.D. Cal. Feb. 28, 2014) (conditioning stay on defendant agreeing to a more limited form of estoppel).

218. *See supra* Subpart II.B.2.

219. Lemley & Melamed, *supra* note 167, at 2119–20 (Patent trolls "win both larger judgments and larger settlements than do 'practicing entities'").

220. RPX CORP., NPE LITIGATION: COSTS BY KEY EVENTS 2–4, 7 (2015), https://www.rpxcorp.com/wp-content/uploads/2014/12/Final-NPE-Litigation-Costs-by-Key-Events.pdf (evaluating damages for NPEs and using an NPE definition that was approximately coextensive with a general definition of "patent troll").

221. Bessen & Meurer, *supra* note 90, at 388, 394, 399 (using a definition of "NPE" that is similar to that which is understood to be a patent troll). The median settlement for these lawsuits was found to be $220,000. *Id.* at 399.

million for a practicing entity).[222] The disparity continues, though diminished, when considering the fact that the overall trial success rate for patent trolls is less than for nontrolls.[223] Specifically, the value of troll and nontroll infringement suits become $2.15 and $1.85 million, respectively.[224]

IAEs will attempt to maximize their net settlement when choosing what patents to target. Premised on the above, IAEs will prefer to target patent troll cases, as their expected values are higher than the balance of infringement lawsuits, which presumptively leads to greater incentives to settle with IAEs for larger amounts.

C. Disincentivizing the Patent Troll Business Model

The existence of IAEs creates a series of additional costs and income reductions for patent trolls, as discussed below. These losses diminish the financial incentive to enter into, or continue business in, the patent monetization market. Further, contingent fee attorneys are less likely to work for trolls or, at minimum, will be more selective in choosing their cases in light of the reduced profit margin. Such issues undermine the continued growth of the troll business model. This Subpart concludes by describing why IAEs *will not* pursue other potential courses of action, which would dilute the incentives to, relatively, over target patent trolls.

1. Increased Costs

Per basic economic theory, IAEs will continue to enter the market to attack patents until an equilibrium exists whereby the cost of IAE activity exceeds the expected return.[225] Each of these IAEs inflict some harm on trolls, be it through the cost of analyzing and addressing demand letters, the expense of paying settlements, IPR legal fees, and/or the invalidation of an asserted patent. These newfound costs discourage engaging in the troll business model.

This recognition is not a panacea for every ill associated with patent trolls; additional expenses will not deter *all* such activity.[226] For instance, trolls that hold a particularly valuable patent can rationally expect to show a profit even after paying the costs

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222. CHRIS BARRY ET AL., PRICEWATERHOUSECOOPERS LLP, 2013 PATENT LITIGATION STUDY: BIG CASES MAKE HEADLINES, WHILE PATENT CASES PROLIFERATE 25 chart 9b (2013), http://www.pwc.com/en_US/us/forensic-services/publications/assets/2013-patent-litigation-study.pdf (describing the average recoveries for NPEs and non-NPEs).

223. *Id.*

224. *Id.* (describing the average recoveries for NPEs and non-NPEs). These numbers are calculated by multiplying the median recovery and the likelihood of securing such a recovery.

225. N. GREGORY MANKIW, PRINCIPLES OF MICROECONOMICS 298–99, 302 (4th ed. 2006).

226. *Id.*

associated with IAEs. Others may, however, find that asserting likely invalid or less valuable patents is a losing endeavor because these patents will be invalidated by IAE attack or proven to be a bad investment after paying IAE-related expenses. These weaker cases will, therefore, not be brought because of increases in cost.

2. Decreased Income

The existence of IAEs creates additional problems by distorting the incentives for infringement defendants to settle cases brought by patent trolls. These distortions discourage settlement, which decreases troll income.

As discussed previously, many patent trolls engage in "bottom feeding"—suing large numbers of defendants and hoping to settle for a sum below the cost of litigation.[227] Targets of these lawsuits are commonly small companies, and the asserted patents are usually low quality (e.g., weak against invalidity challenges).[228] Empirical research suggests that a significant majority of troll activity falls into this category.[229] Subpart II.B discussed why these attributes make trolls likely targets for IAEs, and the following discusses why targeting by IAEs discourages infringement defendants from settling with patent trolls.

