

Balancing the Scales or Undercutting Quality Control? An Empirical Investigation of the Impact of Discretionary Denials on Invalidity Challenges

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ABSTRACT

*Since the enactment of the America Invents Act (AIA) in 2011, inter partes review (IPR) proceedings before the Patent Trial and Appeal Board (PTAB) have sparked vigorous debate. Designed as a cost-effective alternative to traditional district court litigation for challenging patent validity, the IPR process is seen by proponents as a tool to eliminate low-quality patents. Opponents, however, argue that it undermines inventor rights. This controversy has only intensified since the 2016 decision in *Cuozzo Speed Technologies, LLC v. Lee*, where the Supreme Court upheld the PTAB's broad discretion to deny IPR petitions—a practice known as “discretionary denials.” Those dissatisfied with the IPR process have typically welcomed discretionary denials, viewing the PTAB's use of them to dismiss potentially duplicative parallel proceedings as ameliorating the financial burden on patent owners and the perceived PTAB bias in favor of patent challengers. In contrast, those who support minimally restricted IPR practice view discretionary denials as contradicting congressional intent underlying the PTAB to strengthen the quality of enforced patents through cheaper and quicker administrative proceedings. This Article challenges the merits of these arguments through an empirical analysis of over 10,000 IPR proceedings filed from 2013 through 2021 that reached the institution stage. This Article focuses on discretionary denials and the ultimate invalidity verdicts on the patents at issue in these deferred petitions to find that discretionary denials are overwhelmingly used to avoid duplicative invalidity challenges when there are parallel disputes involving the same patents at either the PTAB or in the district courts. Further, the increased use of discretionary denials during the late 2010s did not affect the rate at which patents subject to IPR challenges ultimately have their validity tried in district courts or in other IPRs. This Article thus concludes that the emergence of discretionary denial did not weaken the effectiveness of IPR proceedings in eliminating those low-quality patents enforced by their owners. We explain, however, that the early second Trump Administration expansion of the practice to dismiss some IPRs even where there are no parallel proceedings is likely to weaken patent quality.*

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I.

INTRODUCTION

The 2011 America Invents Act (AIA) marks the most significant reform to U.S. patent law practice since 1952.¹ Regarding patent validity, the AIA sought to solve the problem of the overwhelmed U.S. Patent and Trademark Office (USPTO) frequently and mistakenly granting patents covering old or obvious ideas.² The AIA addressed this issue by creating several new post-grant procedures to challenge patent validity as well as a new venue for such challenges: the Patent Trial and Appeal Board (PTAB).³ Inter partes review (IPR) is undeniably the most popular—and debated—of these new validity-challenging proceedings.⁴ Although some argue the IPR process undermines inventors' rights, others insist it is a necessary mechanism to eliminate those low-quality patents that, if unchecked, would generate economically wasteful litigation. Today, and for nearly a decade, a central part of the IPR debate is the PTAB's broad discretion to deny IPR petitions—a practice known as “discretionary denials.”⁵ This power to eschew an invalidity trial, even where a PTAB panel believes the patent is more likely than not to cover old or obvious ideas, emerged following the Supreme Court's 2016 decision in *Cuozzo Speed Technologies, LLC v. Lee*.⁶ Discretionary denial practice became widely used under the inventor-friendly first Trump Administration, which implemented the application of the controversial *Fintiv* factors.⁷ It later ebbed after the Biden Administration enabled parties to agree to limit the scope of an IPR through so-called *Sotera* stipulations.⁸ Now, discretionary denial practice has returned even stronger and broader in scope during the second Trump Administration.⁹

1. Press Release, White House Off. Press Sec'y, President Obama Signs America Invents Act, Overhauling the Patent System to Stimulate Economic Growth, and Announces New Steps to Help Entrepreneurs Create Jobs (Sep. 16, 2011), <https://obamawhitehouse.archives.gov/the-press-office/2011/09/16/president-obama-signs-america-invents-act-overhauling-patent-system-stim> [https://perma.cc/FD4P-G94A].

2. See, e.g., Joe Matal, *A Guide to the Legislative History of the America Invents Act: Part II of II*, 21 FED. CIR. BAR J. 539, 600–05 (2011) (discussing congressional hearings prior to the AIA considering post-grant review proceedings to improve patent quality).

3. See CHRISTOPHER T. ZIRPOLI & KEVIN J. HICKEY, CONG. RSCH. SERV., R48016, THE PATENT TRIAL AND APPEAL BOARD AND INTER PARTES REVIEW 1 (2024), https://www.congress.gov/crs_external_products/R/PDF/R48016/R48016.4.pdf [https://perma.cc/232W-8G77]; Press Release, White House Off. Press Sec'y, *supra* note 1.

4. Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011). The other post-grant proceedings introduced by the AIA include IPR, post-grant review, and covered business method. *Id.* §§ 6, 18.

5. See 35 U.S.C. § 314(a). For further discussion on the interpretation of § 314(a) and the PTAB's discretionary denial power, see Joel D. Sayres & Reid E. Dodge, *Unfettered Discretion: A Closer Look at the Board's Discretion to Deny Institution*, 19 CHI.-KENT J. INTELL. PROP. 536 (2020).

6. See 579 U.S. 261 (2016).

7. See discussion *infra* Section II.C.

8. See discussion *infra* Section II.D.1.

9. See discussion *infra* Section VI.C.

Prior to *Cuozzo*, during the PTAB's first year of existence, it instituted IPRs on over 75 percent of petitions, finding most challenged claims unpatentable and leading critics to name it the patent "death squad[.]"¹⁰ By 2020, however, the IPR institution rate dropped to 56 percent,¹¹ perhaps due in part to the PTAB's increased use of discretionary denials post-*Cuozzo*. Those who believe the IPR process unfairly or inefficiently weakens patent rights tend to argue this drop is a good thing, ameliorating both the financial burden on owners to defend patents already granted by the USPTO and the perceived forum bias of the PTAB in favor of patent challengers.¹² In contrast, those who view IPR proceedings as a way of strengthening patent quality through cheaper and quicker administrative proceedings argue discretionary denial contradicts congressional intent to eliminate the many low-quality patents that were increasingly enforced successfully because of the high cost of litigating validity in a district court setting.¹³

Low-quality patents make it past USPTO examination proceedings despite having questionable validity¹⁴ for a variety of reasons that many scholars view as prohibitively expensive or difficult to correct. Given the dilemma of a system that grants many patents covering old or obvious ideas, one can and should view post-grant validity challenges as a "public good," with society benefiting from the elimination of higher consumer prices and barriers to using preexisting technology. The problem with cultivating the public good effect, however, is that traditional district court litigation is expensive, requiring individual defendants

10. Former Federal Circuit Chief Judge Randall Rader coined the nickname "death squad[]" for the PTAB in 2013. See Rob Sterne & Gene Quinn, *PTAB Death Squads: Are All Commercially Viable Patents Invalid?*, IPWATCHDOG (Mar. 24, 2014), <https://ipwatchdog.com/2014/03/24/ptab-death-squads-are-all-commercially-viable-patents-invalid/> [<https://perma.cc/5XWW-LLTQ>].

11. Tamara Fraizer & Steven Auvil, *Restoring Balance: Increased Discretionary Authority of the PTAB Favors Patentees*, GLOB. INTELL. PROP. & TECH. L. BLOG (Apr. 5, 2021), <https://www.iptechblog.com/2021/04/restoring-balance-increased-discretionary-authority-of-the-ptab-favors-patentees/> [<https://perma.cc/J6B7-QG9K>].

12. See Jason D. Eisenberg, *What Court Stipulations Persuade the PTAB in Petitioners' and Patent Owners' Favor on Discretionary Denial*, STERNE, KESSLER, GOLDSTEIN & FOX (July 30, 2021), <https://www.sternekeessler.com/news-insights/insights/what-court-stipulations-persuade-ptab-petitioners-and-patent-owners/> [<https://perma.cc/J47Y-AYQU>] (explaining patent owners favor discretionary denial as a means of avoiding institution).

13. See Patent Trial and Appeal Board Rules of Practice for Briefing Discretionary Denial Issues, and Rules for 325(d) Considerations, Instituting Parallel and Serial Petitions, and Termination Due to Settlement Agreement, 89 Fed. Reg. 28,693, 28,698 (Apr. 19, 2024) (to be codified at 37 C.F.R. pt. 42) ("The language and intent of the [IPR] statutes . . . support evaluating whether [discretionary denials] advance the mission and vision of the [USPTO] to promote innovation or the intent behind the AIA to provide a less-expensive alternative to district court litigation . . ."); see also ZIRPOLI & HICKEY, *supra* note 3, pmbl. ("Critics of PTAB argue that it is biased against patent holders, creates uncertainty in patent rights, and discourages investment in innovation. PTAB critics further maintain that IPR is unfair to patent holders, who have successfully obtained a patent before USPTO but must now again defend their patent's validity before the same agency.").

14. ZIRPOLI & HICKEY, *supra* note 3, pmbl. ("Congress's stated aim when creating IPR . . . was to improve patent quality by providing a more efficient means to adjudicate patent validity issues.").

to pay the cost of challenging validity through final judgment.¹⁵ Prior to the AIA, options beyond district court litigation for challenging patent validity were ineffective and thus rarely used.¹⁶ Thus, pre-AIA, many defendant technology users sued for patent infringement found it rational to settle rather than pay the seven-figure price of litigating validity through summary judgment or trial.¹⁷ Moreover, many undoubtedly did so even though the value to an industry or to society as a whole of testing validity in that lawsuit exceeded its own private costs. As a result, before the PTAB was created, the patent system faced a classic public goods problem: because private costs exceeded private but not social benefits, there were too few validity trials and too many persisting low-quality patents.

IPR proceedings ameliorate the public good problem by making it cheaper for individual defendants, or multiple technology users working together, to challenge the validity of low-quality patents, providing a net benefit to society by increasing the quality of the U.S. patent system.¹⁸ But as the use of discretionary denial practice increased, alarm bells began to ring. Supporters of robust IPR proceedings feared that the PTAB's increased use of discretionary denials during the first Trump Administration, which mandated the use of the *Fintiv* factors,¹⁹ would result in too many defendants being forced back to expensive district court proceedings, where, in many cases, it remains rational to settle rather than to litigate through a validity judgment.²⁰ Discretionary denial opponents predicted a severe reduction in the invalidation of low-quality patents.²¹ Even worse, however, might be the potential for the PTAB to discretionarily deny a petition filed early on in litigation, only for the PTAB to

15. See James Bessen & Michael J. Meurer, *The Private Costs of Patent Litigation*, 9 J.L. ECON. & POL'Y 59, 80–81 (2012) (finding mean fees in 1992 dollars for alleged infringers were \$570,000 in cases that proceeded to summary judgment and \$2.46 million in cases that went to trial).

16. Sasha Moss, Charles Duan & Joe Kane, *Inter Partes Review as a Means to Improve Patent Quality*, R. ST. (Sep. 25, 2017), <https://www.rstreet.org/research/inter-partes-review-as-a-means-to-improve-patent-quality/> [https://perma.cc/98Z5-845T]; see also Ethan Horwitz, *An Inexpensive Alternative to Patent Litigation*, CARLTON FIELDS (Aug. 28, 2014), <https://www.carltonfields.com/insights/publications/2014/an-inexpensive-alternative-to-patent-litigation> [https://perma.cc/L872-DWKH] (comparing pre-AIA mechanisms for post-grant patent validity challenges to AIA mechanisms); *Challenges to Patent Validity Under America Invents Act*, PIETRAGALLO (May 8, 2012), <https://www.rstreet.org/research/inter-partes-review-as-a-means-to-improve-patent-quality/> [https://perma.cc/H36U-Q8NN] (same).

17. John R. Allison, Mark A. Lemley & Joshua Walker, *Patent Quality and Settlement Among Repeat Patent Litigants*, 99 GEO. L.J. 677, 686–87 (2011).

18. Moss, Duan & Kane, *supra* note 16.

19. See discussion *infra* Section II.C.

20. See, e.g., Robert Van Amam & Rick Matthews, *Patent Litigation Update 2024*, WILLIAMS MULLEN (Mar. 11, 2024), <https://www.williamsmullen.com/insights/news/legal-news/patent-litigation-update-2024> [https://perma.cc/FQ7X-9CNY] (“Of course, the vast majority of patent infringement actions (~97%) are settled.”).

21. See, e.g., Paul Michel, *Legislation Is Good, But the PTAB Needs a More Immediate Overhaul*, IPWATCHDOG (Feb. 4, 2025), <https://ipwatchdog.com/2025/02/04/legislation-good-ptab-needs-immediate-overhaul/id=185595/> [https://perma.cc/2P2D-96U7].

come back and decide the patents are unpatentable after years of wasteful ex-post litigation. The poster child of this dire picture is the *VLSI* saga, which we detail later in this paper.²²

Responding to criticism of the PTAB's rigid application of *Fintiv*, former USPTO Director Katherine Vidal, during the Biden Administration, permitted the PTAB to proceed in trying validity despite parallel proceedings if the PTAB determined there was a high likelihood that the challenged patent covered old or obvious technology.²³ Director Vidal also introduced *Sotera* stipulation practice, whereby IPR petitioners and patent owners avoided a discretionary denial by agreeing to limit the scope of an IPR trial to invalidity arguments not already made in parallel proceedings involving the same patent.²⁴ Via these changes, Director Vidal sought to balance the need for PTAB discretion to prevent wasteful duplication and litigation abuse by petitioners with the need for the PTAB to adhere to Congress's mandate that the PTAB be a relatively cheap and effective alternative to district court litigation to challenge patent validity. The second Trump Administration rescinded former Director Vidal's changes and has tipped the scales towards weakening IPR as a remedy to the persistent problem of low-quality patents.²⁵ On October 17, 2025, the IPR landscape changed dramatically when USPTO Director John Squires issued a memorandum announcing that the Director would be solely responsible for determining whether to institute IPR.²⁶ Director Squires explained he would consult with at least three PTAB judges to determine whether to institute IPR, taking into account "discretionary considerations, the merits, and non-discretionary considerations."²⁷

This Article reports the results of our empirical investigation aimed at answering several questions we believe clarify the debate surrounding the use of discretionary denials in IPR proceedings. We examined all 10,159 institution decisions in IPRs filed from 2013, several years before the emergence of discretionary denial practice, through 2021, capturing both its peak use and its ebb after former Director Vidal's implementation of *Sotera* stipulations. There are two questions we seek to evaluate in analyzing this data.

Our first question, whether discretionary denial practice was narrowly and appropriately applied to instances of parallel proceedings to avoid duplication, we answer by determining the frequency of co-pending IPRs or district court proceedings involving the same patent on the date of the institution decision,

22. See discussion *infra* Section III.C.

23. See discussion *infra* Section II.D.

24. See discussion *infra* Section II.D.1.

25. See *infra* notes 131–137 and accompanying text.

26. Memorandum from John A. Squires, Under Sec'y of Com. for Intell. Prop. & Dir. of the USPTO, to all PTAB judges, at 1 (Oct. 17, 2025) [hereinafter Squires 2025 Memorandum], https://www.uspto.gov/sites/default/files/documents/Director_Institution_of_AIA_Trial_Proceedings.pdf [https://perma.cc/62UD-RBVS].

27. See *id.* at 1–2.

whether or not a discretionary denial was applied. We find that parallel proceedings are pervasive, with 96 percent of discretionary denials occurring with parallel IPRs or district court litigation. Further, through multivariate analysis, we reject the alternative hypothesis that differences in technological subject matter or PTAB bias against certain types of patent owners drive the higher likelihood of parallel proceedings when there is a discretionary denial.

To answer our second question, whether discretionary denial practice harmed the value of IPR proceedings in alleviating the public goods problem of rational settlement as opposed to challenging validity, we identified every invalidity “trial” in either the PTAB or district court involving each patent in our population of instituted IPRs. We find that both the trial and invalidation rates in trials litigating § 102 or § 103 challenges during the timeframe of our study remained constant from before the emergence of discretionary denials through their peak use. These results strongly suggest that discretionary denial practice during former Director Vidal’s tenure did not diminish the ability of IPRs to provide a cheap and effective alternative to challenging patent validity.

Despite finding that discretionary denials are primarily used when there are parallel proceedings and do not decrease the overall frequency of validity trials, we end our analysis by investigating the extent of ex-post economic waste that these denials generate.²⁸ To do so, we determined the volume of patents subject to new IPRs or district court lawsuits after the date of the discretionary denial. A high volume, along with later inconsistent or conflicting validity trials, would suggest that the PTAB should have tried validity during its first opportunity. Our results show that this type of waste is rare. First, our findings show no new litigation or PTAB proceedings filed after over 70 percent of discretionary denials.²⁹ Second, through representative case studies, we show that most instances of significant new litigation filings after a discretionary denial cannot be considered waste.³⁰ Instead, they are either the result of the patents never being invalidated on § 102 or § 103 grounds, or they are an artifact of disputes involving multiple patents, with those subject to discretionary denial still having quick validity trials. In sum, our results support discretionary denial practice, at least as implemented through the Biden Administration. Finally, this Article concludes by evaluating potential problems with the new approach to discretionary denial practice under the second Trump Administration.

Part II of this Article provides a brief history of administrative procedures for post-grant patent validity challenges, describing the events leading up to the still-shifting discretionary denial practice that exists today. In Part III, we present policy arguments for and against discretionary denials. Part IV presents the data and methodology of our empirical analysis, weighing policy arguments to determine the effect of discretionary denials on the U.S. patent landscape. In Part

28. See discussion *infra* Section V.C.

29. See discussion *infra* Section V.C.1.

30. See discussion *infra* Section V.C.2.

V, we report and explain our results. Before concluding, Part VI illustrates the implications of our empirical findings, warns about recent changes to IPR practice, and provides suggestions for further research.

II.

HISTORY OF PROCEDURES TO CHALLENGE PATENT VALIDITY

The AIA was not the first Congressional Act to introduce procedures for post-grant patent validity challenges outside of district court litigation. Section II.A describes how the USPTO makes initial patent validity determinations during the application process and the older administrative mechanisms to review validity after grant. Next, Section II.B explains the newer post-grant patent validity proceedings—particularly IPRs—created by the AIA and presided over by the PTAB. Section II.C details the emergence of discretionary denials in IPR proceedings during the last decade. Finally, Sections II.D and II.E discuss recent developments and the likely role of discretionary denials in IPR proceedings going forward.

A. *The Precursor Reforms to the America Invents Act*

A patent is a grant from the federal government giving an inventor the right to exclude others from making, using, offering for sale, selling, or importing an invention in the United States for a fixed term of years.³¹ The U.S. Constitution empowers Congress to make statutes governing patents, including those that govern how the USPTO is organized and operated.³² The USPTO is responsible for examining patent applications to ensure compliance with every requirement for patentability.³³ A patent examiner³⁴ is tasked with reviewing each patent application they are assigned to ensure that the claimed invention meets various criteria, including whether the subject matter of the claimed invention is patent eligible,³⁵ the invention bears utility or has useful purpose,³⁶ the invention is adequately described to enable a person who is skilled in the relevant art to make

31. 35 U.S.C. § 154. For further information on patents generally, see DAVID PRESSMAN & RICHARD STIM, *NOLO'S PATENTS FOR BEGINNERS* 4 (11th ed. 2024).

32. See U.S. CONST. art. I, § 8, cl. 8.

33. See MPEP § 2103 (9th ed. Rev. 01.2024, Nov. 2024). For further explanation on the patent application examination process, see Patrick Nolan & Leonard Chang, *Understanding the Patent Examination Process*, USPTO, 7, 14 (July 2020), https://www.uspto.gov/sites/default/files/documents/InventionCon2020_Understanding_the_Patent_Examination_Process.pdf [<https://perma.cc/9P56-GCWS>].

34. Patent examiners are federal employees with backgrounds in science or engineering who examine patent applications to determine whether a patent can be granted for an invention. See *Become a Patent Examiner*, USPTO, <https://www.uspto.gov/jobs/become-patent-examiner> [<https://perma.cc/H2BS-QTAP>] (last visited Jan. 23, 2024).

35. 35 U.S.C. § 101; see MPEP §§ 2104, 2106 (9th ed. Rev. 01.2024, Nov. 2024).

36. 35 U.S.C. §§ 101, 112; see MPEP § 2107 (9th ed. Rev. 01.2024, Nov. 2024).

and use the invention,³⁷ and the invention is novel and nonobvious with respect to prior art or combinations thereof.³⁸

Given the scrutiny patent examiners are charged with subjecting each patent application to, an application that survives examination and ultimately issues as a patent is deemed presumptively valid.³⁹ However, sufficient evidence to challenge a patent's validity can overcome this presumption.⁴⁰ If all or part of a patent is held invalid, then a patent owner can no longer assert exclusive rights to the claimed invention.⁴¹ Historically, post-grant validity challenges were overwhelmingly brought in district court.⁴² To have standing to challenge a patent's validity in district court, the party challenging validity must either face a patent owner's infringement suit⁴³ or establish declaratory judgment jurisdiction.⁴⁴

37. 35 U.S.C. § 112; *see* MPEP § 2164 (9th ed. Rev. 01.2024, Nov. 2024).