When sued by a bottom-feeder troll, the small defendant engages in a basic economic analysis.[230] In attempting to minimize costs and exposure, the entity will weigh the expense of litigating the suit—including attorney fees and a possible adverse judgment—versus the cost to settle.[231] The high price of defending a patent

227. See *supra* notes 176–77 and accompanying text.

228. Lemley & Melamed, *supra* note 167, at 2126 ("[Bottom-feeder trolls] do not want to go to trial and are thus not particularly interested in the quality of their patents or whether they are infringed."); Stephanie A. Diehl, Note, *Treating the Disease: A First Amendment Prescription for the U.S. Patent System*, 33 CARDOZO ARTS & ENT. L.J. 495, 504 (2015); Michael Hopkins, Note, *Starving the Troll: Using the Customer Suit Exception to Deter Abusive Patent Litigation*, 10 BROOK. J. CORP. FIN. & COM. L. 249, 252 (2015).

229. Lemley & Melamed, *supra* note 167, at 2126 (citing Colleen V. Chien, Assistant Professor of Law, Santa Clara Univ., Presentation at FTC/DOJ Workshop on PAEs, Patent Assertion Entities 69 (Dec. 10, 2012), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2187314).

230. Rhee, *supra* note 139, at 620 ("The cost-benefit analysis weighs settlement against the expected value of litigation net of transaction cost.").

231. Ranganath Sudarshan, *Nuisance-Value Patent Suits: An Economic Model and Proposal*, 25 SANTA CLARA COMPUTER & HIGH TECH. L.J. 159, 160 (2008) ("Faced with a pure business decision, most corporate legal departments opt for the 'nuisance' settlement, even when there are meritorious defenses."); *see also* Jiaqing "Jack" Lu, *The Economics and Controversies of Nonpracticing Entities (NPEs): How NPEs and Defensive Patent Aggregators Will Change the License Market Part 1*, 47 LES NOUVELLES 55, 58 (2012).

infringement lawsuit makes the decision to settle a simple one.[232]

The defendant's knowledge that an IAE may challenge the troll's weak patent complicates this analysis.[233] An IPR filed against a weak patent is likely to succeed in invalidation, which ends any associated litigation.[234] Patent invalidation thus allows the defendant to avoid paying a settlement *and* the cost of litigation.[235] This must be taken into consideration, and the choice to settle is no longer so easy.

The settlement calculus must now weigh the cost of litigation (attorney's fees) during some period and the likelihood that an IAE will challenge the asserted patent during that period. This economic analysis is easiest shown by example. Assume patent defendant Jones believes he can settle his case for $200,000, his monthly legal fees are $5000, and the expected chance that an IAE will file for IPR in the next month is 5%. Jones is certain that, due to how weak the plaintiff's patent is, an IPR would succeed.

At this point, Jones can pay the settlement or persevere for one more month for a 5% chance that an IAE will seek IPR, at the cost of $5000 in legal fees.[236] The expected value of the 5% chance is $10,000 (a 5% chance of avoiding a $200,000 settlement),[237] which exceeds the cost to enjoy that chance, namely one month's legal fees. Jones will refuse to settle at this time and should continue to periodically undertake this analysis, substituting in new values as appropriate.

This phenomenon has a twofold effect on the patent troll. Initially, a rational defendant will sometimes delay settlement because an IAE might file an IPR targeting the asserted patent. The patent troll then has the option to decrease its settlement demands or wait until the defendant's belief that an IPR will be filed is sufficiently low that it will rationally choose to settle. Neither is a

232. *See* W. Keith Robinson & David O. Taylor, *Recent Developments in Intellectual Property Law—A 2014 Retrospective*, 31 SANTA CLARA HIGH TECH. L.J. 527, 542 (2015).

233. *See generally supra* Subpart II.A (describing how and why IAEs want to cultivate a significant public reputation).

234. Aplix IP Holdings Corp. v. Sony Comput. Entm't, Inc., 137 F. Supp. 3d 3, 5 (D. Mass. 2015) (noting that invalidity via IPR renders any infringement claims associated with the invalidated patent moot).

235. Costs may further be reduced if a stay is granted during the pendency of the IPR. *See supra* Subpart III.B.4.

236. This calculation assumes that a stay is immediately granted upon filing of the IPR, which is incredibly unlikely, but does not change the basic analysis.

237. *See* Lachance v. Harrington, 965 F. Supp. 630, 643 (E.D. Pa. 1997) (engaging in an expected value calculation).

good choice, as patent trolls—who rely on settlements for income[238]—are forced to take less money now or delay its income.

The worst-case scenario for a patent troll is that a defendant chooses to postpone settlement in hopes that an IAE will challenge the patent, and the patent is indeed targeted in an IAE's petition. Should the patent be invalidated, the troll gets nothing. If IAEs did not exist, however, the defendant would have settled the case, instead of making the (ultimately successful) bet that the patent would be invalidated by an IAE.

Similar to the above discussion of patent troll cost increases associated with IAEs, this delay or denial of settlement funds is not dispositive on the viability of the patent troll business model. It will, however, force some would-be trolls to decide that a particular lawsuit is not economically viable and must not be filed.

3. Contingent Fee Attorneys

Beyond hindering the bottom line, the advent of IAEs undermines another important part of the patent troll business model: the contingent fee litigation attorney.[239] As costs escalate and settlements are whittled away by IAEs, the incentive for contingent fee attorneys to take on troll cases is diminished because the amount of work remains the same, while the likely reward (a percent of money collected) is reduced.[240]

This phenomenon will have two expected results. It will initially reduce the number of troll lawsuits filed. Contingent fee lawyers will shy away from mediocre cases that might once have been profitable but now are not due to IAE-associated costs.[241]

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238. This references "bottom-feeder" trolls, which as discussed above, are a large portion of patent trolls. *See supra* notes 176–77, 181 and accompanying text.

239. Paul B. Hunt, *The Importance of Recent Patent Law Decisions:* Bilski *and Beyond*, *in* THE IMPACT OF RECENT PATENT LAW CASES AND DEVELOPMENTS 7, 15 (2009 ed.) ("[P]atent trolls are frequently represented by attorneys on contingency fee basis . . . ."); Neal S. Vickery, Note, *Don't Forget About the Little Guys: Trolls, Startups, and Fee Shifting*, 13 COLO. TECH. L.J. 171, 179 (2015) ("Increasingly, patent trolls pay their legal counsel on a contingency fee basis.").

240. *See* Ted Sichelman & Stuart J.H. Graham, *Patenting by Entrepreneurs: An Empirical Study*, 17 MICH. TELECOMM. & TECH. L. REV. 111, 117 (2010) (stating that contingent fee attorneys "in patent litigation [are paid] a percentage of any damage or settlement award"); *cf* Joanna Shepherd, *Uncovering the Silent Victims of the American Medical Liability System*, 67 VAND. L. REV. 151, 171–72 (2014) ("Because the aforementioned tort reforms lower the damage awards that plaintiffs expect to receive in medical malpractice cases, contingent fee lawyers are less willing to accept such cases. And because the cost of trying cases remains the same as before tort reform but the damages–and, in turn, the contingent lawyer's expected recovery–decline, fewer cases will make economic sense for the lawyer to accept.").

241. *Cf.* Stephen Daniels & Joanne Martin, *The Texas Two-Step: Evidence on the Link Between Damage Caps and Access to the Civil Justice System*, 55 DEPAUL L. REV. 635, 645–46 (2006) (explaining how the really successful

Consequently, some subset of would-be trolls will never find counsel for their case, and the lawsuit will never be filed.

Further, and perhaps more importantly, the skill level of available contingency counsel will decline. In light of the decreasing remuneration from troll litigation, the best attorneys will avoid anything but sure winners and may choose to pursue nontroll endeavors.[242] This depletes the scope and average skill of attorneys for patent trolls, which inevitably decreases profits from a litigation-based business endeavor.[243]

In summary, IAEs disrupt the patent assertion business model in several ways. Initially and most obviously, litigation profits diminish when IAEs target patent trolls. Undermining the bottom line discourages troll activity and brings into question the economic sense of filing mediocre infringement lawsuits that may once have garnered a modest return. Defendants in troll cases may further rationally choose to delay (and if lucky, wholly avoid) settling their cases. This undermines the economic success, and in certain cases viability, of some patent trolls. Decreases in profitability likewise disincentivize contingent fee litigators from accepting troll cases and thus lower the quality of representation available. Each of these considerations discourages the patent assertion business model. While the existence of IAEs is unlikely to end patent troll litigation, these newfound hindrances will reduce the number of cases brought.

4. Other Possible IAE Strategies

The above discussion establishes that IAEs have reason to target patent trolls, and if these incentives are followed, trolling activity is discouraged. Should there be stronger financial reasons

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medical malpractice specialists are only interested in the very best cases); Patricia W. Hatamyar Moore, *The Civil Caseload of the Federal District Courts*, 2015 U. ILL. L. REV. 1177, 1212 (describing how this trend has occurred in the field of medical malpractice); Shepherd, *supra* note 240, at 172 ("[T]ort reforms that lower plaintiffs' expected awards reduce access to the civil justice system by making cases financially unattractive to plaintiffs' lawyers working on a contingent fee basis.").