38. 35 U.S.C. §§ 102, 103; *see* MPEP §§ 2131, 2143 (9th ed. Rev. 01.2024, Nov. 2024). The term “prior art” refers to information disclosed to the public prior to an application's priority date in patents, publications, and the like, which cover the invention the applicant seeks to claim. *See* MPEP § 2152 (9th ed. Rev. 01.2024, Nov. 2024). The existence of prior art that covers the claimed invention usually implies that the applicant was not the first to conceive the idea they seek to patent, thus barring them from claiming patent rights in that invention. *See* 35 U.S.C. § 102(a) (“A person shall be entitled to a patent unless . . . the claimed invention was . . . described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention.”).

39. *See* 35 U.S.C. § 282(a).

40. There are multiple ways to invalidate a patent, such as by providing evidence of the existence of prior art predating the application's filing date or that the invention was sold or used in the U.S. more than one year prior to the application's filing date. *See How to Invalidate a Patent*, GHB INTELLECT, <https://ghbintellect.com/five-ways-to-invalidate-a-patent/> [<https://perma.cc/56SL-X3FX>] (last visited Jan. 27, 2024).

41. *See* Rich Goldstein, *How Can a Patent Be Invalidated?*, GOLDSTEIN PAT. L., <https://www.goldsteinpatentlaw.com/how-can-patent-invalidated/> [<https://perma.cc/RSA8-JVFT>] (last visited Oct. 20, 2023) (“If a patent is deemed invalid, it means the invention should never have been granted the patent in the first place.”).

42. Subject matter jurisdiction is reserved exclusively for district courts over all cases “arising under” patent law, including post-grant validity challenges. 28 U.S.C. § 1338(a).

43. 35 U.S.C. § 282(b); *see Managing a Patent*, USPTO, <https://www.uspto.gov/patents/basics/manage> [<https://perma.cc/U4BT-B5VD>] (last visited May 2, 2023) (“Although U.S. patents are presumed valid, a common defense to an accusation of infringement is to argue that the patent in question is invalid. A federal court makes the final decision.”).

44. A party who is threatened with patent infringement (e.g., via a cease-and-desist letter) may proactively seek a declaratory judgment action against a patent owner to have the patent declared invalid and thus noninfringed, provided an actual case or controversy exists between the parties. *See* John C. Paul & D. Brian Kacedon, *Declaratory Judgment Action Challenging Patent Validity and Infringement Was Dismissed Despite a Patent Owner's Statement that the Plaintiff's Product May Infringe Certain Patents*, FINNEGAN (May 16, 2011), <https://www.finnegan.com/en/insights/articles/declaratory-judgment-action-challenging-patent-validity-and.html> [<https://perma.cc/6DMV-DGDE>]. For more information on judicial interpretation of the Declaratory Judgment Act in the context of patent law, see *MedImmune, Inc. v. Genentech, Inc.*, 549 U.S. 118, 127 (2007); *SanDisk Corp. v. STMicroelectronics, Inc.*, 480 F.3d 1372, 1381 (Fed. Cir. 2007); *Sandoz Inc. v. Amgen Inc.*, 773 F.3d 1274, 1278 (Fed. Cir. 2014); and Paul R. Gugliuzza, *Rising Confusion About “Arising Under” Jurisdiction in Patent Cases*, 69 EMORY L.J. 459, 461–62 (2019).

In 1980, Congress enacted legislation introducing ex parte re-examination proceedings, creating an avenue for anyone⁴⁵ to challenge a patent's validity.⁴⁶ Unlike district court post-grant patent validity challenges, ex parte reexaminations are conducted before a specialized unit of the USPTO called the Central Reexamination Unit (CRU).⁴⁷ A party seeking to challenge a patent's validity before the CRU must submit a request for ex parte reexamination, which includes, *inter alia*, (1) a statement pointing out each "substantial new question of patentability"⁴⁸ based on prior patents and printed publications, (2) a copy of every patent or printed publication relied upon, and (3) an explanation for every identified claim for which re-examination is requested.⁴⁹ If the USPTO finds there is a "substantial new question of patentability" with respect to at least one of the challenged claims, it will grant the request, and the CRU will initiate reexamination proceedings.⁵⁰ Although anyone may file a request for ex parte reexamination of a patent, once a request is granted, only the patent owner may participate in the reexamination proceedings.⁵¹

In 1999, Congress expanded re-examination proceedings by introducing inter partes re-examination.⁵² Similar to a request for ex parte re-examination, a

45. Even a patent owner may seek ex parte re-examination of their own patent. *See generally* EDGAR R. CATAXINOS, PATENT REEXAMINATION PRACTICE AND STRATEGY (2010) (discussing why a patent owner may seek re-examination of his or her own patent), <https://www.mcqg.law/wp-content/uploads/sites/1301103/2020/07/Patent-Reexamination-Practice-and-Strategy.pdf> [<https://perma.cc/6ECG-TP2C>].

46. *See* 35 U.S.C. §§ 302–307; *see also* *Re-Examination Systems: United States of America*, WORLD INTELL. PROP. ORG. https://www.wipo.int/export/sites/www/scp/en/revocation_mechanisms/reexamination/pdf/reexamination_usa.pdf [<https://perma.cc/DEV6-V4Y9>] (last visited Sep. 15, 2023) ("These provisions were enacted in 1980 in order to resolve patent validity disputes more quickly and less expensively than litigation, permitting courts to defer issues of patent validity to the expertise of the [USPTO].").

47. 35 U.S.C. § 305; *see* MPEP §§ 2209, 2233 (9th ed. Rev. 01.2024, Nov. 2024); *Central Reexamination Unit*, USPTO, <https://www.uspto.gov/about-us/organizational-offices/office-commissioner-patents/central-reexamination-unit> [<https://perma.cc/FLN3-YGWE>] (last visited Jan. 3, 2024).

48. *See* MPEP § 2216 (9th ed. Rev. 01.2024, Nov. 2024); *see also* MPEP § 2242 (9th ed. Rev. 01.2024, Nov. 2024) ("For 'a substantial new question of patentability' to be present, it is only necessary that: (A) the prior art patents and/or printed publications raise a substantial question of patentability regarding at least one claim . . . and (B) the same question of patentability as to the claim has not been decided by the Office in an earlier concluded examination or review of the patent, raised to or by the Office in a pending reexamination or supplemental examination of the patent, or decided in a final holding of invalidity (after all appeals) by a federal court in a decision on the merits involving the claim. . . . It is not necessary that a 'prima facie' case of unpatentability exist as to the claim in order for 'a substantial new question of patentability' to be present as to the claim.").

49. 37 C.F.R. § 1.510(b) (2012).

50. 35 U.S.C. § 304; *see* MPEP §§ 2209, 2233 (9th ed. Rev. 01.2024, Nov. 2024). The scope of prior art considered during an ex parte re-examination is limited to patents and printed publications under 35 U.S.C. § 102 (novelty) and § 103 (nonobviousness). MPEP §§ 2209, 2258 (9th ed. Rev. 01.2024, Nov. 2024).

51. *See* MPEP § 2209 (9th ed. Rev. 01.2024, Nov. 2024); 35 U.S.C. §§ 304–305.

52. *See generally* American Inventors Protection Act of 1999, Pub. L. No. 106-113, 113 Stat. 1501 (1999).

request for inter partes re-examination could be requested by anyone (except the patent owner).⁵³ Also, like a request for ex parte re-examination, the USPTO granted a request for inter partes re-examination if it found there was a “substantial new question of patentability.”⁵⁴ The major difference between ex parte and inter partes re-examination was that, if a request for inter partes re-examination was granted, the requesting party was permitted to participate in the re-examination process (i.e., they could submit comments on every response made by the patent owner throughout re-examination).⁵⁵ During their lifespan,⁵⁶ inter partes re-examinations proved more successful than ex parte re-examinations at effectively challenging post-grant validity.⁵⁷ Despite the availability of these re-examination proceedings, however, district court litigation remained the prominent strategy for pursuing post-grant validity challenges.⁵⁸ This is evidenced by the fact that over the course of its life, from the end of 1999 to September 16, 2012, there were 1,919 total inter partes re-examinations filed with the USPTO⁵⁹ but nearly 36,000 district court patent lawsuits.⁶⁰

53. MPEP §§ 2201, 2609 (9th ed. Rev. 01.2024, Nov. 2024); see MPEP § 2609 (9th ed. Rev. 07.2022, Feb. 2023).

54. MPEP § 2601 (9th ed. Rev. 07.2022, Feb. 2023).

55. Compare MPEP §§ 2201 (9th ed. Rev. 01.2024, Nov. 2024), with MPEP § 2609 (9th ed. Rev. 07.2022, Feb. 2023).

56. The AIA abolished inter partes re-examinations while maintaining availability of ex parte re-examinations. See generally Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011). Enactment of the AIA did not substantially amend ex parte re-examination proceedings at the USPTO. See *Central Reexamination Unit*, supra note 47.

57. See Eric J. Rogers, *Ten Years of Inter Partes Patent Reexamination Appeals: An Empirical View*, 29 SANTA CLARA HIGH TECH. L.J. 305, 321 (2012) (explaining that inter partes re-examinations are more successful than ex parte re-examinations because of third party participation). From 1999 to 2012, 34 percent of inter partes re-examination certificates issued with all claims canceled. *Inter Partes Reexamination Filing Data*, USPTO (Sep. 30, 2017), https://www.uspto.gov/sites/default/files/documents/inter_parte_historical_stats_roll_up.pdf [https://perma.cc/3WDC-CS5N]. In comparison, from 1981 to 2012, only 11 percent of ex parte re-examination certifications requested by third parties issued with all claims canceled. *Ex Parte Reexamination Filing Data*, USPTO (Sep. 30, 2024), https://www.uspto.gov/sites/default/files/documents/ex_parte_historical_stats_.pdf [https://perma.cc/T6C4-64CA].

58. See Jonathan Tamimi, *Breaking Bad Patents: The Formula for Quick, Inexpensive Resolution of Patent Validity*, 29 BERKELEY TECH. L.J. 587, 588–89 (2014); J. Steven Baughman, *Reexamining Reexaminations: A Fresh Look at the Ex Parte and Inter Partes Mechanisms for Reviewing Issued Patents*, 89 J. PAT. & TRADEMARK OFF. SOC’Y 349, 351 (2007).

59. *Inter Partes Reexamination Filing Data*, supra note 57.

60. See LEX MACHINA, “Patent cases; filed between 2000-01-01 and 2012-09-16,” 35,941 results (Mar. 25, 2026), https://law.lexmachina.com/cases/?case_types-include=27&filed_on-from=2000-01-01&filed_on-to=2012-09-16 (on file with the Berkeley Technology Law Journal).

B. *The Creation of Inter Partes Review*

In 2011, Congress signed the AIA into law.⁶¹ The AIA is the most significant reform of the U.S. patent law practice since 1952.⁶² A significant motivation behind the enactment of the AIA was to curb patent trolling and more easily eliminate low-quality patents.⁶³ Two key objectives underlie the AIA: (1) reducing litigation costs by providing less expensive alternatives to post-grant patent validity challenges than traditional district court litigation; and (2) increasing patent quality by granting the USPTO and the public additional tools to challenge patent validity via expedited post-grant proceedings.⁶⁴ To further these objectives, the AIA introduced a series of new post-grant proceedings,⁶⁵ the most popular of which is IPR.⁶⁶

Like a re-examination, an IPR can be filed by anyone (except the patent owner) who wishes to challenge a patent's validity.⁶⁷ Unlike a re-examination, however, an IPR is conducted before a panel of three Administrative Patent Judges from the PTAB, an administrative law body of the USPTO.⁶⁸ The IPR process begins when a petition is filed at the PTAB.⁶⁹ This petition can only be filed to challenge patent validity under anticipation or obviousness,⁷⁰ the patentability requirements that ensure patent rights are only granted for new and not merely trivially new technology.⁷¹ IPRs thus police the tradeoff inherent in the Intellectual Property Clause of the U.S. Constitution that exclusive patent rights should only be granted to ideas that "promote the [progress] of . . . [the] useful [arts]."⁷² Just because an IPR petition is filed, however, does not mean the

61. See generally Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011).

62. See White House Off. Press Sec'y, *supra* note 1.

63. See ZIRPOLI & HICKEY, *supra* note 3, pmb1. ("Congress's stated aim when creating IPR . . . was to improve patent quality by providing a more efficient means to adjudicate patent validity issues.").

64. See *id.* at 1.

65. *Id.* at 1–2.

66. USPTO, PTAB TRIAL STATISTICS: 2025 END OF YEAR OUTCOME ROUNDUP 3, 5 (2025), https://www.uspto.gov/sites/default/files/documents/Trial_StatsFY25_Q4.pdf [<https://perma.cc/U5FM-JYSS>].

67. *Id.* Also like a re-examination, an IPR can be based only upon prior art consisting of patent or printed publications. See *Inter Partes Disputes*, USPTO, <https://www.uspto.gov/patents/laws/america-invents-act-aia/inter-partes-disputes> [<https://perma.cc/TY8N-YQNR>] (last visited Apr. 2, 2013).

68. Administrative Patent Judges are responsible for overseeing all AIA post-grant proceedings. See *About PTAB*, USPTO, <https://www.uspto.gov/about-us/organizational-offices/patent-trial-and-appeal-board> [<https://perma.cc/L8JS-2YVR>] (last visited Sep. 15, 2023) (noting that "Administrative Patent Judges are appointed by the Secretary of Commerce and are legally and technically trained. Judges have extensive patent legal experience prior to their appointment on the Board, for example, in private practice, in government practice (e.g., at the Department of Justice or the International Trade Commission), and as in-house counsel in companies. Many also have served as USPTO examiners or judicial law clerks.").

69. *Inter Partes Disputes*, *supra* note 67.

70. *Id.*

71. 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, 9–12 (2013).

72. See U.S. CONST. art. I, § 8, cl. 8.

review will be “instituted.” A request to institute an IPR will only be granted if the requesting party shows there is a “reasonable likelihood” he or she would prevail with respect to at least one challenged claim.⁷³ Moreover, only after an IPR is instituted will the PTAB make a final decision with respect to patentability.

This preliminary review process—particularly when IPR are denied institution—is the focus of this paper. IPRs can be denied institution on a variety of grounds. For instance, a petition may be denied on the merits: if the petitioner has not successfully shown a reasonable likelihood that at least one claim is more likely than not to describe old or obvious technology, then an IPR will be denied institution.⁷⁴ There are also procedural grounds on which IPR petitions can be denied, including when the petition is untimely filed and when there are duplicative petitions.⁷⁵ Following the official start of IPRs in September, 2012, the number of petitions surged.⁷⁶ This surge fueled concerns among the U.S. patent law community that Congress and the USPTO were not doing enough to protect patentees’ rights.⁷⁷ Especially harmful—from the point of view of patent owners—was evidence that some petitioners filed repetitive and duplicative IPRs in order to pressure inventors to back down from enforcing their rights.⁷⁸ Then, in 2016, a landmark ruling by the U.S. Supreme Court established an additional basis for denying IPRs.⁷⁹

73. 35 U.S.C. § 314(a). The “reasonable likelihood” standard for IPRs is relatively higher than the “substantial new question of patentability” standard for re-examinations. See Eugene T. Perez & Kelly E. Rose, *Starting an AIA Post-Grant Proceeding: The Different Threshold Standards*, BIRCH, STEWART, KOLASCH & BIRCH, LLP, <https://postgrantproceedings.com/starting-an-aia-post-grant-proceeding-the-different-threshold-standards/> [<https://perma.cc/PXZ3-VRYY>] (last visited Jan. 27, 2024). Additionally, unlike re-examination, validity challenges in an IPR may only be raised under 35 U.S.C. § 102 (novelty) and § 103 (nonobviousness). *Inter Partes Disputes*, *supra* note 67.

74. 35 U.S.C. § 314(a).

75. The PTAB may deny institution if the petitioner files more than a year after being sued for infringement of the same patent. 35 U.S.C. § 315(b). The PTAB may also deny institution of review for patents that are already being reviewed in parallel PTAB proceedings. § 325(d).

76. “The number of IPR petitions filed grew from 17 in 2012, the first year of availability, to a peak of 1,812 in 2017. . . . [As of 2021,] 12,607 petitions have been filed at the [PTAB.] By comparison, just 1,919 requests for [inter partes] reexam were filed during the system’s 13-year existence.” Ken Korea, *Navigating a Decade of the America Invents Act*, MANAGINGIP (Mar. 1, 2022), <https://www.managingip.com/article/2a5bqtj8ume32iwlacn7/navigating-a-decade-of-the-america-invents-act> [<https://perma.cc/K6YP-J4NF>].

77. See, e.g., Paul Morinville, *How the America Invents Act Harmed Inventors*, IPWATCHDOG (Sep. 10, 2016), <https://ipwatchdog.com/2016/09/10/america-invents-act-harmed-inventors/> [<https://perma.cc/6UQR-X43S>].

78. See *USPTO Releases Updated Study of Multiple Petitions for AIA Proceedings at the PTAB*, USPTO (July 6, 2023), <https://www.uspto.gov/subscription-center/2023/uspto-releases-updated-study-multiple-petitions-aia-proceedings-ptab> [<https://perma.cc/U3BB-2SPK>].

79. See generally *Cuozzo Speed Techs., LLC v. Lee*, 579 U.S. 261 (2016).

C. The Emergence of Discretionary Denials in Inter Partes Review

Section 314(a) of the Patent Act establishes the threshold standard for the PTAB to institute an IPR petition for trial: “The [PTAB] may not authorize an [IPR] to be instituted unless the Director determines . . . that there is a reasonable likelihood that the petitioner would prevail.”⁸⁰ In *Cuozzo Speed Technologies, LLC v. Lee*, the Supreme Court found that the word “may” in this statutory language provided the agency with the discretion to deny institution of an IPR petition for any reason.⁸¹ Following *Cuozzo*, the PTAB took advantage of the Court’s interpretation to stop petitions that the PTAB determines are duplicative of copending proceedings before the PTAB or in district court litigation, via so-called “discretionary denial” of institution.⁸²

The USPTO clarified and strengthened this new practice of PTAB review of IPR petitions by establishing more concrete guidelines regarding when the PTAB may exercise discretion in denying petitions. It did so in response to growing concerns that large technology users, including some well-known “tech giants,” were filing multiple IPR petitions against inventors, not to determine validity, but to strategically make it too costly for inventors to enforce their rights.⁸³ In 2017, the PTAB laid out standards for issuing discretionary denials in the face of serial IPR petitions in *General Plastic Industrial Co. v. Canon Kabushiki Kaisha*.⁸⁴ A serial petition is defined by the USPTO as a “petition filed more than 90 days after the first petition filed by the same petitioner challenging the same patent.”⁸⁵ The PTAB applies the *General Plastic* standards to deny a serial petition if the petition is filed after a previous petition challenging the same patent was denied on its merits.⁸⁶ Then, in 2018, the Supreme Court’s decision in *SAS Institute Inc. v. Iancu* unintentionally gave the PTAB greater incentive to exercise discretionary denials by requiring the PTAB to review all challenged claims when instituting IPR petitions.⁸⁷ That same year, the PTAB explicitly noted in *NHK Spring Co. v. Intri-Plex Technologies, Inc.* that parallel district court proceedings can be used as justification for exercising discretionary

80. 35 U.S.C. § 314(a).

81. 579 U.S. at 280–84.

82. See Fraizer & Auvil, *supra* note 11.

83. Steven C. Carlson, *Weaponizing IPRs*, 12 LANDSLIDE (Sep. 22, 2019), https://www.americanbar.org/groups/intellectual_property_law/publications/landslide/2019-20/september-october/weaponizing-iprs/ [https://perma.cc/VDC4-7ZGV].

84. No. IPR2016-01357, Paper 19 (P.T.A.B. Sep. 6, 2017) (designated precedential Oct. 18, 2017).

85. *Patent Trial and Appeal Board Multiple Petitions Study*, USPTO, 3 (July 2023), https://www.uspto.gov/sites/default/files/documents/ptab_multiple_petitions_study_fy2021-2022_update.pdf [https://perma.cc/U46L-8MNB].

86. See David Linden & Dave Maiorana, *PTAB Applies General Plastic Factors to Serial Petitions Seeking Joinder*, JONES DAY (Sep. 15, 2023), <https://www.ptablitigationblog.com/ptab-applies-general-plastic-factors-to-serial-petitions-seeking-joinder/> [https://perma.cc/52E2-37NW].

87. 584 U.S. 357, 362–63 (2018).

denials.⁸⁸ Finally, in 2020, the PTAB in *Apple Inc. v. Fintiv, Inc.* set forth six factors to be used by the PTAB in determining whether to end a petition with a discretionary denial. These factors are:

1. [W]hether a stay [in a co-pending parallel district court proceeding] exists or is likely to be granted if [an IPR] is instituted . . .
2. [P]roximity of the [district] court's trial date to the [PTAB's] projected statutory deadline . . .
3. [I]nvestment in the parallel proceeding by the [district] court and parties . . .
4. [O]verlap between issues raised in the [IPR] petition and in the parallel [district court] proceeding . . .
5. [W]hether the [IPR] petitioner and the defendant in the parallel [district court] proceeding are the same party . . .
6. [O]ther circumstances that impact the [PTAB's] exercise of discretion, including the merits . . .⁸⁹

In the year following the *Fintiv* decision, the PTAB applied the *Fintiv* factors in nearly half of all IPR institution decisions.⁹⁰ In response to this dramatic increase in the importance of discretionary denials,⁹¹ Director Vidal issued a memorandum on June 21, 2022 (“2022 Memorandum”) seeking to limit and clarify the scope of the *Fintiv* holding.⁹²

D. Former Director Vidal's Approach to Discretionary Denials During the Biden Administration

After her 2022 Memorandum and the completion of a parallel litigation study she initiated,⁹³ Director Vidal announced an Advance Notice of Proposed

88. *NHK Spring Co. v. Intri-Plex Techs., Inc.*, No. IPR2018-00752, Paper 8, at 19–20 (P.T.A.B. Sep. 12, 2018) (designated precedential May 7, 2019).