242. *See* Royal Furgeson, *Civil Jury Trials R.I.P.? Can It Actually Happen in America?*, 40 SAINT MARY'S L.J. 795, 824 (2009) ("Cases sort themselves into a rough order of strength: The strongest cases go to the best lawyers, middling ones attract the not-so-greats, and the weakest end up with the pikers. The clients don't mind paying one-third because a 33.3 percentage assures that each gets the highest quality his or her individual case can attract."); Barry R. Furrow, *Pain Management and Provider Liability: No More Excuses*, 29 J.L. MED. & ETHICS 28, 42 (2001) ("[S]mall damage awards discourage contingent fee arrangements . . . ."); *cf.* Daniels & Martin, *supra* note 241, at 660–61 (describing how medical malpractice lawyers will "screen" cases and only take those with the best potential to succeed and win large damage rewards).

243. *Cf.* Daniels & Martin, *supra* note 241, at 660–61 (explaining the impact of reforms that decrease potential damage awards on scope and skill of attorneys in medical malpractice).

for IAEs to target *all* patent plaintiffs, they may not disproportionately attack trolls, and the possible social benefits (i.e., discouraging patent trolls) are lost. This Subpart describes why IAEs might target *any and all* patent plaintiffs and shows why this course of action *will not* be pursued.

Initially, IAEs could pursue a nuisance-value business model, whereby they target all patent plaintiffs and offer to settle for less than the cost of defending an IPR.[244] In this situation, the strength of the validity arguments are of little consequence; only the cost to defend against them is important.[245] If this business strategy were viable, there would be no reason to disproportionately challenge troll patents because *any* patent in litigation could be a valuable target. This seems like a potentially sustainable course of action, but for one issue.

As fully discussed in an earlier work, nuisance-value IAE activity is not viable because the patent owner can defeat weak invalidity assertions at the initiation stage.[246] If a petition, read in light of the patent owner's response, cannot convince the Patent Office that there is a reasonable likelihood of success, the petition will be denied and no IPR will occur.[247] This tremendously reduces the expense of defending against meritless allegations of patent invalidity, thus eliminating any profits to be had from obtaining nuisance settlements below the deflated cost of defending the patent.[248] Rational IAEs will not, therefore, pursue a nuisance-value strategy.[249]

A second set of incentives might lead IAEs to simply target any patent plaintiff that has obtained, but not collected, an infringement judgment. As discussed throughout this Article, a rational IAE will transmit a settlement offer that maximizes the pressure for a plaintiff to pay a lucrative settlement. Upon cursory review, it appears that pressure to settle would be at its zenith for an infringement plaintiff that has recently secured a large (currently unpaid) judgment that could be negated by an IPR finding the asserted patent to be invalid.[250] While an attack at this point is technically possible, as discussed below, timing issues preclude the IAE from presenting a legitimate threat to the patent plaintiff's verdict. Therefore, no rational patent owner will be disproportionately pressured by a demand letter sent immediately

244. This is similar to the bottom-feeder patent troll model. *See supra* Subpart III.A; *see also* Sudarshan, *supra* note 231, at 162–63.

245. Sudarshan, *supra* note 231, at 163–64.

246. *See* Schuster, *supra* note 8, at 283–85. Note that this assumes that the Patent Office is performing its duties faithfully. *Id.* at 284.

247. 35 U.S.C. § 314(a) (2012).

248. Schuster, *supra* note 8, at 284.

249. *See id.* at 284–85.

250. *See* Haggin, *supra* note 88.

after it secures a favorable judgment, and a reasonable IAE is unlikely to send a demand letter at this time.

A patent infringement verdict can be lost if the patent is invalidated before the judgment is finalized (i.e., before all appeals are exhausted),[251] which is exactly what happened in *Fresenius USA v. Baxter International*.[252] In that case, an infringement defendant was concurrently pursuing Reexamination (a precursor to IPR) of the patent-in-suit and appealing a $23.5 million infringement verdict.[253] While the litigation appeal was ongoing, the Patent Office cancelled the relevant claims of the patent via Reexamination,[254] and the Federal Circuit held that, premised on that cancellation, the nonfinal infringement verdict must fail.[255]

With this precedent in mind, it seems the optimal time to pressure a patent plaintiff to comply with an IAE's demands is immediately after a successful infringement verdict is obtained. However, a patent plaintiff can only lose a judgment if the patent is invalidated by IPR before the judgment is *finalized*, including the exhaustion of any litigation appeal.[256] As discussed below, it is unlikely that a patent can be invalidated through the entire IPR process before an infringement judgment is finalized, and an IAE demand letter sent post judgment is unlikely to pose a threat to the judgment.