89. *Apple Inc. v. Fintiv, Inc.*, No. IPR2020-00019, Paper 11, at 6–14 (P.T.A.B. Mar. 20, 2020) (precedential May 5, 2020) (emphasis omitted).

90. See USPTO, PATENT TRIAL AND APPEAL BOARD PARALLEL LITIGATION STUDY, 8 (June 2022), https://www.uspto.gov/sites/default/files/documents/ptab_parallel_litigation_study_20220621_.pdf [<https://perma.cc/LWY2-VR5K>]. For further discussion regarding the impact of *Fintiv* on IPR institution decisions, see *Discretion Dominant: 45% of All 2021 Institutions Analyzed Fintiv*, UNIFIED PATS. (Mar. 21, 2022), <https://www.unifiedpatents.com/insights/discretion-dominant-45-of-all-2021-institutions-analyzed-fintiv> [<https://perma.cc/YWM3-FMN3>].

91. The USPTO received over 800 comments in response to a Request for Comments on the PTAB's approach to exercising discretion following *Fintiv*. See Memorandum from Katherine K. Vidal, Under Sec'y of Com. for Intell. Prop. & Dir. of the USPTO, to Members of the Patent Trial and Appeal Board, at 2 (June 21, 2022) (rescinded Feb. 28, 2025) [hereinafter Vidal 2022 Memorandum], https://www.uspto.gov/sites/default/files/documents/interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621_.pdf [<https://perma.cc/64WW-7QW4>].

92. See generally Vidal 2022 Memorandum, *supra* note 91.

93. See *id.*

Rulemaking on April 20, 2023.⁹⁴ Her Proposed Rulemaking introduced potential changes to the rules of practice for IPRs and asserted that these changes would promote the AIA's goals of providing more efficient alternatives to traditional district court litigation and increasing patent quality.⁹⁵ Three topics were at the center of what Director Vidal sought to address in her Proposed Rulemaking: stipulations in consideration of parallel litigation; standing to petition for the institution of an IPR; and the effects of estoppel on subsequent post-grant validity challenges at both the PTAB and district court levels. We detail the first topic as most relevant to this study before briefly explaining the other two.

1. *Parallel Litigation Stipulations*

In the 2020 decision, *Sotera Wireless, Inc. v. Masimo Corp.*, the PTAB confronted the question of how a stipulation filed by a petitioner in a parallel district court proceeding regarding an IPR institution request with overlapping invalidity claims should impact the Board's discretionary denial decision in that IPR.⁹⁶ In this stipulation, the petitioner agreed not to pursue any of the invalidity grounds raised (or that could reasonably have been raised) in its IPR institution request in district court litigation if the PTAB instituted an IPR.⁹⁷ The PTAB held that the stipulation fell within the scope of the fourth *Fintiv* factor,⁹⁸ explaining that because this factor weighed so strongly against discretionary denial, it would grant IPR institution even though the remaining *Fintiv* factors were largely neutral.⁹⁹ This practice became known in the U.S. patent law community as a "*Sotera* stipulation."¹⁰⁰

94. See Changes Under Consideration to Discretionary Institution Practices, Petition Word-Count Limits, and Settlement Practices for America Invents Act Trial Proceedings Before the Patent Trial and Appeal Board, 88 Fed. Reg. 24,503 (Apr. 21, 2023) (to be codified at 37 C.F.R. pt. 42) [hereinafter Vidal's Proposed Rulemaking]. "An agency that is in the preliminary stages of rulemaking may publish an 'Advance Notice of Proposed Rulemaking' in the *Federal Register* to get more information [from the public]. The Advance Notice is a formal invitation [to the public] to participate in shaping the proposed rule and starts the notice-and-comment process in motion." *A Guide to the Rulemaking Process*, OFF. FED. REG. (Jan. 2011), https://www.federalregister.gov/uploads/2011/01/the_rulemaking_process.pdf [<https://perma.cc/A4RS-XSJJ>].

95. See generally Vidal's Proposed Rulemaking, *supra* note 94; see also H.R. REP. NO. 112-98, at 48 (illustrating legislative objectives of the AIA).

96. See generally *Sotera Wireless, Inc. v. Masimo Corp.*, No. IPR2020-01019, Paper 12 (P.T.A.B. Dec. 1, 2020).

97. *Id.* at 13–14. The stipulation largely mirrored AIA statutory estoppel language. See 35 U.S.C. § 315(e).

98. The fourth *Fintiv* factor considers "overlap between issues raised in the petition and in the parallel proceeding." See *Sotera Wireless*, No. IPR2020-01019, Paper 12, at 18–19.

99. *Id.* at 14–21.

100. See David McCombs, Eugene Goryunov & Jonathan Bowser, *IPR Tricks of the Trade: Evolving Standards for Stipulations to Avoid Discretionary Denial*, REUTERS (July 13, 2023), <https://www.reuters.com/legal/legalindustry/ipr-tricks-trade-evolving-standards-stipulations-avoid-discretionary-denial-2023-07-13/>.

Sotera stipulations quickly became a popular patent litigation strategy, boasting a 96 percent success rate for avoiding discretionary denial for an IPR petition at the PTAB.¹⁰¹ In her 2022 Memorandum, Director Vidal praised the practice as an effective means of “avoid[ing] inconsistent outcomes between the PTAB and the district court and allow[ing] the PTAB to review grounds that the parallel district court litigation [would] not resolve.”¹⁰² Through her Proposed Rulemaking, Director Vidal sought to formally adopt *Sotera* stipulation practice and even suggested replacing the *Fintiv* test altogether. If this proposal had been fully adopted, the PTAB would have exercised its discretion to deny institution only in the presence of parallel litigation, and only if the parties could not agree to a *Sotera* stipulation.¹⁰³

Director Vidal also considered adopting an additional stipulation practice first illustrated by the PTAB in *Sand Revolution, II, LLC v. Continental Intermodal Group – Trucking LLC*.¹⁰⁴ In *Sand Revolution*, the petitioner stipulated to forgo any of the “same” grounds on invalidity in future district court litigation in exchange for avoiding discretionary denial of his IPR institution request.¹⁰⁵ In contrast to *Sotera* stipulations, these *Sand Revolution* stipulations “[do] not necessarily prevent a petitioner from using a reference that was not raised, but reasonably could have been raised in an IPR, as part of an invalidity argument in [later] district court [litigation].”¹⁰⁶

Director Vidal referenced the results of her parallel litigation study¹⁰⁷ to demonstrate the effectiveness of her introduction of *Sotera* stipulations to balance the USPTO’s “mission to issue and maintain robust and reliable patents, while advancing the goals of the [AIA].”¹⁰⁸ Director Vidal’s study found that after *Fintiv* was designated precedential, parallel litigation was raised as a consideration for IPR discretionary denials in about 40 percent of all cases.¹⁰⁹ The study also found that *Fintiv*-based discretionary denials peaked during the second quarter of the 2021 fiscal year but faced a significant drop thereafter.¹¹⁰ The study further demonstrated that the USPTO’s guidance on using stipulations

101. See Gene Quinn, *Sotera Stipulations Less Likely Given Vidal Memo on PTAB Discretion*, IPWATCHDOG (June 23, 2022), <https://ipwatchdog.com/2022/06/23/sotera-stipulations-less-likely-given-vidal-memo-ptab-discretion/> [https://perma.cc/AWJ4-899H].

102. Vidal 2022 Memorandum, *supra* note 91, at 7–8.

103. Vidal’s Proposed Rulemaking, *supra* note 94, at 24,515.

104. See *id.*; see generally *Sand Revolution, II, LLC v. Cont’l Intermodal Grp. – Trucking LLC*, No. IPR2019-01393, Paper 24 (P.T.A.B. June 16, 2020).

105. *Sand Revolution, II*, No. IPR2019-01393, Paper 24, at 12 n.5.

106. Vidal’s Proposed Rulemaking, *supra* note 94, at 24,515.

107. See generally PATENT TRIAL AND APPEAL BOARD PARALLEL LITIGATION STUDY, *supra* note 90.

108. *Director Vidal Provides Clarity to Patent Trial and Appeal Board Practice on Discretionary Denials of Patent Challenges Based on Parallel Litigation*, USPTO (June 22, 2022), <https://www.uspto.gov/about-us/news-updates/director-vidal-provides-clarity-patent-trial-and-appeal-board-practice> [https://perma.cc/5ZEJ-4XS7].

109. *Id.*

110. *Id.*

led to an increase in stipulation filings and a significant decrease in *Fintiv*-based denials.¹¹¹ In other words, the evidence supports Director Vidal's contention that with stipulations, discretionary denials by and large only occurred where patent owners perceived unavoidable duplication or strategic abuse with the petition moving forward.

2. *Additional Proposals in Former Director Vidal's Proposed Rulemaking*

Beyond the use of stipulations to avoid discretionary denials, Director Vidal's Proposed Rulemaking detailed innovations to standing and the scope of estoppel in IPRs. With respect to standing, she proposed several new considerations for discretionary denial practice. These included: (1) whether a petition satisfies a heightened "compelling merits" standard; (2) whether a petitioner meets certain characteristics as a non-practicing entity under a "for profit" test; and (3) whether under-resourced patent owners may seek specific protections pursuant to a safe harbor provision.¹¹²

In her 2022 Memorandum, Director Vidal acknowledged and encouraged interpretation of the sixth *Fintiv* factor, which instructs the PTAB to consider any "other circumstances," including "the merits [of the petition]"¹¹³ to include the PTAB's determination of whether a petition meets a "compelling merits" standard.¹¹⁴ Specifically, Director Vidal explained that, notwithstanding the petition meeting the other five *Fintiv* factors favoring discretionary denial, the PTAB should not exercise its discretion to deny institution if the petition presents a "compelling unpatentability challenge[]." ¹¹⁵

Director Vidal's Proposed Rulemaking suggested formally adopting the "compelling merits" test within the PTAB's discretionary denial practice.¹¹⁶ Under this approach, an IPR petitioner would have the burden of presenting evidence to the PTAB that gives rise to a "firm belief or conviction" that it is "highly likely" the petitioner would prevail with respect to at least one of the challenged claims in order to avoid discretionary denial under *Fintiv*.¹¹⁷ She went so far as to propose that a petitioner whose request for IPR institution met this compelling merits standard should be allowed to proceed, regardless of whether the petition met the factors that would usually compel discretionary denial.¹¹⁸

111. *Id.*

112. Vidal's Proposed Rulemaking, *supra* note 94, at 24,504, 24,507–09, 24,514–16.

113. Apple Inc. v. Fintiv, Inc., No. IPR2020-00019, Paper 11, at 6 (P.T.A.B. Mar. 20, 2020) (precedential May 5, 2020).

114. Vidal 2022 Memorandum, *supra* note 91, at 3–5.

115. *Id.* at 4–5; *see also* CommScope Techs. LLC v. Dali Wireless, Inc., No. IPR2022-01242, Paper 23, at 6 (P.T.A.B. Feb. 27, 2023) (clarifying that the compelling merits test is not intended to be used as a substitute for the *Fintiv* test, but rather as a final consideration if the first five *Fintiv* factors weigh in favor of discretionary denial).

116. Vidal's Proposed Rulemaking, *supra* note 94, at 24,504, 24,506–09.

117. *Id.* at 24,504, 24,507.

118. *Id.* at 24,508–09. Director Vidal defined a "compelling merits" standard as higher than the reasonable likelihood standard required for IPR institution and higher than a preponderance of evidence

Additionally, Director Vidal proposed a “for-profit” test that would permit the PTAB to exercise its discretion and deny an IPR institution request filed by an entity that meets certain characteristics associated with what some patent owners consider IPR abusers.¹¹⁹ These characteristics included (1) maintaining for-profit status, (2) having not been sued on the challenged patent nor threatened with infringement to give rise to declaratory judgment jurisdiction, (3) being a non-practicing entity,¹²⁰ and (4) having no substantial relationships with any other entities that fall outside the scope of the aforementioned characteristics.¹²¹ The clear target of this test was Unified Patents, a member-funded company that seeks to deter the assertion of low-quality patents by non-practicing entities.¹²² Because its primary business is filing IPRs on behalf of manufacturers and service providers, it is not itself a target of patent infringement assertions.¹²³ To operate, it relies on the low standing requirement for filing IPR petitions.¹²⁴ Unified Patents argues that allowing third parties to petition for IPR institution serves to promote Congress’s intent when creating IPR to create cheaper methods of testing post-grant patent validity.¹²⁵

standard. *See id.* at 24,507–08. For more information on the “compelling merits” standard, see Safiya Aguilar & Amanda K. Murphy, *Director Vidal Clarifies That the Compelling Merits Determination is Not a Substitute for the Fintiv Analysis*, FINNEGAN (Mar. 6, 2023), <https://www.finnegan.com/en/insights/blogs/at-the-ptab-blog/director-vidal-clarifies-that-the-compelling-merits-determination-is-not-a-substitute-for-the-fintiv-analysis.html> [<https://perma.cc/4ZDJ-MCD5>].

119. *See* Vidal’s Proposed Rulemaking, *supra* note 94, at 24,508. For examples of what IPR abuse can entail, see Adam Philipp, *Patent Office Director Finds Petitioners Abused IPR Process*, AEON L. (Dec. 26, 2022), <https://aeonlaw.com/patent-office-director-finds-petitioners-abused-ipr-process/> [<https://perma.cc/KF6A-AZRK>].

120. Non-practicing entities (NPEs) are defined as companies that exist purely to collect patents. Shreya Sampathkumar, *Concept of Non-Practising Entities in Patent Law (Part-1)*, IP MATTERS (Nov. 25, 2022), <https://www.theipmatters.com/post/concept-of-non-practising-entities-in-patent-law-part-1> [<https://perma.cc/L3ZN-XUDK>] (noting that “[u]pon acquiring patents, NPEs profit from licensing them to companies that require them, or by suing other companies for infringing the patents they own. NPEs have no intention to develop (manufacture, use or sell) the product or process patent that they own.”).

121. Vidal’s Proposed Rulemaking, *supra* note 94, at 24,508; *see also* W. Karl Renner, David L. Holt, Jennifer J. Huang, Kim Leung, Usman Khan & Casey M. Kraning, *USPTO Issues Advance Notice of Proposed Rulemaking for PTAB Proceedings*, FISH & RICHARDSON (Apr. 26, 2023), <https://www.fr.com/insights/thought-leadership/blogs/legal-alert-uspto-issues-advance-notice-of-proposed-rulemaking-for-ptab-proceedings/> [<https://perma.cc/Z87F-ZA3X>] (outlining the “for-profit” factors from Vidal’s Proposed Rulemaking, *supra* note 94).

122. *See* UNIFIED PATS., <https://www.unifiedpatents.com/> [<https://perma.cc/8REE-8XEH>] (last visited Mar. 19, 2026).

123. *See* FAQ, UNIFIED PATS., <https://www.unifiedpatents.com/faq> [<https://perma.cc/7P8B-3K4T>] (last visited Mar. 19, 2026).

124. *See id.*

125. Unified Pats., LLC, Comment Letter on Changes Under Consideration to Discretionary Institution Practices (June 20, 2023), https://downloads.regulations.gov/PTO-P-2020-0022-0761/attachment_1.pdf [<https://perma.cc/KKQ5-TL6H>].

Next, Director Vidal proposed creating a safe harbor provision for under-resourced patent owners.¹²⁶ Recognizing that providing support for independent inventors and small businesses is a priority for the USPTO and acknowledging concerns regarding the costs associated with defending patent validity challenges, Director Vidal proposed a safe harbor where the PTAB would exercise discretion to deny certain petitions brought to challenge the validity of patents owned by under-resourced owners.¹²⁷

Regarding the topic of estoppel, Director Vidal suggested in her Proposed Rulemaking that the PTAB consider “prior final adjudications” as a separate and independent basis for discretionary denial.¹²⁸ Under this proposal, the PTAB would exercise discretion to deny IPR petitions challenging claims previously upheld in finalized decisions by district courts, other AIA proceedings, and ex parte re-examinations.¹²⁹ Factors for the PTAB to consider in making a discretionary denial on the basis of final prior adjudications include: (1) whether a petitioner has standing to challenge validity at the district court level or “intends to pursue commercialization of a product or service in the field of the invention of a challenged claim”; (2) whether the petitioner is a real party in interest or in privity with the prior validity-challenging party; (3) whether a prior final adjudication upheld the validity of claims that are similar or “substantially overlap” with the presently challenged claims; and (4) whether the petition meets a compelling merits standard.¹³⁰

E. Recent Developments with the Second Trump Administration

The USPTO rescinded former Director Vidal’s Proposed Rulemaking on February 28, 2025, the beginning of the second Trump Administration.¹³¹ Chief Administrative Patent Judge Scott Boalick then issued a memorandum addressing the rescission on March 24, 2025.¹³² Most relevant to this Article, Judge Boalick explained that, going forward, *Sotera* stipulations would be highly relevant to, but not dispositive of, a discretionary denial decision.¹³³

126. See Vidal’s Proposed Rulemaking, *supra* note 94, at 24,504, 24,507–509.

127. *Id.* at 24,504, 24,509, 24,514–16.

128. *Id.* at 24,510.

129. *Id.*

130. *Id.*

131. See generally Memorandum from Scott R. Boalick, Chief Admin. Pat. J., to Members of the Patent Trial and Appeal Board (Mar. 24, 2025), https://www.uspto.gov/sites/default/files/documents/guidance_memo_on_interim_procedure_rescission_20250324.pdf [<https://perma.cc/Y5EH-A4TB>].

132. *Id.*

133. *Id.* The memorandum also announced that: (1) *Fintiv* factors would be applied to petitions where there is a parallel ITC proceeding, (2) the PTAB may consider median time-to-trial statistics in the co-pending litigation, and (3) the merits of a petition are still relevant to evaluating *Fintiv* discretionary denial, but compelling merits are not dispositive. *Id.* at 2–3.

Two days later, Acting Director Coke Morgan Stewart announced a new Interim Process for PTAB Workload Management (“2025 Interim Process”),¹³⁴ which included fundamental changes to former Director Vidal and the Biden Administration’s approach to IPRs and discretionary denials.¹³⁵ The most striking of these changes was Acting Director Stewart’s bifurcation of the discretionary denial issue. Under her direction, the Director herself—with or without the guidance of at least three PTAB judges—determined whether discretionary denial of IPR institution was appropriate.¹³⁶ If it was not, then the petition was returned to the assigned three-judge panel to determine the merits and other non-discretionary statutory reasons to deny institution.¹³⁷

The 2025 Interim Process had a stated goal of managing the PTAB’s workload during a period of staff shortages caused by the return-to-office requirement and the new Department of Government Efficiency’s (DOGE) recommendations. Beyond bifurcating discretionary denial decisions, the new process allowed parties to submit longer briefs on the issue.¹³⁸ It is difficult to see how this process conserved the PTAB’s resources; it also undoubtedly elevated the importance of the discretionary denial determination beyond former Director Vidal’s preferred approach of allowing the parties to figure it out on their own. The 2025 Interim Process also included an expanded set of considerations beyond the *Fintiv* factors that the PTAB could reference when determining whether to exercise discretionary denial. These included: (1) whether the PTAB or another forum has already adjudicated the validity or patentability of the challenged patent claims; (2) whether there have been changes in the law or new judicial precedent issued since issuance of the claims that may affect patentability; (3) the strength of the unpatentability challenge; (4) the extent of the petition’s reliance on expert testimony; (5) settled expectations of the parties, such as the length of time the claims have been in force; (6) compelling economic, public health, or national security interests; and (7) any other considerations bearing on the Director’s discretion.¹³⁹

Several of these factors have little or no relationship to petitioner abuse of the IPR process, duplicative proceedings, or the likelihood that a patent is valid.

134. *FAQs for Interim Process for PTAB Workload Management*, USPTO, <https://www.uspto.gov/patents/ptab/faqs/interim-processes-workload-management> [https://perma.cc/X72X-MEAX] (last visited Aug. 15, 2025).

135. *Id.*

136. *Id.*

137. *Id.*; see also Dennis Crouch, *USPTO Director Takes Control of Expanded Discretionary Denials Amid PTAB Staffing Concerns*, PATENTLY-O (Mar. 29, 2025), <https://patentlyo.com/patent/2025/03/director-expanded-discretionary.html> [https://perma.cc/3JTQ-V3AB].

138. See Boalick, *supra* note 131, at 2.

139. Memorandum from Coke Morgan Stewart, Acting Under Sec’y of Com. for Intell. Prop. & Acting Dir. of the USPTO, to all PTAB judges, at 2–3 (Mar. 26, 2025) [hereinafter Stewart 2025 Memorandum], <https://www.uspto.gov/sites/default/files/documents/InterimProcesses-PTABWorkloadMgmt-20250326.pdf> [https://perma.cc/F5CC-Z97P].

For example, the “settled expectations” factor would seem to provide owners of broad but low-quality patents with a path to simply fly under the radar for long enough until it would violate the owners’ “expectations” to invalidate their patents. After providing this expanded list, the 2025 Interim Process stated that “[t]he Director will also consider the ability of the PTAB to comply with pendency goals for ex parte appeals, its statutory deadlines for AIA proceedings, and other workload needs.”¹⁴⁰ This, too, lacks a connection to petitioner abuse or patent quality. Although it may be necessary during periods of budgetary uncertainty, it could also be used as a self-fulfilling “out” for an administration to prevent the PTAB from doing its work. In sum, while former Director Vidal’s approach appeared tailored toward balancing the need to eliminate duplicative proceedings with the goal of IPR to elevate patent quality via relatively cheap and readily available patentability trials at the PTAB, the second Trump Administration’s direction so far is to expand the use of discretionary denials and decrease the rate of instituted IPRs.

John Squires became the new USPTO Director on September 18, 2025.¹⁴¹ Less than one month after his confirmation, Director Squires introduced a major change to IPR proceedings: limiting the determination of IPR institution solely to the Director’s discretion.¹⁴² Rather than delegating merit-based institution determinations to PTAB panels, the Director is now personally responsible for deciding whether to institute IPR through a “summary notice.”¹⁴³ The first of Director Squires’s summary notices was completely devoid of any detail regarding the merits underlying the institution decision; it merely stated whether or not IPR would be instituted.¹⁴⁴ While later summary notices provide some details regarding why an IPR institution was granted or denied,¹⁴⁵ the clear and overwhelming trend of Director Squires’s decisions disfavors IPR institution.¹⁴⁶

It is unclear what relationship Director Squires’s approach has to petitioner abuse of the IPR process, duplicative proceedings, or the likelihood that a patent

140. *Id.* (emphasis omitted).

141. See W. Karl Renner, Heather L. Flanagan, David E.A. Jordan, Usman Khan, Thomas Rozyłowicz & Kristi L.R. Sawert, *Senate Confirms John Squires as USPTO Director*, FISH & RICHARDSON (Sep. 18, 2025), <https://www.fr.com/insights/thought-leadership/blogs/senate-confirms-john-squires-as-uspto-director/> [<https://perma.cc/G5UR-HW7W>].

142. See generally Squires 2025 Memorandum, *supra* note 26.

143. *Id.* at 2.

144. Snap Inc. v. Nokia Techs. Oy, No. IPR2025-01014, Paper 9 (Oct. 31, 2025) (denying institution, pursuant to 35 U.S.C. § 314(a), for IPR2025-01014, IPR2025-01105, IPR2025-01106, IPR2025-01114, IPR2025-01117, IPR2025-01118, IPR2025-01137, IPR2025-01139, IPR2025-01154, IPR2025-01166, IPR2025-01167, IPR2025-01221, and IPR2025-01240).

145. See William C. Neer, Umber Aggarwal & Forrest A. Jones, *Updates on Director Summary Notices for Decisions on Institution*, FINNEGAN (Nov. 24, 2025), <https://www.finnegan.com/en/insights/blogs/at-the-ptab-blog/updates-on-director-summary-notices-for-decisions-on-institution.html> [<https://perma.cc/ZR8J-XRQD>].

146. Dennis Crouch, *An Era of No: The USPTO’s New 0% Institution Rate*, PATENTLY-O (Nov. 12, 2025), <https://patentlyo.com/patent/2025/11/usptos-institution-rate.html> [<https://perma.cc/AM2Q-TXJ8>].

is valid. Rather than focusing on the technical merits, Director Squires's approach appears to be more of a procedural gatekeeping mechanism.¹⁴⁷ Further, it grossly undermines the PTAB's intended role as a technical adjudicator.¹⁴⁸ By personally considering each institution decision, Director Squires will inevitably spend less time on each review. Whether this will increase or decrease the rate at which the PTAB ultimately finds patents unpatentable is to be determined.¹⁴⁹ But even if the relative rate of post-grant patentability findings does not change, the number of "bad" patents that survive review is bound to increase. This change will also disproportionately affect smaller entities, which lack the resources to litigate validity in the district court setting.¹⁵⁰ Further, third-party challenges—a unique aspect of IPR—may also decrease, resulting in the survival of more low-quality patents.

Another downside of Director Squires's approach is that it lacks transparency. The concise nature of the summary notices provides the public with less information about how the USPTO views the merits of a patent validity challenge.¹⁵¹ The reasoning backing an institution decision can be highly important to parties disputing validity. Without this information, parties may be forced to address all grounds for potential invalidation, increasing costs and decreasing efficiency in later proceedings.¹⁵² In sum, Director Squires's changes may undo much of what the AIA has already accomplished in providing more efficient alternatives to traditional district court litigation and increasing patent quality.¹⁵³

III.

HIGH-STAKES POLICY ARGUMENTS FOR AND AGAINST DISCRETIONARY DENIALS

Stakeholders' opinions on the PTAB's robust use of discretionary denial practice are largely the opposite of their general support or opposition to robust IPR practice. Technology implementors, especially large tech companies and other producers that are targets of non-practicing entities (NPEs), strongly

147. Dion M. Bregman, Sarah Guske, Jacob L. Peterson, Alexander B. Stein & Brandon Pongracz, *USPTO Proposes New Institution Rules and Director Takes Over Merits-Based Institution Decisions*, MORGAN LEWIS (Oct. 23, 2025), <https://www.morganlewis.com/pubs/2025/10/uspto-proposes-new-institution-rules-and-director-takes-over-merits-based-institution-decisions> [https://perma.cc/8JX9-ZEYY].

148. *Id.*

149. See Joshua R. Rich, *USPTO Director Squires Will Personally Make All IPR and PGR Institution Decisions*, LIPPES MATHIAS (Oct. 30, 2025), <https://www.lippes.com/insights/uspto-director-squires-will-personally-make-all-ipr-and-pgr-institution-decisions-2953> [https://perma.cc/537H-K77F].

150. Bregman et al., *supra* note 147.

151. Rich, *supra* note 149.

152. *Id.*

153. See generally Vidal's Proposed Rulemaking, *supra* note 94; see also H.R. REP. NO. 112-98, at 48 (illustrating legislative objectives of the AIA).

support IPR practice because they believe it acts as an economical confirmation of the validity of patents important enough to assert and as a deterrence against the common practice of patent trolls seeking nuisance value settlements on low-quality patents.¹⁵⁴ Patent owners, including many independent inventors, startups, and patent licensing firm NPEs, tend to dislike IPRs and—if they must exist—have welcomed greater PTAB discretion to deny institution.¹⁵⁵

These battle lines were drawn at the start of IPR practice at the PTAB. In 2013, former Federal Circuit Chief Judge Rader famously accused the PTAB of being the patent “death squad.”¹⁵⁶ Initially, this nickname was not unfounded. IPR invalidity rates during the first years following the enactment of the AIA were pointedly high: in 2013, 87 percent of IPR petitions were instituted, and all challenged claims were held unpatentable in 83 percent of these instituted cases (72% of all IPR petitions).¹⁵⁷ Of course these early statistics alarmed patent holders.¹⁵⁸ However, the institution rate since 2015 has oscillated between 60 and 70 percent,¹⁵⁹ weakening the “death squad” moniker. Nevertheless, the relatively high institution rate still demonstrates that many patents subject to IPR petitions will be invalidated.

In addition to high invalidity rates, it is expensive for owners to defend patent validity in IPR proceedings.¹⁶⁰ Owners targeted with IPR petitions have typically spent tens to hundreds of thousands of dollars to obtain their patents, which come with a presumption of validity.¹⁶¹ Unsurprisingly, they wonder why they must now spend additional hundreds of thousands of dollars to vindicate the intellectual property rights they already believed they possessed. As a result, inventors and patent owners welcomed the USPTO’s development of

154. See generally Eric Rogers & Young Jeon, *Inhibiting Patent Trolling: A New Approach for Applying Rule 11*, 12 NW. J. TECH. & INTELL. PROP. 291 (2014).

155. See, e.g., Eileen McDermott, *Stewart Expands on “Settled Expectations” Criteria in Interim Discretionary Denial Process*, IPWATCHDOG (June 19, 2025), <https://ipwatchdog.com/2025/06/19/stewart-expands-settled-expectations-criteria-interim-discretionary-denial-process/> [<https://perma.cc/G66C-QZZW>] (including statement of IPWatchdog founder that Stewart’s approach was “exactly right”).

156. See Sterne & Quinn, *supra* note 10.

157. *Inter Partes Review – One Year Later*, ALSTON & BIRD LLP (Sep. 17, 2013), <https://www.alston.com/-/media/files/insights/publications/2013/09/iintellectual-property-advisory-inter-partes-revi/files/click-to-view-intellectual-property-advisory-pdf/fileattachment/13691interpartesreviewoneyearlater.pdf> [<https://perma.cc/SR45-MZ6Y>].

158. See, e.g., Gene Quinn, *A Kinder, Gentler “Death Squad”: Ten Years in, Despite Some Reforms, the USPTO Is Still Killing U.S. Patents*, IPWATCHDOG (Sep. 19, 2021), <https://ipwatchdog.com/2021/09/19/kinder-gentler-death-squad-ten-years-despite-reforms-uspto-still-killing-u-s-patents/> [<https://perma.cc/2V9T-W4Z5>].

159. IPR institution rates are based on USPTO data available at *Trial Statistics Archive*, USPTO, <https://www.uspto.gov/patents/ptab/statistics/aia-trial-statistics-archive> [<https://perma.cc/5K7H-HTSR>] (last visited Nov. 21, 2025).

160. See, e.g., Michael K. Henry, *How to Strengthen Your Patent Portfolio Against IPR Challenges*, HENRY PAT. L. FIRM (Apr. 26, 2024), <https://henry.law/blog/strengthen-your-patent-portfolio-against-ipr-challenges/> [<https://perma.cc/ULM5-2M8C>] (noting IPR costs of over \$300,000 for patentees).

161. 35 U.S.C. § 282(a).

discretionary denial practice post-*Cuozzo*, at least as a partial respite from the lack of finality as to their patent rights and to what inventors considered the increasing practice of large companies multiplying the costs of IPRs with serial petitions.

The remainder of Part III details these high-stakes arguments for and against discretionary denial practice. Section III.A discusses the policy arguments in favor of discretionary denial, highlighting concerns about strategic abuse and excessive defense costs for patent owners. Section III.B presents the main counterargument, that is, that discretionary denials diminish the ability of IPRs to solve the public goods problem of too few invalidity trials given the high volume of low-quality patents. Finally, Section III.C addresses the high-profile case of *VLSI v. Intel*, which, if representative of a significant number of discretionary denials, demonstrates that the practice itself frequently leads to wasteful, duplicative, and inconsistent litigation.

A. Principal Policy Arguments in Favor of Discretionary Denials

Patent owners and other proponents of robust discretionary denial practice argue that it lessens the risk that IPRs can be used to harass and wear down patentees.¹⁶² This phenomenon is particularly acute when a patent is subject to serial petitions challenging its validity, a tangible risk for IPRs because the AIA only expressly provides for denying petitions based on “substantially the same prior art or arguments.”¹⁶³ Thus, the accessibility of IPRs may expose patentees to repeated challenges, raising concerns about the stability and enforceability of their rights, and, as a result, patentees may face substantially higher adjudication costs.¹⁶⁴

Such costs can refer to the risk that a patent may be held invalid after being granted, potentially chilling its enforcement or leading to licensing agreements inconsistent with the patent’s economic value.¹⁶⁵ These costs arise from the inherent uncertainty about the validity of any given patent and may manifest in two ways.¹⁶⁶ First, prior unsuccessful challenges do not prevent subsequent attempts at invalidation by other parties, thereby extending scrutiny over the whole period of exclusivity so long as the patentee continues to enforce the patent.¹⁶⁷ Second, an increased number of challenges raises the likelihood of invalidation, potentially reducing a patent’s economic value by subjecting it to a greater risk than a traditional patent examination proceeding.¹⁶⁸

162. Colleen Chien, Christian Helmers & Alfred Spigarelli, *Inter Partes Review and the Design of Post-Grant Patent Reviews*, 33 BERKELEY TECH. L.J. 817, 840 (2018) (additionally documenting that about 30% of patents challenged in IPRs had been subject to serial challenges).

163. See 35 U.S.C. § 325(d).

164. Greg Reilly, *Patent Invalidation Costs*, 102 DENV. L. REV. 103, 137 (2024).

165. *Id.* at 127.

166. *Id.*

167. *Id.* at 128.

168. *Id.* at 137.

Adjudication costs may also refer to the economic burden of repeatedly defending a patent's validity, which can decrease the net positive value of the right.¹⁶⁹ These costs can exist in two forms. First, direct costs that are incurred in every proceeding can be substantial.¹⁷⁰ For example, the estimated median cost to adjudicate a patent through appeal in an IPR ranges from \$0.5 million up to \$0.8 million.¹⁷¹ Second, validity challenges tend to concentrate on patents with higher economic value, significantly stacking costs onto a narrow set of patentees.¹⁷² Combined, these costs can divert a patentee's resources and attention from ongoing commercialization efforts.¹⁷³

The dire practical implications of this argument are powerfully articulated by Professor Adam Mossoff, who argues that Big Tech has been abusing IPRs through non-stop, serial and duplicative attacks on inventor rights.¹⁷⁴ Mossoff champions the view that IPR proceedings have been used "by large, well-funded Big Tech companies that try to steal technologies owned by inventors or small businesses."¹⁷⁵ He asserts they do so through so-called "predatory infringement," where infringers gladly pay the price of serial IPRs to continue unlicensed use of valuable technology, and innovators lack the financial resources to continue the defense of their patent rights.¹⁷⁶

Mossoff also describes predatory infringement as a successful strategy due to the weight of legal changes since 2005, making it more expensive to enforce patents and less likely for owners to win.¹⁷⁷ Combine those changes with the estimated \$300,000 to \$600,000 cost of defending a single PTAB proceeding,¹⁷⁸ and patent owners are in an untenable position.

For a patent owner, the approximately one-half-million dollars in expenses imposed by the PTAB is a pure cost with no potential upside. If the patent owner loses at the PTAB, its patent is canceled. But if the petitioner loses, the patent owner does not gain anything. The patent owner has paid approximately one-

169. *Id.* at 130.

170. *Id.*

171. AM. INTELL. PROP. L. ASS'N, REPORT OF THE ECONOMIC SURVEY 63 (2023).

172. See Reilly, *supra* note 164, at 131.

173. *Id.* at 130–31.

174. See generally Adam Mossoff, *Big Tech's Abuse of Patent Owners in the PTAB Must End*, HERITAGE FOUND. LEGAL MEMORANDUM (June 29, 2023), <https://www.heritage.org/big-tech/report/big-techs-abuse-patent-owners-the-ptab-must-end> [<https://perma.cc/V9HW-KKXY>].

175. See *id.*

176. *Id.*

177. *Id.* For instance, *eBay Inc. v. MercExchange, L.L.C.* eliminated the automatic grant of injunctions for prevailing patent owners and permanent injunctions in favor of NPE patent plaintiffs have been rare since. See Mark A. Lemley, *The Surprising Resilience of the Patent System*, 95 TEX. L. REV. 1, 10–11 (2016) (summarizing all the legal changes since 2000 that arguably weaken patent rights). This changes the economics of infringement from one where a defendant faces the threat of the shutdown of a product line to one where the defendant will simply have to pay a reasonable royalty for past infringement.

178. See *Inter Parties Review Attorney Costs and Key Considerations*, UPCOUNSEL (Sep. 29, 2025), <https://www.upcounsel.com/cost-of-inter-partes-review> [<https://perma.cc/8Y2J-BR48>].

half-million dollars in costs to its lawyers, and it must continue to defend its patent against further PTAB petitions or in parallel court proceedings. In short, for patent owners, the PTAB represents the classic perverse adage, “heads, I win, tails, you lose.”¹⁷⁹

For opponents of IPRs, duplicative PTAB proceedings shift the position of patent owners from dire to impossible. According to Mossoff, serial petition abuse, especially against patent owners who sue big tech companies, began early in the life of the PTAB.¹⁸⁰ He cites the example of Zond, Inc., a plasma discharge technology developer that in 2014 faced ninety total PTAB petitions after it had sued Intel, Toshiba, AMD, and others for infringement.¹⁸¹ Intel alone filed twenty-seven petitions against Zond.¹⁸² Mossoff also provides several other frustrating examples of patent owners being buried in IPRs and other PTAB proceedings, including E-Watch, Inc., which, after suing Apple, Sony, Samsung, LG, and Huawei for a patent involving wireless image and video collection, processing, and distribution, faced twelve separate petitions.¹⁸³

While Mossoff would prefer that the PTAB be eliminated entirely, he recognized the value of discretionary denials as practiced with the adoption of the *Fintiv* factors in somewhat leveling the playing field and reducing the ability of Big Tech to use serial duplicative PTAB proceedings “as a legal cudgel in their predatory infringement toolbox.”¹⁸⁴ He indicates that the proof is represented in the reaction of Big Tech, which immediately sued the USPTO to try to end the practice.¹⁸⁵ This challenge has backfired, with the Federal Circuit holding in February 2026 that the USPTO Director has nearly unlimited discretion on IPR institution.¹⁸⁶ While Mossoff’s argument in favor of discretionary denials to restrict the use of IPRs for predatory infringement is powerful, so too is the main argument against discretionary denials.

B. Principal Policy Arguments Against Discretionary Denials

We introduced this Article with a short explanation of how a robust IPR process can solve a real-life public goods problem and address concerns about the under-provision of patent validity challenges.¹⁸⁷ We explain that because the USPTO grants many low-quality patents covering old or obvious ideas and

179. Mossoff, *supra* note 174.

180. *Id.* at 9.

181. *Id.* (citing Saurabh Vishnubhakat, Arti K. Rai & Jay P. Kesan, *Strategic Decision Making in Dual PTAB and District Court Proceedings*, 31 BERKELEY TECH. L.J. 45, 113–16 (2016)).

182. *Id.*

183. *Id.*

184. *Id.*

185. *Id.*

186. See Joshua Rich, *Apple v. Squires: USPTO Director Has Unlimited Discretion on IPR Institution*, JD SUPRA (Feb. 18, 2026), <https://www.jdsupra.com/legalnews/apple-v-squires-uspto-director-has-6774594/> [<https://perma.cc/M27V-BUD7>].

187. See ZIRPOLI & HICKEY, *supra* note 3, at 2; Allison, Lemley & Walker, *supra* note 17, at 37; Moss, Duan & Kane, *supra* note 16.

because of the high costs associated with traditional district court litigation, it is typically a rational choice for individual technology users targeted by patent owners to settle rather than litigate through a final judgment on the merits.¹⁸⁸ This trend of settling over litigating validity creates a public goods problem when many firms are using the patented technology because the result of one user challenging patent validity is: (1) non-excludable: it benefits all affected entities, even those that did not litigate; and (2) non-rivalrous: the use of the knowledge incorporated into the invalidated patent by one entity does not reduce its availability to others.¹⁸⁹

By extension, when defendants do litigate through a judgment of invalidity, their competitors can act as free riders,¹⁹⁰ taking advantage of the benefits of invalidating a patent without incurring the corresponding costs.¹⁹¹ Again, fundamental characteristics of patent litigation generally result in under-provision of patent validity trials.¹⁹² These include that challenging a patent imposes high costs on the individual litigant, whereas the benefits are widely distributed because any competitor can profit from the litigation outcome without sharing its burden.¹⁹³ Further, litigation costs are undeniably high¹⁹⁴ relative to the expected payoff for the party seeking to invalidate a patent and fee shifting is unavailable outside of “exceptional cases.”¹⁹⁵ Finally, for this public goods problem to exist, the USPTO must grant invalid patents.

To illustrate the public goods problem, consider a hypothetical case with a patent whose expected value to the owner is \$100 million if judged valid and thus infringed by the ten existing producers in the industry. Further assume the producers and patent owners all believe there is a 50 percent chance the patent is

188. See, e.g., Ranganath Sudarshan, *Nuisance-Value Patent Suits: An Economic Model and Proposal*, 25 SANTA CLARA HIGH TECH. L.J. 159 (2008).

189. Joseph E. Stiglitz, *Economic Foundations of Intellectual Property Rights*, 57 DUKE L.J. 1693, 1700, 1715–16 (2008).

190. See Joseph Farrell and Robert P. Merges, *Incentives to Challenge and Defend Patents: Why Litigation Won't Reliably Fix Patent Office Errors and Why Administrative Patent Review Might Help*, 19 BERKELEY TECH. L.J. 943, 951–52 (2004); Joseph Scott Miller, *Building a Better Bounty: Litigation-Stage Rewards for Defeating Patents*, 19 BERKELEY TECH. L.J. 667, 685–95 (2004).

191. See Joseph S. Miller, *Joint Defense or Research Joint Venture? Reassessing the Patent-Challenge-Bloc's Antitrust Status*, 2011 STAN. TECH. L. REV. 5, 13–14 (2011).

192. Miller, *supra* note 190, at 685–95.

193. See *Blonder-Tongue Lab'ys, Inc. v. Univ. of Ill. Found.*, 402 U.S. 313, 338, 349–50 (1971) (holding that a patentee cannot enforce a patent once declared invalid, including against entities that were not parties in the original suit).