An IAE theoretically has sufficient time to complete an IPR after a patent plaintiff secures an infringement judgment and before the Federal Circuit finalizes that decision.[257] For cases with opinions issued between August 2012 and July 2013, the Federal Circuit averaged 576 days from the trial court's decision to the Federal Circuit's decision.[258] A recent study found the average timeline for IPRs that proceeded to a final determination was 456 days.[259] It thus appears that, on average, an IAE has ample time to draft and prosecute an IPR before an infringement verdict is finalized on appeal. And it seems that IAEs can communicate

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251. Wayne A. Kalkwarf, *Stop in the Name of the PTO! A Review of the* Fresenius *Saga and PTO-Judicial Interplay*, 22 J. INTELL. PROP. L. 315, 322 (2015).

252. 721 F.3d 1330 (Fed. Cir. 2013).

253. *Id.* at 1333–34.

254. *Id.* at 1335.

255. *Id.* at 1340, 1346–47.

256. *See* Kalkwarf, *supra* note 251, at 322.

257. A significant majority of patent verdicts are appealed. CHRIS BARRY ET AL., PRICEWATERHOUSECOOPERS LLP, 2015 PATENT LITIGATION STUDY: A CHANGE IN PATENTEE FORTUNES 19 & fig.22 (2015), https://www.pwc.com/us/en/forensic-services/publications/assets/2015-pwc-patent-litigation-study.pdf.

258. THOMAS G. HUNGER & MICHAEL SITZMAN, GIBSON DUNN, FEDERAL CIRCUIT YEAR IN REVIEW 2012/2013, at 4, http://www.gibsondunn.com/publications/Documents/Federal-Circuit-2012-2013-Year-in-Review.pdf (last visited Nov. 18, 2016).

259. Love & Ambwani, *supra* note 37, at 99 & tbl.3.

demand letters to all successful patent plaintiffs and pose a threat that the verdict will be lost via IPR. This belief is mistaken.

A party that isn't satisfied with the results of an IPR can appeal to the Federal Circuit,[260] and an IPR will cancel claims only if "the time for appeal has expired or *any appeal has terminated.*"[261] A patentee does not lose a cause of action until the claim is actually cancelled.[262] If a patent plaintiff loses an IPR, it can appeal the decision to the Federal Circuit, which will allow ample time for completion of the appeal of its infringement verdict and finalization of the judgment. Accordingly, an IAE cannot present a real threat to invalidate a patent infringement verdict via an IPR filed post-verdict, and no rational patent plaintiff will feel additional pressure to pay an IAE to forego such an IPR.[263]

Therefore, similar to the idea of nuisance-value IAE activity, no rational IAE will pursue the post-verdict demand letter business model. Perhaps more importantly, neither the nuisance value nor post-judgment attack models can be expected to be widely employed, and thus, will not diminish the incentives to disproportionally target patent trolls.

CONCLUSION

This Article is not the final work on IAEs and whether their rent-seeking activities can prove to be socially beneficial. It does show, however, why profit-driven IAEs will rationally target patent trolls, which in turn discourages that business practice. As discussed herein, IAEs will challenge patents and patent owners with particular attributes that make securing a lucrative settlement more likely (e.g., the patent is involved in valuable litigation). Upon review of the patent troll business model, it is found that trolls exhibit these traits, and, thus, will be favorite targets for IAEs.

The effect of being targeted by IAEs is multifaceted for the patent troll. Costs are driven up and profits are reduced. Contingent fee attorneys, a favorite of patent trolls, will be discouraged from taking these cases in the face of diminishing returns. IAEs have thus (unexpectedly) furthered a much-discussed policy goal, namely, IAEs discourage patent troll activities by pursuing their rent-seeking business agenda.

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260. 35 U.S.C. § 319 (2012).

261. 35 U.S.C. § 318(b) (emphasis added).

262. Fresenius USA, Inc. v. Baxter Int'l, Inc., 721 F.3d 1330, 1340 (Fed. Cir. 2013).

263. It is, of course, possible that it will ultimately lose the patent to invalidation, but it is unlikely that the litigation judgment will be defeated.

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