194. See Megan M. La Belle, *Patent Litigation, Personal Jurisdiction, and the Public Good*, 18 GEO. MASON L. REV. 43, 45–46 (2010) (discussing high litigation costs in court, combined with relatively long period for resolution at trial court and risk of reversal on appeal); see also Kimberly A. Moore, *Judges, Juries, and Patent Cases - An Empirical Peek Inside the Black Box*, 99 MICH. L. REV. 365, 367 (2000) (discussing high litigation costs, especially when disputes proceed to jury trial).

195. Currently, attorneys' fees can be awarded to the prevailing party in “exceptional cases.” 35 U.S.C. § 285 (emphasis added); see Fiona Scott Morton & Carl Shapiro, *Patent Assertions: Are We Any Closer to Aligning Reward to Contribution?*, 16 INNOVATION POL'Y & ECON. 89, 93, 101–03, 106–07 (2016) (discussing asymmetric and higher litigation costs for alleged infringers compared to patentees, along with issues regarding exceptional fee shifting awards).

invalid as covering old or obvious ideas. Patent Owner sues Producer 1, demanding it pay \$10 million, one tenth of industry-wide damages. Producer 1, expecting that a validity trial is as good as a coin flip, must still consider whether it is worth it to challenge validity, knowing that it will have to spend \$2 million in litigation costs,¹⁹⁶ for what we have assumed is a 50 percent chance of paying no damages after a final judgment of invalidity. Producer 1 thus faces an expected payoff from litigating through trial of negative \$7 million.¹⁹⁷ Accordingly, if economically rational, Producer 1 will settle the case for anything less than \$7 million, and in many cases, Patent Owner will agree, given the uncertain validity outcome, its own litigation costs, and the value of a successful settlement as a signal to the other producers in the industry.

If, however, there was some way to significantly decrease Producer 1's cost of challenging validity, it will do so despite the external benefits to its competitors. One solution would be for the ten producers to band together and agree to evenly fund Producer 1's litigation and divide any judgment against it. If successful, the expected payoff for Producer 1 to litigate through a validity trial would become a much less burdensome negative \$700,000. This shrinks the settlement range so much that Patent Owner may now think twice before even filing suit. Alternatively, society could create a cheaper forum to challenge patent validity where competitors can utilize third parties to further decrease the cost of such challenges; this was the very intent behind the creation of IPRs.

The argument is well and good so far, but ultimately depends on the crucial assumption that patent quality is a major problem. Fortunately for proponents of IPRs, the evidence overwhelmingly shows that it is. Before discussing the evidence and how it motivated the AIA and the creation of the PTAB, what exactly do we mean by patent quality? Put simply, it is the likelihood that a granted patent meets all the statutory requirements for protection. In other words, low-quality patents are likely invalid. Miller has focused prior empirical work on patent quality on § 102 novelty and § 103 non-obviousness for the commonsense reason that granted patents lacking these traits are devoid of innovation, and incentivizing the development of new technology is the primary objective for granting inventors exclusive patent rights in the first place.¹⁹⁸ Miller joins other scholars in qualifying the concept of patent quality with "likelihood" because it makes sense to think of inventor rights as probabilistic and contingent on unknown or misunderstood information (e.g., prior art) that supports or casts doubt on the validity of the claimed matter down the road when a granted patent is tested during enforcement.¹⁹⁹

196. AM. INTEL. PROP. L. ASS'N, *supra* note 171, at 61 (reporting that the estimated median litigation costs up to appeal range from \$0.6 million to \$3.625 million).

197. Expected payoff from litigation = $-\$7\text{MM} = 0.5X$ (payoff from trial finding patent invalid) + $0.5Y$ (payoff from trial finding patent not invalid) = $0.5(-\$2\text{MM}) + 0.5(-\$2\text{MM} - \$10\text{MM})$.

198. See generally Miller, *Where's the Innovation*, *supra* note 71.

199. See, e.g., Mark A. Lemley & Carl Shapiro, *Probabilistic Patents*, 19 J. ECON. PERSP. 75 (2005).

Overwhelming evidence from recent academic and government studies shows that patent quality is a major problem. In a recent report on patent quality, the Government Accountability Office (GAO) presented evidence that the USPTO has failed to effectively assess and manage the quality initiatives it began implementing in the wake of the AIA.²⁰⁰ The GAO found that patent examiners continue to believe they are incentivized to prioritize speed and quantity of examination over quality.²⁰¹ Though unfortunate, pushing output is understandable given the current staggering backlog of approximately 800,000 pending patent applications.²⁰² However, according to the GAO, the bottom line is that when patent validity is tested in a district court, claims are invalidated nearly 40 percent of the time.²⁰³

Miller's first empirical study, published in 2013, supports the conclusion that the magnitude of the quality problem has been persistent since at least the early 2000s.²⁰⁴ That project found that 37 percent of litigated patents whose novelty and non-obviousness were tested through a final judgment on the merits were invalidated on at least one of those grounds.²⁰⁵ Further, through a statistical model that approximates an apples-to-apples comparison between litigated and non-litigated patents, Miller estimated that nearly 30 percent of all granted patents would be found to possess anticipated or obvious claims if their validity were litigated.²⁰⁶ In a soon to be published work in progress,²⁰⁷ Miller reapplies the methods of the 2013 study to patenting and litigation during the second decade of the 2000s. The main result from this updated analysis is that the invalidity rate on anticipation or obviousness of patents litigated during this decade has inched up to 39 percent, strongly supporting the conclusions of the GAO report.

Given the GAO's count of 365,000 patents granted during the 2024 fiscal year,²⁰⁸ these invalidity estimates suggest the USPTO grants approximately 100,000 low-quality patents every year. The critical question is how best to address this unfortunate reality through policy. Supporters believe that a robust

200. U.S. GOV'T ACCOUNTABILITY OFF., GAO-25-107218, INTELLECTUAL PROPERTY: PATENT OFFICE SHOULD STRENGTHEN ITS EFFORTS TO ADDRESS PERSISTENT EXAMINATION AND QUALITY CHALLENGES (2025) [hereinafter GAO REPORT], <https://www.gao.gov/assets/gao-25-107218.pdf> [<https://perma.cc/U7LQ-9KZQ>].

201. *Id.* at pmbl.

202. Press Release, U.S. Pat. & Trademark Off., USPTO Turns the Corner on Unexamined Patent Application Backlog Reduction (Apr. 10, 2026), <https://www.uspto.gov/about-us/news-updates/uspto-turns-corner-unexamined-patent-application-backlog-reduction>.

203. GAO REPORT at pmbl. (citing John R. Allison, Mark A. Lemley & David L. Schwartz, *Our Divided Patent System*, 82 U. CHI. L. REV. 1073 (2015)).

204. See generally Miller, *Where's the Innovation*, *supra* note 71.

205. *Id.* at 22.

206. *Id.* at 45 ("I find the unconditional probability a patent is at least partially invalidated as anticipated or obvious is 0.28.").

207. Shawn P. Miller, *Where's the Innovation? An Analysis of the Quantity and Qualities of Anticipated and Obvious Patents Part II* (2026) (unpublished manuscript) (on file with author).

208. GAO REPORT, *supra* note 200, at pmbl.

system of post-grant proceedings is much more effective than simply bolstering the resources of the examination arm of the USPTO. The reason is understood through the economic idea of “rational ignorance,” first applied to patent examination by Professor Mark Lemley.²⁰⁹ Lemley argues that it would be inefficient to dramatically increase the USPTO budget for examination purposes because such a small share of granted patents are ever actually enforced or licensed.²¹⁰ Specifically, he estimates that only about 1.5 percent of patents are ever litigated and only about 5 percent are ever the subject of licensing efforts.²¹¹ These numbers suggest that the vast majority of patents serve short-term value to their owners and investors (perhaps as signals of research success) or long-term, untested defensive value. Consequently, these patents never reach a point in the real world where their own owners believe enforcement is worth the cost.

Thus, we believe that quality efforts should focus on those patents that are economically valuable enough for owners to litigate and technology users to challenge. This is exactly what has occurred with post-grant proceedings—especially IPR—since enactment of the AIA. Rather than worrying too much about the quality of the hundred thousand new low-value patents each year, the U.S. patent system has been able to focus its resources on the five to ten thousand that innovators and technology users judge are worth the effort.²¹²

Petitioners and some technology companies, including in Big Tech, decried discretionary denial practice as harming the effectiveness of IPR.²¹³ The narrative goes as follows: The overabundance of discretionary denials is due to the PTAB yielding to the overly optimistic trial schedules of some district court judges, resulting in the defendants facing the prospect of settlement as to avoid the greater expense—or perceived pro-plaintiff bias—of a potential jury trial.²¹⁴

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

210. *Id.* at 1496–97.

211. *Id.* at 1507.

212. See Shawn Miller, *Maintaining a Speedy and Robust IPR Process Should Be a Major Focus of John Squires’ Patent Quality Efforts*, PATENTLY-O (June 6, 2025) [hereinafter *Maintaining*], <https://patentlyo.com/patent/2025/06/maintaining-process-quality.html> [<https://perma.cc/E7JU-FDDX>]. Granted, some of these patents are low quality. However, such patents have a high value, contingent on the low probability that they are not found to be invalid.

213. See, e.g., Intel Corp. & Dell Inc., Comment Letter on Discretion to Institute Trials Before the Patent Trial and Appeal Board (Dec. 3, 2020), <https://www.uspto.gov/sites/default/files/documents/1232020IntelCorporationandDellInc.pdf> [<https://perma.cc/FW5N-UY6P>]; see generally *Comments on Discretion to Institute Trials Before the Patent Trial and Appeal Board published October 20, 2020*, USPTO (Dec. 14, 2020), <https://www.uspto.gov/patents/ptab/comments-proposed-rules-discretion> [<https://perma.cc/2QCJ-J5TF>] (collecting comments).

214. See, e.g., Enplug, Inc., Comment Letter on Discretion to Institute Trials Before the Patent Trial and Appeal Board, at 2 (Oct. 8, 2020), https://www.uspto.gov/sites/default/files/documents/11_2_2020_Enplug_Inc_1.pdf [<https://perma.cc/3C2F-JJUA>] (“Thus, in many cases, defendants that are denied recourse to the PTAB are forced to enter into nuisance settlements . . .”); United for Pat. Reform, Comment Letter on Discretion to Institute Trials Before the Patent Trial and Appeal Board, at 6 (Dec. 3, 2020),

If the evidence supports the negative effects of discretionary denial practice, then it would counter the efficacy of IPR in solving the public goods problem of insufficient validity trials given the existence of numerous low-quality patents. We test the discretionary denial opponents' rationale in the second part of the empirical analysis of this Article.²¹⁵ But before turning to our analysis, we explain a second type of harm beyond exacerbating the public goods problem that could be created by discretionary denial practice.

C. Arguments for Potential Waste from Discretionary Denials Even When Restricted to Parallel Proceedings

Even if discretionary denial is used narrowly to avoid parallel proceedings, and even if punting IPRs to concurring parallel district court proceedings still leads to an invalidity trial, the practice could generate significant economic waste for litigants, the courts, and the USPTO. Such waste may stem from the post-discretionary denial filing of many new lawsuits—some even resulting in jury verdicts upholding validity—before the PTAB or another venue ultimately steps in and invalidates the challenged patents. The frequently cited poster child illustrating this possibility is the ongoing legal battle between VLSI Technology, LLC (“VLSI”) and Intel Corp. (“Intel”). This is a long story, and the length is the point: critics argue that the PTAB’s failure to institute the first petitions challenging VLSI’s patents led to years of unnecessary litigation and inconsistent judgments.

In 2019, VLSI sued Intel in the U.S. District Court for the Western District of Texas alleging Intel infringed two of its patents, U.S. Patent Nos. 7,523,373²¹⁶ (the ‘373 patent) and 7,725,759²¹⁷ (the ‘759 patent).²¹⁸ VLSI’s predecessor, VLSI Technology, Inc. (“VLSI Inc.”), was founded in 1979 and began as an integrated circuit designer and manufacturer.²¹⁹ VLSI Inc. was a significant innovator throughout its history, but its success ebbed and flowed. During the mid-1990s, it ceded the personal computer chipset market to Intel because of the

<https://www.uspto.gov/sites/default/files/documents/1232020UnitedforPatentReform.pdf> [<https://perma.cc/NZ62-72FR>] (describing the “Albright Doctrine,” which involves a district court mooting an IPR by moving quickly to trial so a jury can adjudicate validity in place of the PTAB). For more on the “Albright Doctrine,” see J. Jonas Anderson & Paul R. Gugliuzza, *Federal Judge Seeks Patent Cases*, 71 DUKE L.J. 419 (2021).

215. See *infra* Sections V.B–V.C.

216. Minimum Memory Operating Voltage Tech., U.S. Patent No. 7,523,373 (filed Aug. 30, 2006) (issued Apr. 21, 2009).

217. Sys. & Method of Managing Clock Speed in an Elec. Device, U.S. Patent No. 7,725,759 (filed June 29, 2005) (issued May 25, 2010).

218. See VLSI Tech. LLC v. Intel Corp., No. 6:21-CV-057, 2022 WL 1477724, at *1 (W.D. Tex. May 10, 2022), *rev’d and remanded*, 87 F.4th 1332 (Fed. Cir. 2023).

219. VLSI Technology, Inc., <https://www.encyclopedia.com/books/politics-and-business-magazines/vlsi-technology-inc> [<https://perma.cc/EW23-S9TW>] (last visited Mar. 6, 2025).

latter's ability to package-sell its processors and chipsets.²²⁰ By the late 1990s, VLSI Inc.'s most successful products were in the telecommunications sector.²²¹ In 1999, Royal Philips Electronics N.V. ("Philips") acquired VLSI Inc. to gain its successful wireless handset integrated circuit business.²²² Philips then spun off VLSI Inc.'s component assets to NXP Semiconductors N.V. ("NXP").²²³ Seeking to monetize VLSI Inc.'s legacy semiconductor patents, NXP licensed its intellectual property to VLSI, a patent licensing firm created for that purpose.²²⁴

The '373 and '759 patents involve semiconductor technologies,²²⁵ which VLSI alleged Intel used without authorization in its microprocessors.²²⁶ VLSI's existence as a NPE and its litigation against the surviving competitors of the original inventors' now-deceased manufacturing firm are examples of a fairly common type of so-called "patent trolling."²²⁷ As we now detail, the history of VLSI's litigation against Intel, and Intel's attempts to kill VLSI's patents through the IPR process, is special because of the astonishing amount of apparent economic waste. The *VLSI* saga thus became the canary in the coal mine for opponents of discretionary denial, a mechanism intended to decrease duplicative proceedings but that, in this story, instead spurred the opposite.

Just seven months after VLSI sued Intel for patent infringement in district court, Intel timely petitioned the PTAB for IPR of the '373 patent.²²⁸ The PTAB soon denied institution of Intel's IPR—effectively dismissing the proceeding—

220. *VLSI Technology, Inc.*, DOS DAYS, <https://www.dosdays.co.uk/topics/Manufacturers/vlsi.php> [<https://perma.cc/HRY6-7CQZ>] (last visited Mar. 24, 2026); *VLSI Technology, Inc.*, ENCYCLOPEDIA.COM, *supra* note 219.

221. *See 1990s Intel*, AM. HERITAGE (June 2001), <https://www.americanheritage.com/1990s-intel> [<https://perma.cc/6K9L-9SSA>] (last visited Mar. 6, 2025).

222. *Philips in \$1 Billion Deal for VLSI Technology*, N.Y. TIMES, May 4, 1999, at C4; *see VLSI Technology May Reject Philips Offer*, FORBES (Mar. 1, 1999), <https://www.forbes.com/1999/03/01/mu5.html> [<https://perma.cc/T4DW-Q25Y>] ("In fact, three out of ten cellular phones sold worldwide use VLSI chips—one of the main reasons why the company is such an attractive acquisition target, analysts say.").

223. *Philips Semiconductors Becomes NXP and Plans Buys*, TECH MONITOR (Sep. 3, 2006), https://www.techmonitor.ai/technology/philips_semiconductors_becomes_nxp_and_plans_buys [<https://perma.cc/L2C3-DZZW>] (last visited Mar. 6, 2025).

224. *See VLSI Tech. LLC v. Intel Corp.*, No. 17-CV-05671, 2023 WL 9052312, at *1 (N.D. Cal. Dec. 20, 2023) ("VLSI and its parent company CF VLSI Holdings LLC ('VLSI Holdings') were created in 2016 for the purpose of acquiring and licensing a portfolio of semiconductor patents from NXP Semiconductors ('NXP').").

225. *See* U.S. Patent No. 7,523,373, at [57] (filed Aug. 30, 2006) ("A method includes an integrated circuit with a memory."); U.S. Patent No. 7,725,759, at [57] (filed June 29, 2005) ("A method of controlling a clock frequency is disclosed and includes monitoring a plurality of master devices that are coupled to a bus within a system.").

226. *VLSI Tech. LLC v. Intel Corp.*, No. 6:21-CV-057, 2022 WL 1477724, at *1 (W.D. Tex. May 10, 2022), *rev'd and remanded*, 87 F.4th 1332 (Fed. Cir. 2023).

227. *See* Brian J. Love, Shawn P. Miller & Shawn Ambwani, *Determinants of Patent Quality: Evidence from Inter Partes Review Proceedings*, 90 U. COLO. L. REV. 67, 93–94 (2019) (defining "patent 'trolling'").

228. *Intel Corp. v. VLSI Tech. LLC*, No. IPR2020-00158, Paper 3 (P.T.A.B. Nov. 20, 2019).

partly on the grounds that the parties had already significantly invested in district court litigation involving the '373 patent.²²⁹ Then, on March 2, 2021, a jury in the Western District of Texas found that Intel infringed both patents and awarded VLSI over two billion dollars in damages.²³⁰ Intel appealed this holding to the U.S. Court of Appeals for the Federal Circuit.²³¹

Three months after VLSI's win, a separate entity, OpenSky Industries LLC ("OpenSky"), petitioned the PTAB for new IPRs of the '373 and '759 patents.²³² OpenSky's petitions copied Intel's prior IPR filings extensively.²³³ Additionally, OpenSky filed identical supporting declarations of some of Intel's experts.²³⁴ In its Preliminary Response, VLSI highlighted that OpenSky formed after the jury verdict against Intel came down in the Western District of Texas; VLSI further mentioned that OpenSky's only actions since its formation were the filing of these IPR petitions against VLSI.²³⁵ Nevertheless, the PTAB instituted one of OpenSky's IPRs while denying another, concluding that OpenSky showed a reasonable likelihood of prevailing with respect to the unpatentability of at least one challenged claim in the instituted proceeding.²³⁶ Moreover, after institution, the PTAB granted Intel's motion for joinder in the IPR proceedings, allowing Intel "the opportunity to pursue a decision on the merits"²³⁷ despite the judgment against it in the Western District of Texas. In parallel, the PTAB instituted review

229. Intel Corp. v. VLSI Tech. LLC, No. IPR2020-00158, Paper 16, at 9–10, 14 (P.T.A.B. May 20, 2020) (citing Apple Inc. v. Fintiv, Inc., No. IPR2020-00019, Paper 11, at 11 (P.T.A.B. Mar. 20, 2020) (designated precedential May 5, 2020)).

230. VLSI Tech. LLC, 2022 WL 1477724, at *1.

231. Defendant Intel Corporation's Notice of Appeal at 1, VLSI Tech. LLC v. Intel Corp., No. 6:21-CV-057, 2022 WL 1477724 (W.D. Tex. May 10, 2022), Dkt. No. 704.

232. OpenSky Indus. LLC v. VLSI Tech. LLC, No. IPR2021-01056, Paper 2 (P.T.A.B. June 7, 2021) (petitioning for institution of IPR of the '373 patent); OpenSky Indus. LLC v. VLSI Tech. LLC, No. IPR2021-01064, Paper 2 (P.T.A.B. June 7, 2021) (petitioning for institution of IPR of the '759 patent).

233. OpenSky Indus. LLC v. VLSI Tech. LLC, No. IPR2021-01064, Paper 102, at 7–8 (P.T.A.B. Oct. 4, 2022); see OpenSky Indus. LLC v. VLSI Tech. LLC, No. IPR2021-01056, Exhibit 2016 (P.T.A.B. Sep. 24, 2021).

234. OpenSky Indus. LLC v. VLSI Tech. LLC, No. IPR2021-01064, Paper 102, at 8 n.4 (P.T.A.B. Oct. 4, 2022); see OpenSky Indus. LLC v. VLSI Tech. LLC, No. IPR2021-01056, Paper 9, at 5–8 (P.T.A.B. Sep. 24, 2021).

235. OpenSky Indus. LLC v. VLSI Tech. LLC, No. IPR2021-01056, Paper 9, at 4 (P.T.A.B. Sep. 24, 2021).

236. OpenSky Indus. LLC v. VLSI Tech. LLC, No. IPR2021-01056, Paper 18 (P.T.A.B. Dec. 23, 2021) (denying institution of IPR of the '373 patent); OpenSky Indus. LLC v. VLSI Tech. LLC, No. IPR2021-01064, Paper 43 (P.T.A.B. June 8, 2022) (granting institution of IPR of the '759 patent and joinder to Intel's IPR2022-00366, per Intel Corp. v. VLSI Tech. LLC, No. IPR2022-00366, Paper 14 (P.T.A.B. June 8, 2022)).

237. See OpenSky Indus. LLC v. VLSI Tech. LLC, No. IPR2021-01064, Paper 43, at 11 (P.T.A.B. June 8, 2022).

of the '373 patent in an IPR brought by Patent Quality Assurance,²³⁸ and it similarly granted Intel's motion for joinder in those proceedings.²³⁹

In June 2022, Director Vidal sua sponte ordered Director Review of the PTAB proceedings involving the '373 and '759 patents.²⁴⁰ Recognizing issues concerning OpenSky's conduct, Director Vidal ordered a Mandated Discovery²⁴¹ to gain answers to questions regarding the "formation and business of OpenSky," which OpenSky ultimately failed to comply with.²⁴² OpenSky's lack of response to Director Vidal's discovery demands, along with VLSI's allegations that OpenSky had abused the IPR process, led Director Vidal to issue a precedential decision that elevated Intel to an active party in the proceedings—placing OpenSky in an "understudy" role—and ordered OpenSky to show cause as to why it should not be required to pay compensatory expenses.²⁴³ Director Vidal additionally directed the PTAB to reconsider its institution decision under a heightened "compelling merits" standard.²⁴⁴

Despite Director Vidal's Director Review Decision, by June 2023, the PTAB issued final written decisions for the IPRs of the '373 and '759 patents, holding all challenged claims in both patents unpatentable.²⁴⁵ VLSI filed a notice to appeal the PTAB's final written decision for the '759 patent to the Federal Circuit on July 13, 2023.²⁴⁶ Later, on December 4, 2023, the Federal Circuit reversed the 2021 district court judgment in favor of VLSI, holding Intel not liable for infringement of the '759 patent.²⁴⁷ The Federal Circuit also affirmed that Intel infringed the '373 patent, but vacated the damages award and remanded the case for further proceedings.²⁴⁸ In February 2024, VLSI filed a notice to

238. Pat. Quality Assurance, LLC v. VLSI Tech. LLC, No. IPR2021-01229, Paper 10 (P.T.A.B. Jan. 26, 2022).

239. Pat. Quality Assurance, LLC v. VLSI Tech. LLC, No. IPR2021-01229, Paper 30 (P.T.A.B. June 6, 2022) (granting institution of IPR2021-01229, per Intel Corp. v. VLSI Tech. LLC, No. IPR 2022-00479, Paper 13 (P.T.A.B. June 6, 2022)).

240. OpenSky Indus. LLC v. VLSI Tech. LLC, No. IPR2021-01064, Paper 41 (P.T.A.B. June 7, 2022) ('759 patent); Pat. Quality Assurance, LLC v. VLSI Tech. LLC, No. IPR2021-01229, Paper 31 (P.T.A.B. June 7, 2022) ('373 patent).

241. OpenSky Indus. LLC v. VLSI Tech. LLC, No. IPR2021-01064, Paper 47, at 9–11 (P.T.A.B. July 7, 2022).

242. OpenSky Indus. LLC v. VLSI Tech. LLC, No. IPR2021-01064, Paper 102, at 2–4, 13 (P.T.A.B. Oct. 4, 2022).

243. *Id.* at 47, 50–51.

244. *Id.* at 49.

245. Pat. Quality Assurance, LLC v. VLSI Tech. LLC, No. IPR2021-01229, Paper 129 (P.T.A.B. June 13, 2023) (determining all challenged claims of the '373 patent unpatentable); Intel Corp. v. VLSI Tech. LLC, No. IPR2021-01064, Paper 135 (P.T.A.B. May 12, 2023) (determining all challenged claims of the '759 patent unpatentable).

246. OpenSky Indus., LLC v. VLSI Tech. LLC, No. IPR2021-01064, Paper 139, at 1 (P.T.A.B. July 13, 2023).

247. VLSI Tech. LLC v. Intel Corp., 87 F.4th 1332, 1343–45 (Fed. Cir. 2023).

248. *Id.* at 1345–49.

appeal the PTAB's final written decision for the '373 patent to the Federal Circuit.²⁴⁹

The events outlined appear to fly in the face of (1) the AIA's purpose of creating a relatively quick and less expensive alternative to district court litigation and (2) the goal of discretionary denial to do so while eliminating duplicative proceedings. In the *VLSI* saga, the PTAB's early discretionary denials resulted in years of additional litigation that could have been avoided if the PTAB had decided Intel's initial IPR petitions on the merits. The resulting waste in this case adds fuel to the fire of discretionary denial opponents' general argument that its use has decreased the effectiveness of IPRs in maintaining patent quality. Not only are fewer bad patents eliminated, but the *VLSI* saga suggests that discretionary denial itself can generate at least some lengthier, more expensive, and more convoluted patent disputes than were possible before the AIA created the PTAB. In the third part of our empirical analysis,²⁵⁰ we investigate whether waste and inconsistent judgments stemming from discretionary denials are common or whether cases such as the *VLSI* saga are an anomaly.

IV.

DATA AND METHODOLOGY

Part IV explains the data and its sources and summarizes the study design aimed at informing the ongoing debate about the costs and benefits of discretionary denial practice. We answer specific, relevant questions through empirical analysis of IPR institution decisions from before the USPTO's use of discretionary denial began through its ebbing when parties began to avoid it through *Sotera* stipulations.

The first two questions include: (1) Was the PTAB's use of discretionary denials largely confined to the presence of duplicative proceedings as proponents have insisted, or was its use contingent on certain categories of patents or owners? (2) Did the PTAB's use of discretionary denials restrict the value of IPR petitions as a relatively cheap alternative to district court litigation that alleviates the public goods problem of rational settlement, as opponents have feared?

To answer our first empirical question,²⁵¹ we collected copious data on every IPR proceeding filed from the beginning of 2013²⁵² through the end of 2021 that included an institution decision. With discretionary denial practice beginning shortly after the Supreme Court's *Cuozzo Speed* decision on June 20,

249. *Pat. Quality Assurance, LLC v. VLSI Tech. LLC*, No. IPR2021-01229, Paper 144, at 1 (P.T.A.B. Feb. 9, 2024). There have not been additional court decisions on the two patents in question as of early 2026.

250. *See infra* Section V.C.

251. *See infra* Section V.A.

252. This was less than four months after PTAB proceedings, including IPRs, began on September 16, 2012. *See Inter Partes Review*, USPTO, <https://www.uspto.gov/patents/ptab/trials/inter-partes-review> [<https://perma.cc/EB4B-L6V3>] (last visited Mar. 17, 2026).

2016,²⁵³ this range includes roughly three years of IPR proceedings decided prior to the existence of discretionary denials. Our timeframe also spans peak use of discretionary denials through the beginning of their rapid decline after Director Vidal's June 21, 2022 Interim Procedure mandating the acceptance of *Sotera* stipulations.²⁵⁴

Utilizing Lex Machina,²⁵⁵ we first identified every IPR petition filed during this timeframe. We then eliminated those petitions that settled, were withdrawn, or were subject to a procedural dismissal before the institution decision. This left us with 10,159 IPRs with institution decisions over the nine years of our study. Among these, we next determined whether the PTAB granted institution or denied institution for any reason and found that across these decisions, 6,389 (62.9 percent) resulted in institution while 3,770 (37.1 percent) were denied institution. Finally, we reviewed the PTAB's rationale for denying institution in each petition and identified 496 (4.9 percent) where the PTAB used its discretion under § 314(a) to deny institution.²⁵⁶

As discussed, several precedential opinions culminating in *Apple Inc. v. Fintiv, Inc.* encouraged PTAB panels to use their discretion and deny institution when there are parallel PTAB proceedings or district court lawsuits involving the same patent and the same § 102 or § 103 invalidity contentions, especially where these parallel proceedings are further progressed towards a judgment.²⁵⁷ Accordingly, we used Lex Machina to identify whether the patent subject to each institution decision was simultaneously the subject of an open district court lawsuit or another PTAB proceeding as of each petition's institution date. From this information, we created dichotomous "Yes/No" variables indicating, for each institution decision, whether there was: (1) copending litigation; (2) copending PTAB proceeding(s); (3) copending litigation *and* PTAB proceeding(s); and (4) copending litigation *or* PTAB proceeding(s). These four measures of parallel proceedings represent our explanatory variables for investigating our first question, and we hypothesize that the PTAB will grant discretionary denials when there are copending district court lawsuits or PTAB proceedings. The value of the fourth measure of parallel proceedings is that we expect the PTAB to be more likely to grant discretionary denials when there are more copending proceedings.

There are several alternative reasons that the PTAB may grant discretionary denials. First, patents covering some technologies (e.g., e-commerce) tend to be

253. See *Cuozzo Speed Techs., LLC v. Lee*, 579 U.S. 261 (2016).

254. See Vidal 2022 Memorandum, *supra* note 91, at 7–8.

255. See *generally* LEX MACHINA, <https://lexmachina.com> [<https://perma.cc/DFA3-3C7P>] (last visited Mar. 17, 2026) (providing a searchable online patent litigation and PTAB proceeding database for legal analytics).

256. We narrowed our search for discretionary denials by first eliminating all petitions Lex Machina indicated were instituted for trial. We then reviewed the institution decisions of the remainder to identify every denial made through the PTAB's § 314(a) discretion.

257. See *supra* Section II.C.

plausibly infringed by many companies, though patents covering others (e.g., pharmaceuticals) tend to be potentially infringed by a few.²⁵⁸ These differences could account for variation in the likelihood of copending parallel proceedings and thus a discretionary denial. Unrelated to parallel proceedings, much research has demonstrated that some technologies of patents are more likely to be invalidated as anticipated or obvious than others.²⁵⁹ Given that the sixth *Fintiv* factor points the PTAB away from discretionary denial²⁶⁰ where the invalidity arguments are strong, we expect technologies of patents with lower average quality to be less likely to be the subject of a discretionary denial.

To determine whether technology differences rather than parallel proceedings drive the PTAB's use of discretionary denials, we collected and created dichotomous variables for the eight most common Technology Centers present in our dataset. When patent applications are first received by the USPTO, they are sorted for examination into a "Technology Center." Each Technology Center represents a broad technology type; for example, 1600 represents "biochemistry and organic chemistry."²⁶¹ We detail our results on the differences in discretionary denial rates by Technology Center in the next section, along with other key variables we hypothesize will explain the PTAB's decisions.

Beyond technology, the PTAB may be biased against NPEs or so-called patent trolls, especially given the fact that one of the reasons for its creation was to make it easier and cheaper for the targets of NPEs to challenge the validity of NPE patents.²⁶² Alternatively, as with some technologies, prior work demonstrates that NPE patents are litigated more frequently and in more lawsuits than patents owned by practicing entities.²⁶³ Either way, we test whether an NPE effect exists by collecting data from the Stanford NPE Litigation Database ("NPE Database"),²⁶⁴ which was cofounded by Miller and managed by coauthors Faria, Bernardes, and Le. The NPE Database categorizes the patent plaintiffs in every patent lawsuit filed in U.S. district courts from 2000 to the present as practicing entities, which make or sell products and services, or as one of eleven categories of NPEs, which do not sell products or services.²⁶⁵ The vast majority

258. See Shawn P. Miller, *It Takes Two to Incorporate: The Role of Patent Co-Ownership in Inventor Choice of Business Form*, 72 AM. U. L. REV. 1365, 1400 (2023).

259. See Shawn P. Miller, *Where's the Innovation*, *supra* note 71, at 1; see also Allison, Lemley & Schwartz, *supra* note 203, at 1117 (finding significant differences across technologies in infringement plaintiff win rates, including that software patents do worse than those in most other technology fields).

260. Apple Inc. v. Fintiv, Inc., No. IPR2020-00019, Paper 11, at 6 (P.T.A.B. Mar. 20, 2020) (designated precedential May 5, 2020).

261. Sean Tu, *Luck/Unluck of the Draw: An Empirical Study of Examiner Allowance Rates*, 2012 STAN. TECH. L. REV. 10, at *4 (2012).

262. See, e.g., Matal, *supra* note 2, at 627 (citing H.R. REP. NO. 112-98, at 54 (2011)).

263. See Allison, Lemley & Walker, *supra* note 17, at 680.

264. NPE Litigation Database, STAN. L. SCH., <http://npe.law.stanford.edu> [<https://perma.cc/H6BM-SR45>] (last visited Feb. 28, 2023).

265. *Id.*; Shawn P. Miller, Ashwin Aravind, Bethany Bengfort, Clarisse De La Cerda, Matteo Dragoni, Kevin Gibson, Amit Itai, Charles Johnson, Deepa Kannappan, Emily Kehoe, Hyosang Kim, Katherine Mladinich, Roberto Pinho, John Polansky & Brian Weissenberg, *Who's Suing Us? Decoding*

of NPEs in our dataset of IPR institution decisions fit the two categories most commonly associated with patent assertion entities, derisively known as “patent troll[s]”: Category 1 (“Acquired patents”) and Category 5 (“Individual-inventor-started company”).²⁶⁶

To answer our second empirical question, whether the use of discretionary denials decreased the efficacy of IPRs to aid the public goods problem of rational settlement over patent validity trials, we identified from Lex Machina every invalidity “trial” on § 102 or § 103 issues that judged each of the patents in our dataset the subject of an IPR institution decision. Utilizing several helpful Lex Machina data fields that identify whether a patent was judged invalid and whether it was so judged via summary judgment, trial, judgment as a matter of law (JMOL), or on appeal, we can determine whether patents denied IPR institution are nevertheless invalidated in Article III judicial proceedings. Combined with IPR trial decisions, we can determine trends in the rate of § 102 or § 103 invalidity trials and invalidity rates in those trials. We report these trends and their implications for the effect of discretionary denial practice on IPR effectiveness in Section V.B.

Finally, in Section V.C, we investigate a third question: whether there have been many cases, like the *VLSI* saga, where a discretionary denial turns out to be an ex post mistake, even though it appeared ex ante to be appropriate due to the presence of advanced parallel proceedings. To do so, we utilize Lex Machina’s linkage of all PTAB and district court proceedings involving a given patent to determine the frequency of potentially “wasteful” new litigation and PTAB proceedings filed after a discretionary denial. We explain what we mean by “wasteful,” *infra* Section V.C., but in brief, we consider lawsuits and IPRs filed after a discretionary denial “wasteful” if, as in the *VLSI* saga, one of the subsequently filed proceedings invalidated the patent subject to the original discretionary denial.

V.

RESULTS

Part V presents our results. In Section V.A, we determine whether discretionary denials were largely confined to the appropriate circumstance of parallel proceedings or whether they are better explained by more tangential traits like the technology of the patents or NPE status of their owners. In Section V.B, we investigate whether discretionary denial practice harmed the public

Patent Plaintiffs Since 2000 with the Stanford NPE Litigation Dataset, 21 STAN. TECH. L. REV. 235, 243–46 (2018) (categorizing NPEs).

266. See Miller et al., *supra* note 265, at 244 (noting that “Category 1 includes any NPE primarily in the business of asserting patents it has acquired from other entities. . . . Category 5 is comprised of firms primarily in the business of asserting patents, where the original inventor of the patents is the founder and/or owner of the NPE. Most Category 5 entities are limited liability companies owned by the inventor(s) of the asserted patents and exist solely to hold and enforce those patents.”).

goods value of IPR by decreasing the invalidity trial rate. In Section V.C, we investigate whether discretionary denials have nonetheless created “many” instances of waste like those critics have pointed to in the *VLSI* saga.

A. Regardless of Patent Technology or Ownership Type, Discretionary Denials Were Overwhelmingly Granted Where There Were Parallel Proceedings

In this Section, we investigate the frequency with which discretionary denials were granted when there were parallel proceedings and determine the relative role of patent technology and ownership type in the institution decision. We start with summary statistics and then test the strength of the connection between discretionary denials and parallel proceedings using multivariate analysis.

1. Summary Statistics of Key Determinants of Discretionary Denial

In Table 1, we report differences in the rates of the key variables that we hypothesize may explain the PTAB’s choice to issue a discretionary denial rather than deny for another reason or institute the petition on the merits. The raw descriptive statistics suggest that the PTAB is not more or less likely to issue a discretionary denial where the patent owner is an NPE. Further, differences between the rates of discretionary denial versus all other types of institution decisions are small for most Technology Centers, including our Combined Software and Communications patent category, which includes all patents from Technology Centers 2100, 2400, 2600, and 3600. We created this combined category given the special problems surrounding invalidity and the uncertain scope of these patents.²⁶⁷

Exceptions to the small differences that we observe between Technology Centers include 2400 (Computer Networks, Multiplex, Cable and Cryptography/Security), which comprises a larger share of discretionary denials than other institution decisions. Another exception is 3600, which is a broad and somewhat miscellaneous category that, among the IPR petitioned patents in our dataset, includes many patents covering e-commerce. This latter Technology Center comprises a smaller share of discretionary denials than other institution decisions. We defer explaining these two differences until we present the results of our multivariate analysis to confirm first that the differences persist and are not explained by more statistically significant differences in parallel proceedings or ownership type.

Turning to our four measures of parallel proceedings, as predicted, we find that the share of discretionary denials with copending IPRs, copending litigation *or* IPRs, and copending litigation *and* IPRs is higher than for other institution

267. See Keith N. Hylton, *Patent Uncertainty: Toward a Framework with Applications*, 96 B.U. L. REV. 1117, 1119 (2016).

outcomes. Initially surprising to us, however, a higher percentage of other institution decisions include copending litigation than discretionary denials. Upon inspection, this and the fairly high share (greater than 37 percent) of other institution decisions with any parallel proceeding reflect two basic facts about IPR: (1) Over 70 percent of all petitions filed are in reaction to district court litigation filed by the patent owner, and (2) under *Fintiv*, the PTAB considers multiple factors and generally does not issue a discretionary denial if a parallel IPR was filed later than the original or if a parallel lawsuit was not scheduled to go to trial before the estimated date of the PTAB's final written decision. Nevertheless, the raw results in Table 1 reveal that nearly 96 percent of petitions ending in discretionary denials concerned patents with parallel proceedings as of the institution date. We consider this to be strong evidence that discretionary denials were used narrowly and as intended.

Table 1: Share of Discretionary Denials Versus Other Institution with Key Traits

	Discretionary Denial	Other Institution Decision
Parallel Proceedings		
Copending Litigation	78.6%	82.5%
Copending PTAB Proceeding	66.3%	43.2%
Copending Litigation <i>or</i> PTAB Proceeding	95.8%	88.0%
Copending Litigation <i>and</i> PTAB Proceeding	49.2%	37.7%
Technology Centers²⁶⁸		
1600 (Biotechnology and Organics)	6.9%	8.9%
1700 (Chemical and Materials Engineering)	6.3%	6.2%
2100 (Computer Architecture Software and Info Security)	8.1%	11.4%
2400 (Computer Networks, Multiplex, Cable and Crypto/Security)	20.4%	11.9%
2600 (Communications)	19.8%	19.4%
2800 (Semiconductors, Electrical and Optical Systems/Components)	19.4%	16.0%
3600 (Miscellaneous including E-Commerce)	4.4%	11.2%
3700 (Mechanical Engineering, Manufacturing and Products)	12.5%	13.1%
Combined Software and Communications	52.6%	53.9%
Patent Owner Type		
NPE	49.0%	51.5%
Practicing Entity	51.0%	48.5%
<i>N</i> =	496	9,663

Note—Taken from the population of 10,159 institution decisions in IPR proceedings filed from 2013 through 2021.

2. Multivariate Analysis of Key Determinants of Discretionary Denial

Turning to our multivariate analysis, we conducted a series of probit regressions²⁶⁹ of the likelihood that an IPR institution decision will be a discretionary denial. Tables 2 and 3 report our results, with three specifications

268. For Technology Center descriptions, see *Patent Technology Centers Management*, USPTO, <https://www.uspto.gov/patents/contact-patents/patent-technology-centers-management> [https://perma.cc/KU3T-NQP3] (last visited Mar. 17, 2026).

269. Probit regression is used to model dichotomous or binary outcome variables. In the probit model, the inverse standard normal distribution of the probability is modeled as a linear combination of the predictors. See *Probit Regression | Stata Data Analysis Examples*, UCLA: STAT. CONSULTING GRP., <https://stats.oarc.ucla.edu/stata/dae/probit-regression/> [https://perma.cc/2BL7-A35A] (last visited Mar. 17, 2026).

for each of our four measures of parallel proceedings as of the institution date: In Table 2, Specifications 1–3 determine the effect of any copending litigation on the likelihood of discretionary denial, and Specifications 4–6 substitute the effect of any copending PTAB proceeding. In Table 3, Specifications 1–3 test the effect of either copending litigation or PTAB proceedings, and Specifications 4–6 apply the final measure of parallel proceedings, the presence of both copending litigation and PTAB proceedings, on the likelihood of discretionary denial.

The first specification using each parallel proceeding measure controls for the eight most common Technology Centers among the patents in our dataset. The second specification for each measure accounts for whether the patent owner is an NPE. Finally, in the third specification for each of our parallel proceeding measures, we control for both technology and NPE status, thus determining the relative strength of parallel proceedings, ownership type, and technology on the likelihood that an institution decision is a discretionary denial.

Turning to Table 2, we first address the surprising qualitative result that institution decisions other than discretionary denials seem to more frequently possess copending district court proceedings than discretionary denials. In Specification 2, this result persists when simply accounting for the NPE status of the patent owner. However, the difference is no longer statistically significant when controlling for technology in Specifications 1 and 3. This loss of significance indicates that some technologies are more likely to have copending litigation, but less likely to be the subject of a discretionary denial. Surprisingly, the two Technology Centers that exhibit these attributes are 3600 (Miscellaneous including E-Commerce) and 2100 (Computer Architecture Software and Info Security). Technology Center 3600 is in fact the first or second strongest predictor of a discretionary denial throughout our multivariate analysis. More investigation is warranted, but prior research has shown that these types of software patents tend to be asserted in litigation against many more defendants than the average litigated patent.²⁷⁰

270. See, e.g., James Bessen & Michael J. Meurer, *The Direct Costs from NPE Disputes*, 99 CORN. L. REV. 387, 394 (2014).

Table 2: Probit Regressions of Likelihood an Institution Decision Is a Discretionary Denial

	1	2	3	4	5	6
Parallel Proceedings						
Copending Litigation	-0.011*	-0.012*	-0.011*			
Copending PTAB Proceeding				0.042***	0.044***	0.042***
Technology Centers²⁷¹						
1600	-0.021		-0.021	-0.015		-0.015
1700	-0.011		-0.011	-0.006		-0.006
2100	-0.022*		-0.021	-0.023*		-0.022*
2400	0.013		0.013	0.013		0.013
2600	-0.010		-0.009	-0.010		-0.009
2800	-0.003		-0.003	-0.002		-0.002
3600	-0.036*		-0.036*	-0.032*		-0.032*
	**		**	**		**
3700	-0.013		-0.014	-0.006		-0.007
Patent Owner Type						
NPE		-0.005	-0.006		-0.007*	-0.007*
Pseudo R^2	0.016	0.002	0.016	0.040	0.027	0.040
$N =$	10,159	10,159	10,159	10,159	10,159	10,159

Note—Considering a population of 10,159 institution decisions in IPR proceedings filed from 2013 through 2021. Marginal effects are reported with discrete change of dichotomous variables from 0 to 1. * $p < 0.10$; ** $p < 0.05$; and *** $p < 0.01$.

Finishing our description of the results in Table 2, Specifications 4–6 repeat the regressions in Specifications 1–3 but using the presence of copending PTAB proceedings. The results here are as expected, with the presence of parallel proceedings resulting in a significantly higher likelihood of a discretionary denial. This result, combined with the large difference in the raw share of discretionary denials versus other institution decisions with parallel PTAB proceedings reported in Table 1 (66 versus 43 percent), indicates that

271. For Technology Center descriptions, see *Patent Technology Centers Management*, *supra* note 268.

discretionary denials have been used for their narrow intended purpose of eliminating duplication. Finally, the significance of our technology and NPE ownership controls remains comparable to that in Specifications 1–3, but with NPE ownership gaining significance at the 90 percent confidence level in IPR proceedings filed from 2013 through 2021.

Turning to the presence of copending litigation *or* PTAB proceedings as our measure of parallel proceedings, in Table 3, Specifications 1–3, we report that petitions with either are significantly more likely to result in a discretionary denial than in another type of institution decision. The coefficient on copending litigation or PTAB proceedings is smaller than it is for the simple presence of a copending PTAB proceeding, reflecting the opposite relationship between copending litigation and discretionary denial previously discussed. For this measure of parallel proceedings, however, the raw percentages in Table 1 are the key: Nearly 96 percent of discretionary denials are in petitions with at least one of the two types of parallel proceedings.

Finally, the results in Specifications 4–6, using the presence of both copending litigation and PTAB proceedings, are consistent with our earlier results and our principal conclusion that discretionary denials have been used narrowly and as intended to eliminate duplicative proceedings. The presence of both parallel litigation and PTAB proceedings is a statistically significant predictor of a discretionary denial, controlling for both technology and ownership type.

Table 3: Probit Regressions of Likelihood an Institution Decision Is a Discretionary Denial

	1	2	3	4	5	6
Parallel Proceedings						
Copending Litigation	0.033***	0.035***	0.033***			
Copending Litigation and PTAB Proceeding				0.023***	0.023***	0.023***
Technology Centers²⁷²						
1600	-0.015		-0.016	-0.016		-0.016
1700	-0.007		-0.007	-0.008		-0.008
2100	-0.022*		-0.022*	-0.023*		-0.022*
2400	0.014		0.014	0.018		0.018
2600	-0.010		-0.010	-0.010		-0.009
2800	-0.002		-0.002	-0.002		-0.001
3600	-0.035* **		-0.035* **	-0.034* **		-0.034* **
3700	-0.011		-0.012	-0.009		-0.009
Patent Owner Type						
NPE		-0.004	-0.005		-0.006	-0.007
Pseudo R^2	0.023	0.009	0.024	0.022	0.007	0.023
$N =$	10,159	10,159	10,159	10,159	10,159	10,159

Note—Considering a population of 10,159 institution decisions in IPR proceedings filed from 2013 through 2021. Marginal effects are reported with discrete change of dichotomous variables from 0 to 1. * $p < 0.10$; ** $p < 0.05$; and *** $p < 0.01$.

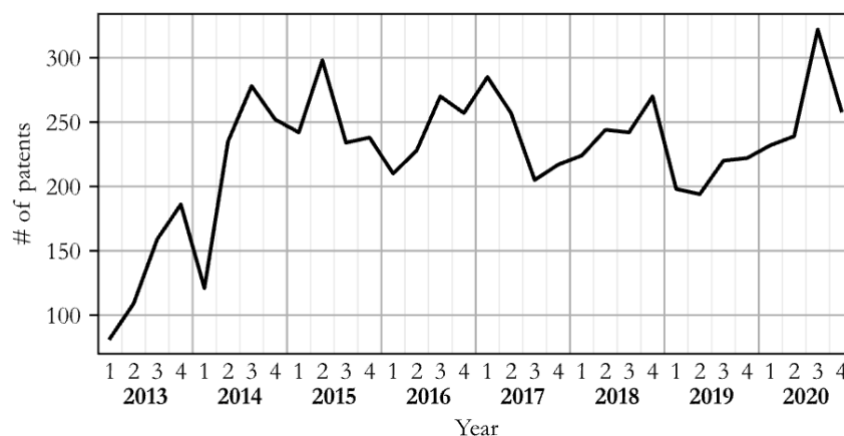
B. Discretionary Denial Practice Did Not Impact Trends in Invalidity Trials and Thus Had No Macro Effect on the Effectiveness of IPR

Now that we have shown that the presence of parallel proceedings significantly predicts discretionary denial, in this Section we investigate whether the emergence of discretionary denial practice decreased the share of patents

272. For Technology Center descriptions, see *Patent Technology Centers Management*, *supra* note 268. See *supra* Table 1 for a description of what each technology center refers to.

subject to an IPR petition that were ultimately the subject of § 102 or § 103 invalidity trials, either in IPR or district court litigation. If there were such a decrease, it would support the argument of discretionary-denial critics that the practice has decreased the effectiveness of IPRs in fostering the public good of invalidity trials. To complete this analysis for the 2013–2020 period, we count the number of IPR petitions filed each quarter that were the first to challenge the patent at issue. These quarterly counts are reported in Figure 1, which shows that after a slow start to IPR patent challenges in 2013 and 2014, a remarkably constant average of about 250 patents first challenged each quarter persisted for the remainder of the decade. There was no discernible effect from the emergence of discretionary denial practice after 2016.

Figure 1: Quarterly Trend in Number of Patents First Subject to an IPR Petition²⁷³



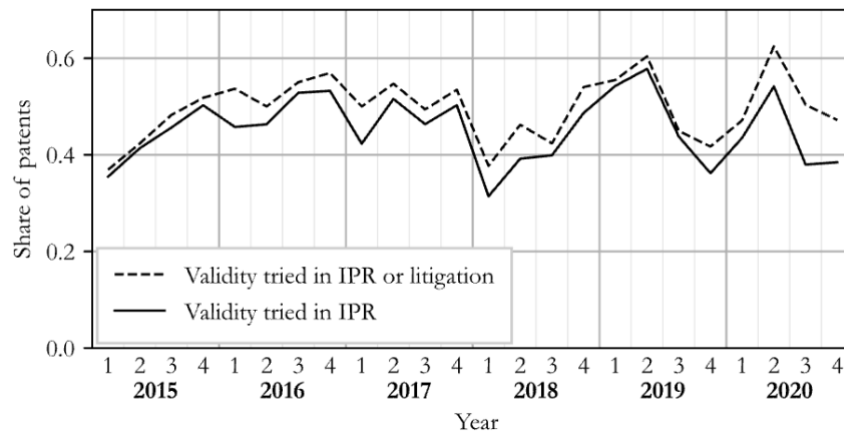
It is important to note that this and other trends in this Section do not account for changes in the types of patents subject to IPR over time. However, Figure 1 does suggest that petitioners did not shy away from IPRs because of the emergence of discretionary denial practice. Furthermore, this and other inferences in this Section are bolstered by the fact that the number of “in force” patents—that is, those granted and not expired—also remained relatively constant from 2013 through 2020 and averaged about three million each year.²⁷⁴ Thus, the results throughout this Section do not hide increases or decreases in the volume of patents that could be the subject of an invalidity trial.

273. The y-axis denotes the quarterly count of unique granted patents that were first the subject of an IPR petition from the first quarter of 2013 through the fourth quarter of 2020.

274. See KYLE BERGQUIST, MOSAHID KHAN, RYAN LAMB, BRUNO LE FEUVRE & HAO ZHOU, *WORLD INTELLECTUAL PROPERTY INDICATORS 2021* 49 (2021), https://www.wipo.int/edocs/pubdocs/en/wipo_pub_941_2021.pdf [<https://perma.cc/9ZKM-SFMY>].

For each of the patents first subject to an IPR petition in a quarter, we next determined whether it was subsequently the subject of a § 102 or § 103 invalidity trial in either an (original or later-filed) IPR or district court litigation. District court trials include final judgments on the merits after JMOL, jury trials, bench trials, and grants of summary judgment. In Figure 2, we report the trend in the share of patents first litigated in a quarter that were ultimately subject to a validity trial. The trend is constant, with an average rate of about 45 percent of patents first subject to an IPR in a quarter ultimately having their invalidity tried. It appears that there was increased volatility in the share of patents with invalidity trials after the emergence of discretionary denial practice. Overall, however, the trend provides convincing evidence that discretionary denial practice did not diminish the effectiveness of IPR in ameliorating the public goods problem of insufficient validity trials, given the low quality of many asserted patents.

Figure 2: Quarterly Trend in Share of Patents First Subject to an IPR Petition Whose Validity Was Ultimately Tried in Either an IPR or in District Court Litigation²⁷⁵

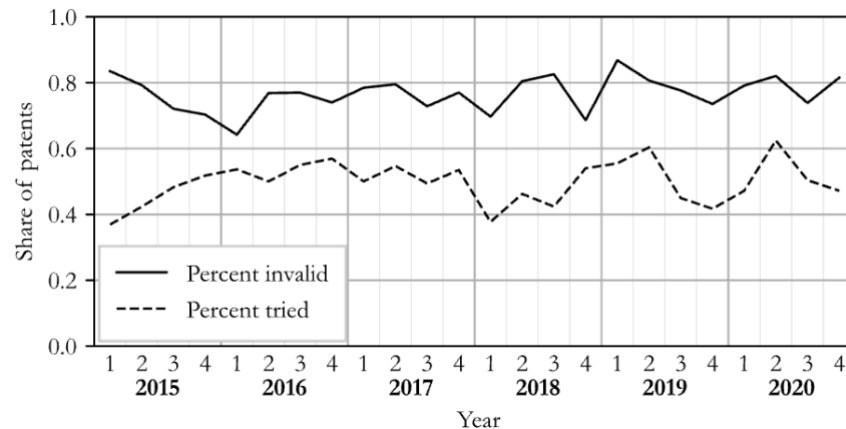


Finally, in Figure 3, we report the share of patents subject to their first IPR in a quarter with eventual invalidity trials that invalidated those patents. Again, we see a remarkably constant trend, with the system-wide § 102 or § 103 invalidity rate hovering around 75 percent. Thus, discretionary denial practice also does not appear to have affected the invalidity rate of those patents actually subject to an invalidity trial. In sum, the constant trends we report in this Section strongly

275. The y-axis denotes the decimal share of granted patents with their first IPR filed in a quarter that are ultimately subject to an invalidity trial. Litigation trial includes final judgment on the merits that at least one patent claim is adjudicated invalid or not invalid for anticipation or obviousness. Litigation trials include bench and jury trials and grants of summary judgment. IPR and district court trials completed through March 2024.

indicate that the rise of discretionary denial practice did not detract from the principal benefit of IPRs in encouraging validity challenges.

Figure 3: Quarterly Trend in Share of Patents First Subject to an IPR Challenge Whose Validity Was Ultimately Tried and Invalidated in Either an IPR or in District Court Litigation²⁷⁶



C. Discretionary Denial Practice Did Not Generate Much Wasteful New Litigation

Thus far, our analysis has shown that 96 percent of discretionary denials granted on petitions filed between 2013 and 2021 were on patents subject to parallel proceedings. This fact alone demonstrates that discretionary denials were almost always granted in circumstances supported by the *Fintiv* factors. We have also shown that the use of discretionary denials did not have an appreciable effect on either the rate at which patent invalidity is tried or the invalidity rate in those trials. At the macro level, discretionary denial practice has not diminished the public good of patent validity trials to validate the quality of those patents that are economically important enough to serve as the subject of an IPR petition or a district court lawsuit. The elephant in the room, however, remains the *VLSI* saga. Even if IPR remains effective at the macro level, if enough discretionary denials are followed by years of subsequent litigation, discretionary denial practice may need to be curtailed in some manner to avoid devastating waste. Such waste includes new cases and IPR petitions that drain the resources of the parties and the courts before the patents are ultimately invalidated in some later proceeding.

276. See *supra* note 275.

1. *Descriptive Statistics on New Proceedings Filed Post-Discretionary Denial*

To investigate this possibility, we conducted a closer inspection of what happened after each discretionary denial in our dataset, including how frequently new litigation or IPR petitions are subsequently filed and how often the subject patents are ultimately invalidated in those new proceedings. Again, our principal case study is the *VLSI* saga, which began with the discretionary denial of multiple Intel IPRs²⁷⁷ based on an overly optimistic Western District of Texas trial date²⁷⁸ that was later pushed much closer to the original IPR final written decision dates.²⁷⁹ That litigation ultimately led to a jury finding that two patents, '373 and '759, were not invalid and were infringed, awarding over \$2 billion in damages.²⁸⁰ Just months later, a second round of IPRs was filed by another petitioner, which resulted in the PTAB finding unpatentable all claims of the '759 patent in May 2023.²⁸¹ Meanwhile, in December 2023, the Federal Circuit reversed the district court's finding with respect to the '759 patent, holding Intel not liable for infringement.²⁸² The Federal Circuit also affirmed that Intel infringed the '373 patent, but vacated the damages award and remanded the case for further proceedings.²⁸³ In February 2024, VLSI appealed the PTAB's subsequent invalidation of the '373 patent.²⁸⁴ Accordingly, the *VLSI* saga continues!

The problem with the *VLSI* saga is that discretionary denial caused the parties and the Western District of Texas to waste their time and money preparing for and conducting a jury trial and then appealing the verdict only for the PTAB to later invalidate the patents in subsequent IPR petitions. We can conceive of multiple ways to limit such waste. For one, the PTAB could expand the estoppel of subsequent IPRs. However, the ability of independent petitioners to have their own day in court is unlikely to change and probably should not. The PTAB could also amend its application of the trial date proximity factor to

277. Intel Corp. v. VLSI Tech. LLC, No. IPR2020-00106, Paper 17 (P.T.A.B. May 5, 2020); Intel Corp. v. VLSI Tech. LLC, No. IPR2020-00112, Paper 15 (P.T.A.B. May 19, 2020); Intel Corp. v. VLSI Tech. LLC, No. IPR2020-00113, Paper 15 (P.T.A.B. May 19, 2020); Intel Corp. v. VLSI Tech. LLC, No. IPR2020-00114, Paper 15 (P.T.A.B. May 19, 2020); Intel Corp. v. VLSI Tech. LLC, No. IPR2020-00158, Paper 16 (P.T.A.B. May 20, 2020).

278. E.g., Intel Corp. v. VLSI Tech. LLC, No. IPR2020-00158, Paper 16, at 9 (P.T.A.B. May 20, 2020) (explaining that a primary reason for the discretionary denial on the '373 patent was that trial in the Western District of Texas was scheduled to begin October 5, 2020, while the final written decision would not be due until May 2021).

279. VLSI Tech. LLC v. Intel Corp., 87 F.4th 1332, 1339 (Fed. Cir. 2023) ("A jury trial was held in late February and early March 2021.").

280. *Id.* at 1135, 1139.

281. See generally Intel Corp. v. VLSI Tech. LLC, No. IPR2021-01064, Paper 135 (P.T.A.B. May 12, 2023) (determining all challenged claims of the '759 patent unpatentable).

282. *VLSI Tech. LLC*, 87 F.4th at 1343–45.

283. *Id.* at 1345–49.

284. Pat. Quality Assurance, LLC v. VLSI Tech. LLC, No. IPR2021-01229, Paper 144, at 1 (P.T.A.B. Feb. 9, 2024).

account for a district court's past performance. But how necessary is any change at all?

To answer this question, we first determined the number and outcome of district court lawsuits and IPR proceedings that commenced on the same patent after each discretionary denial in our dataset. Among all discretionary denials in IPR petitions filed between 2013 and 2021, we found that 71 percent led to no new lawsuits or IPR proceedings covering the same patents. This demonstrates that most discretionary denials generated zero additional litigation expense beyond the parallel proceedings that led the PTAB to deny institution in the first place. Very few led to protracted and wasteful litigation of the type epitomized by the *VLSI* saga.

Among the 29 percent of discretionary denials with subsequent district court lawsuits or IPR petitions (138 decisions), 78 decisions involved patents that were the subject of only one or two more lawsuits or IPR petitions filed after the discretionary denial. These instances leave little room for waste, and many include none, as subsequent litigation was consolidated with the parallel proceedings that justified the discretionary denial. Another, only slightly more concerning, set of 21 discretionary denials led to three or four subsequently filed lawsuits or IPRs. Some 8 percent of discretionary denials (39 decisions) did include five or more subsequently filed disputes, and 2 percent (10 decisions) included twenty to a maximum of eighty-six new disputes filed post-discretionary denial. If discretionary denials lead to major waste in an appreciable number of *VLSI*-type cases, then we will find it in these outliers. However, as we will now explain through three representative case studies, most of the outliers with copious new litigation post-discretionary denial cannot be considered wasteful.

2. *Representative Case Studies with Many New Proceedings Post-Discretionary Denial*

The first case study is *NetApp, Inc. v. PersonalWeb Technologies, LLC*,²⁸⁵ which is prominent for being the discretionary denial in our dataset with the most subsequent litigation. In *NetApp*, the Board exercised its discretion to deny institution because there were multiple parallel IPRs and pending district court lawsuits.²⁸⁶ In one of those parallel IPRs, the PTAB found U.S. Patent No. 5,978,791 (the '791 patent) to be unpatentable.²⁸⁷ The fact that this one patent's claims were found unpatentable in a parallel IPR did not make the discretionary denial wasteful. Nor did the discretionary denial cause waste through the subsequent district court cases filed from 2013 to 2018, which were later

285. No. IPR2013-00319, Paper 19 (P.T.A.B. July 25, 2013).

286. *Id.* at 2.

287. *EMC Corp. v. PersonalWeb Techs., LLC*, No. IPR2013-00082, Paper 83, at 66 (P.T.A.B. May 15, 2014).

consolidated into multidistrict litigation involving dozens of actions.²⁸⁸ The reason is that these cases asserted not only the surviving claims of the '791 patent, but also claims of multiple additional PersonalWeb Technologies LLC ("PersonalWeb") patents, many of which remained asserted and had not been fully invalidated in either IPR or litigation. Ultimately, the Federal Circuit affirmed the Multidistrict Litigation (MDL) court's finding that defendants did not infringe PersonalWeb's patents and barred "further harassment" of Amazon.com Inc., Amazon Web Services, Inc., and their customers from PersonalWeb.²⁸⁹ Thus, rather than discretionary denial leading to protracted litigation before ultimate invalidity, *NetApp* led to protracted litigation before an ultimate determination of noninfringement—something not decided by the PTAB.

The second case study is Realtime Data LLC ("Realtime"), which was issued discretionary denials of two petitions challenging U.S. Patent Nos. 7,415,530 (the '530 patent) and 9,116,908 (the '908 patent). The invalidity arguments were very similar to those made in parallel and already-instituted IPRs involving the same two patents.²⁹⁰ Sixty-two new lawsuits asserting the '530 patent or '908 patent were filed from 2017 to 2020 following the discretionary denials.²⁹¹ In the surviving parallel IPRs, the novelty and nonobviousness of both patents were upheld.²⁹² However, on appeal from district court litigation, the Federal Circuit ultimately ruled in 2023 that both Realtime patents were invalid, thus ending the litigation.²⁹³ However, this is not another *VLSI*-type case involving inconsistent validity judgments resulting from an early discretionary denial. With Realtime, the Federal Circuit ultimately held that the patents were invalid under § 101 as lacking patentable subject matter.²⁹⁴ This is not an issue that the PTAB can consider in IPRs;²⁹⁵ thus, the protracted litigation was not due to the discretionary denial, but—as in the *PersonalWeb* case study—due to the patents surviving §§ 102 and 103 challenges at the PTAB and subsequently losing on other grounds outside its purview.

288. *In re PersonalWeb Techs., LLC*, 340 F. Supp. 3d 1373, 1375–76 (J.P.M.L. 2018); see *In re PersonalWeb Techs. LLC*, No. 18-md-02834, 2019 WL 1455332 (N.D. Cal. Apr. 2, 2019), *aff'd*, 961 F.3d 1365, 1379 (Fed. Cir. 2020).

289. *In re PersonalWeb Techs. LLC*, 961 F.3d at 1379.

290. *NetApp Inc. v. Realtime Data LLC*, No. IPR2017-01195, Paper 9, at 6–8 (P.T.A.B. Oct. 12, 2017) (denying institution).

291. LEX MACHINA, "Patent Number 7415530; filed between 2017-01-01 and 2020-12-31," 45 results (Mar. 10, 2026), https://law.lexmachina.com/patent/7415530/cases/?filed_on-from=2017-01-01&filed_on-to=2020-12-31 (on file with the Berkeley Technology Law Journal) (providing litigation summary data). All cases that involved the '530 patent also involved the '908 patent.

292. *Dell, Inc. v. Realtime Data LLC*, No. IPR2016-01002, Paper 71 (P.T.A.B. Oct. 31, 2017); *Dell, Inc. v. Realtime Data LLC*, No. IPR2016-00972, Paper 71 (P.T.A.B. May 15, 2018).

293. *Realtime Data LLC v. Array Networks Inc.*, No. 21-2251, 2023 WL 4924814, at *12 (Fed. Cir. Aug. 2, 2023) (affirming the district court's dismissal for patent-ineligible subject matter).

294. See *id.* (finding "[d]ata transmission" to be "an abstract idea that does not provide an inventive concept").

295. See 35 U.S.C. § 311(b).

The third case study involves patent owner Estech Systems, Inc. (“Estech”). The *Estech* litigation shares an important similarity with our first two case studies: Estech asserted multiple patents, and after discretionary denials many new lawsuits were subsequently filed.²⁹⁶ The difference in *Estech* is that three of the four patents had never been invalidated, which indicates high patent quality and explains the willingness of many defendants to settle rather than litigate through trial. In 2021, Estech won discretionary denials for four of its patents, U.S. Patent Nos. 6,067,349 (the ‘349 patent), 7,068,684 (the ‘684 patent), 7,123,699 (the ‘699 patent), and 8,391,298 (the ‘298 patent).²⁹⁷ The ‘349 patent was the subject of a discretionary denial due to parallel litigation and copending IPR2021-00573, where the PTAB ultimately found all challenged claims unpatentable.²⁹⁸

The remaining three patents were all the subjects of discretionary denials due to parallel litigation in the Eastern and Western Districts of Texas.²⁹⁹ At the time institution was denied, there were already fourteen pending lawsuits, most of which settled.³⁰⁰ After the discretionary denial, Estech filed another twenty-four lawsuits in these two districts, all of which ultimately settled,³⁰¹ with no new IPRs filed. Thus, in this case study, there is no waste as to one patent because its claims were found unpatentable in the parallel IPR that justified the discretionary denial. Nor was there waste as to the other three patents that never had their

296. See, e.g., *Estech Sys. IP, LLC v. Intermedia.net, Inc.*, No. 5:24-CV-02526, 2025 WL 3731735 (N.D. Cal. Dec. 26, 2025).

297. *Cisco Sys., Inc. v. Estech Sys., Inc.*, No. IPR2021-00332, Paper 11 (P.T.A.B. July 7, 2021) (denying institution of IPR of the ‘349 patent); *Cisco Sys., Inc. v. Estech Sys., Inc.*, No. IPR2021-00331, Paper 13 (P.T.A.B. July 6, 2021) (denying institution of IPR of the ‘648 patent); *Cisco Sys., Inc. v. Estech Sys., Inc.*, No. IPR2021-00333, Paper 12 (P.T.A.B. July 7, 2021) (denying institution of IPR of the ‘699 patent); *Cisco Sys., Inc. v. Estech Sys., Inc.*, No. IPR2021-00329, Paper 13 (P.T.A.B. July 6, 2021) (denying institution of IPR of the ‘298 patent).

298. *Cisco Sys., Inc. v. Estech Sys., Inc.*, No. IPR2021-00332, Paper 11, at 3, 7–14 (P.T.A.B. July 7, 2021); *RingCentral, Inc. v. Estech Sys. IP, LLC*, No. IPR2021-00573, Paper 30 (P.T.A.B. Oct. 4, 2022) (invalidating claims).

299. *Cisco Sys., Inc. v. Estech Sys., Inc.*, No. IPR2021-00331, Paper 13, at 7–14 (P.T.A.B. July 6, 2021); *Cisco Sys., Inc. v. Estech Sys., Inc.*, No. IPR2021-00333, Paper 12, at 7–14 (P.T.A.B. July 7, 2021); *Cisco Sys., Inc. v. Estech Sys., Inc.*, No. IPR2021-00329, Paper 13, at 7–14 (P.T.A.B. July 6, 2021).

300. There were fourteen cases pending on July 7, 2021 (see *supra* note 297 for discretionary denial dates) that assert all three of the ‘648, ‘699, and ‘298 patents. See LEX MACHINA, “Patent Number 8391298; filed on-to 2021-07-07; terminated on-from 2020-07-07,” 14 results (Mar. 25, 2026) https://law.lexmachina.com/patent/8391298/cases/?filed_on-from=&filed_on-to=2021-07-07&terminated_on-from=2021-07-07 (on file with the Berkeley Technology Law Journal). A single lawsuit ended with defendant winning summary judgment of noninfringement: *Estech Sys., Inc. v. Howard Midstream Energy Partners*, No. 6:20-CV-777, 2022 WL 22903131, at *6 (W.D. Tex. Aug. 31, 2022).

301. LEX MACHINA, “Patent Number 7123699; filed from 2021-07-01 to 2023-12-31,” 24 results (Apr. 13, 2026) 24 *Federal District Court Cases for Patent #7123699* | *Lex Machina*, LEX MACHINA, https://law.lexmachina.com/patent/7123699/cases/?filed_on-from=2021-07-01&filed_on-to=2023-12-31 (on file with the Berkeley Technology Law Journal).

validity successfully challenged and were strong enough to induce many defendants to settle.

In sum, only 8 percent of discretionary denials led to five or more subsequently filed proceedings and only 2 percent led to more than twenty. Our review of these outliers, as exemplified by these three case studies, indicates that *VLSI*-type waste is rare. These reasons include the presence in litigation of multiple patents with mixed validity trials, confirmation of validity of some but not all patents, and ultimate invalidation on legal grounds other than § 102 or § 103.

VI.

DISCUSSION

Our results leave us with several key takeaways. In Section VI.A, we consider the most ground-level findings our results address: the effect of discretionary denials on the U.S. patent system's efficiency and participants'—patentees' or challengers'—conduct. In Section VI.B, we contextualize our findings in view of the patent system's long-standing resilience to change. Finally, in Section VI.C, we consider what our results might indicate about the most recent policy changes at the USPTO and the effects they may have on the patent system.

A. Discretionary Denial Practice Has Reduced Duplicative Proceedings Without Major Disruption to Invalidity Challenges

From the inception of discretionary denial practice through its decline after Director Vidal's interim memorandum adopting *Sotera* stipulations,³⁰² our results in Section V.A show that in an overwhelming 96 percent of the cases where discretionary denials were granted, there was copending litigation or PTAB proceedings. Additionally, we find that on average, the parallel proceedings were more advanced than the discretionarily denied petitions. Further, we have reported that patent ownership type and technology are not significant predictors of the likelihood that the PTAB would use its § 314(a) discretion to deny institution. These results support the conclusion that through Director Vidal's introduction of *Sotera* stipulations, the PTAB utilized discretionary denials for the intended purpose of decreasing duplicative proceedings.

Further, our results in Section V.B strongly support the additional important conclusion that discretionary denial practice has not significantly disrupted the role of IPRs in advancing the public good of invalidity trials. Overwhelmingly, IPR continued to provide a cheaper avenue to test the novelty and nonobviousness of patents economically important enough to become the subject of enforcement activity. Through identification and analysis of trends in IPR-

302. See *supra* Section II.D.1.

petitioned patents that were ultimately subject to invalidity trials, either at the PTAB or in district court litigation, we find that both the invalidity trial rate and the ultimate invalidation rate remained constant throughout the emergence and peak of discretionary denial practice. Thus, at least at the macro level of the U.S. patent system, discretionary denial practice during the period of our study does not appear to have forced many patent challengers to resort to nuisance-value settlements to avoid the unpredictability and higher litigation costs of district court proceedings.

Finally, our results in Section V.C show that *VLSI*-type harms of economic waste and inconsistent judgments post-discretionary denial are rare. We find that no or very few new proceedings were initiated after the vast majority of discretionary denials. Further, we determined that waste and inconsistent judgments are rare even in the minority of instances where much new litigation commenced after a discretionary denial. The reasons include patents that are ultimately high quality, disputes involving other patents besides those subject to discretionary denials, and ultimate invalidation on grounds other than those under § 102 or § 103.

Altogether, we believe that the results of this study should alleviate the fears of supporters of a strong IPR system that discretionary denial practice has frustrated the important goal of IPRs in encouraging invalidity challenges. Instead, during its beginning and peak use, discretionary denial practice was narrowly used to decrease the number of duplicative proceedings, which frustrate patent owners and add unnecessary costs to the PTAB and the court system.

B. Another Example of the Surprising Resilience of the Patent System

Our findings support and appear to serve as another example of Professor Mark Lemley's conclusions in his 2016 paper, *The Surprising Resilience of the Patent System*.³⁰³ Despite a widely "swinging pendulum" in U.S. law between stronger and weaker patent protection throughout recent decades, Professor Lemley maintained that there have been no corresponding major changes in the fundamental metrics of the U.S. patent system.³⁰⁴ First, patent applications have increased steadily from 1999 to 2014, though the growth was not strictly linear across all years.³⁰⁵ Second, the size of the market for brokered patent sales, which Lemley used as a proxy for patent value, remained substantial and showed continued activity over time, rather than a clear decline.³⁰⁶ Finally, long-term patent validity trends have remained steady, at least since the creation of the Federal Circuit.³⁰⁷ Despite "dramatic changes in the substantive law" over decades, these results suggested that the patent system as a whole was largely

303. See generally Lemley, *supra* note 177.

304. *Id.* at 13–14.

305. *Id.* at 14–15.

306. *Id.* at 23.

307. *Id.* at 24–25.

unaffected by the many legal changes that have alarmed or delighted stakeholders and commentators.³⁰⁸

Lemley's evidence-backed conclusion was incredible given that practically every aspect of patent law changed after the rise of patent trolling during the early 2000s:

Congress began considering patent reform in 2005, ultimately passing the AIA in 2011. The AIA didn't change much about patent litigation, but it created the IPR procedure and also changed the way we allocate patents to competing claimants by awarding patents to the first inventor to file a patent application rather than the first to invent. But the Supreme Court made a number of changes in that period, mostly in the direction of weakening patent rights. It made it easier to invalidate a patent as obvious. It made it easier to file a declaratory judgment action challenging a patent. It held that winning a patent suit doesn't automatically justify an injunction. It made it easier for prevailing defendants to recover their attorneys' fees. And in a series of cases it has held that patents are not appropriate for laws of nature, natural phenomena, and abstract ideas, casting significant doubt on the validity of many business-method, software, genetics, and medical-diagnostic patents.

The Federal Circuit, too, made a number of changes during this period that weakened patent rights. It cut back dramatically on the doctrine of equivalents, which allowed patentees to expand the reach of their patent claims. It backtracked on willfulness, raising the standard of proof and eliminating the requirement that defendants obtain an opinion of counsel. It took some steps to restrict forum shopping And it has begun to rein in outlandish theories of patent damages.³⁰⁹

Based on our results, we can add the introduction and expansion of discretionary denial practice to the list of legal changes with both vigorous support and opposition that appear to have very little effect on the U.S. patent system as a whole. Besides outlier cases such as in the *VLSI* saga, the vast majority of discretionary denials during the Biden Administration simply eliminated duplicative proceedings and had no effect on the rates at which validity is tried and at which tried patents are invalidated on the basis of anticipation or obviousness. Again, this is true despite the various public reactions to discretionary denials.³¹⁰ Lemley described similar public clamor at changes in the patent system throughout the twentieth and into the twenty-first

308. See *id.* at 25; see also Mark A. Lemley, *Patent Law's (Short-Lived?) Era of Normalcy*, 103 WASH. U. L. REV. 1619, 1619, 1636 (2026).

309. Lemley, *supra* note 177, at 10–11 (footnotes omitted).

310. See, e.g., Sterne & Quinn, *supra* note 10.

century.³¹¹ Our controversy joins those considered by Lemley: despite the outcry over the potentially massive effects of discretionary denials, the proverbial sky over the patent law landscape did not fall.

Lemley also offered potential explanations for the stickiness of trends in examination and litigation in the patent system. We believe two of these theories are most likely to explain the lack of macro effects from discretionary denials. The first is selection effects, where legal changes influence the types of cases that are ever litigated in the first place.³¹² Lemley pointed to the Priest-Klein hypothesis, wherein parties will settle the easy cases, leaving only the toss-ups to go to trial and driving win rates across the board to 50 percent.³¹³ He analogized this complex feedback network to “fluid mechanics,” where a change in a fluid system ultimately returns to equilibrium.³¹⁴ Selection effects can be further understood by the intuition that just because patenting and litigation metrics are stable, it does not mean that important changes in strategic behavior are not happening behind the scenes. For example, petitioners who anticipate a likely discretionary denial may forgo filing an IPR altogether, instead focusing resources on litigation strategies better suited to district court. Conversely, patent owners may leverage *Fintiv* arguments to force cases into alternate forums. Despite such changes in behavior, simple cases would continue to settle, and difficult cases continue to be litigated. As a result, the aggregate invalidity rate remains stable, even though the mix of forums, rules, and procedural pathways shifts.³¹⁵

Beyond selection effects, the second explanation is that individual and market motivations are so varied and powerful that patent reforms simply do not create as much change as we would expect. We discussed how IPRs were designed to be cheaper and quicker than district court litigation. From this, it is reasonable to suggest that IPRs are also a more efficient method of signaling the same intentions and interests as refusals to settle litigation pretrial. For instance, much like patent suits in court, a petitioner may be motivated to leverage IPRs to drive a “competitor out of business by imposing litigation costs.”³¹⁶ The usefulness of IPRs therefore outweighs any of the strengthening or weakening effects of periodic USPTO directives, regardless of how extreme the changes may seem to stakeholders. Lemley went as far as to say that rule changes that might seem like a system overhaul to a patent lawyer are not actually significant enough to affect macro-level metrics.³¹⁷ If, as our results indicate, this includes

311. Lemley, *supra* note 177, at 7–13.

312. *See id.* at 27.

313. *Id.* at 27–28.

314. *Id.* at 31 (citing John M. Golden, *Innovation Dynamics, Patents, and Dynamic-Elasticity Tests for the Promotion of Progress*, 24 HARV. J.L. & TECH. 47, 50 (2010)).

315. *See id.* at 48 (noting the “unchanging nature of invalidity and overall patentee win rates”).

316. *See id.* at 45.

317. *Id.* at 43 (“Perhaps the explanation is just that the changes seem dramatic to a patent lawyer but aren’t actually all that significant in the overall scheme of things.”).

the introduction and repeated tweaking of discretionary denial practice, then the excitement over these issues will remain important to individual petitioners and patent owners, but not to the overall health of the U.S. patent system.

C. Staying the Course to Maintain IPR Effectiveness into the Future

The second Trump Administration, from Acting Director Stewart's early efforts through Director Squires' current approach, have encouraged a dramatic resurgence in the use of discretionary denials in IPR petitions. Our results suggest little harm to the patent system with a return to application of the *Fintiv* factors in determining whether to institute an IPR. Our study does not bear on the effectiveness of former Director Vidal's ultimate approach of requiring the PTAB to accept properly crafted *Sotera* stipulations and a narrower PTAB trial in lieu of a discretionary denial. However, it seems to us that former Director Vidal's approach, if properly policed, would work as well at eliminating duplicative arguments and may better ensure the correct balance by decreasing all-or-nothing decisions by PTAB judges. Specifically, it would enable sophisticated parties to negotiate the best path forward in their own best interests and to be bound by their own agreements.

Former Acting Director Stewart's approach was to instead direct the PTAB to merely consider *Sotera* stipulations as relevant to the holistic discretionary denial inquiry.³¹⁸ Under the March 2025 Interim Process, the second Trump Administration not only returned to the *Fintiv* rule but also implemented novel additions to the factors considered and changed who wields the discretion.³¹⁹ The effect of these innovations warrants additional research into potential harm to the effectiveness of IPRs. For now, however, we explain the principal arguments against two of the current Administration's recent changes: in particular, the limitation of IPR institution determinations being made solely by the Director and the expansion of the number of discretionary denial factors.

First, consider the issue of who decides whether a petition should be discretionarily denied. Acting Director Stewart's 2025 Interim Process contemplated the addition of a second PTAB panel other than the one assigned the IPR petition to review the record and decide whether the PTAB should use its discretion and deny institution, or rather should advance the petition to the assigned panel to independently review the record, decide all other legal issues for institution, and—if instituted—try the petition.³²⁰ The stated goal of the 2025 Interim Process was to manage the PTAB's workload during a period of staff shortages caused by the Trump Administration's return-to-office requirement

318. Boalick, *supra* note 131, at 2–3.

319. Stewart 2025 Memorandum, *supra* note 139, at 2–3.

320. *Id.* at 1–3; Crouch, *supra* note 137. Although this memorandum has diminished the benefits of *Sotera* stipulations, which were the primary tool for petitioners for only a short time, research addressing the effect of *Sotera* stipulations on the effectiveness of the IPR process may be warranted.

and DOGE's recommendations at the start of 2025.³²¹ Opponents of these changes questioned how insisting on independent review of the record by the Director and a second three-judge PTAB panel can possibly further this stated goal.³²² As a procedural matter, any bifurcated approach appears counterproductive to the goals of running post-grant proceedings more efficiently.³²³ And it seems this fear has been further realized via the implementation of Director Squires's "Director-only" approach to IPR institution decisions.³²⁴

Beyond who decides the discretionary denial issue, it is also worth considering the expanding list of factors on which the Director can rely in making an institution decision beyond the traditional *Fintiv* factors.³²⁵ The 2025 Interim Process memorandum noted that "[t]he Director will also consider the ability of the PTAB to comply with pendency goals for ex parte appeals, its statutory deadlines for AIA proceedings, and other workload needs."³²⁶ Director Squires's October 17, 2025 memorandum appears further to expand the considerations underlying institution decisions, permitting the Director to determine whether or not institution is appropriate "based on discretionary considerations, the merits, or other non-discretionary considerations."³²⁷

It remains to be seen how much of a role each of these factors will play in shaping future institution decisions, but already in several recent decisions, Acting Director Stewart ushered forth a new chapter in the saga of discretionary denials by citing the newly formed "settled expectations" doctrine as a basis for

321. Miller, *Maintaining*, *supra* note 212; Memorandum from Charles Ezell, Acting Dir., U.S. Off. of Pers. Mgmt., to the Heads & Acting Heads of Dep'ts & Agencies (Jan. 22, 2025), <https://www.opm.gov/chcoc/latest-memos/guidance-on-presidential-memorandum-return-to-in-person-work.pdf> [<https://perma.cc/2KMV-NTNE>]; Michael Shapiro & Annelise Levy, *Patent Office Orders Teleworking Examiners Back to the Office*, BLOOMBERG L. (Feb. 5, 2025), <https://news.bloomberglaw.com/ip-law/patent-office-orders-teleworking-examiners-back-to-the-office> (on file with the Berkeley Technology Law Journal); Memorandum from Russell T. Vought, Dir., Off. of Mgmt. & Budget, & Charles Ezell, Acting Dir., Off. of Pers. Mgmt., to Heads of Exec. Dep'ts & Agencies (Feb. 26, 2025), <https://www.opm.gov/chcoc/latest-memos/guidance-on-agency-rif-and-reorganization-plans-requested-by-implementing-the-president-s-department-of-government-efficiency-workforce-optimization-initiative.pdf> [<https://perma.cc/D8EF-GYP2>].

322. See, e.g., Miller, *Maintaining*, *supra* note 212.

323. Because the bifurcated approach now requires more judges to review the same record for every IPR and with additional briefing at that, it does not on its surface appear to serve the intended purpose of improving managerial efficiency, especially given the historically low rate of discretionary denials. See generally *Statistics*, USPTO, <https://www.uspto.gov/patents/ptab/statistics> [<https://perma.cc/5S3W-F25N>] (last visited Mar. 9, 2026) (showing that only a small fraction of IPR petitions are denied institution overall, compared to those instituted or otherwise resolved). For it to lead to greater efficiency, the Director would have to refuse to institute review at a greater rate than a panel otherwise would.

324. See Bregman et al., *supra* note 147.

325. See *supra* Section II.E.

326. Stewart 2025 Memorandum, *supra* note 139, at 3 (emphasis omitted).

327. See Squires 2025 Memorandum, *supra* note 26, at 2.

denying institution.³²⁸ In one instance, Acting Director Stewart discretionarily denied review because the petitioner had cited the patent at issue ten years prior, in information disclosure statements.³²⁹ This prior knowledge outweighed the fact that the final written decision was projected to issue approximately seven months before the district court trial date, that there had been little investment by the parties in the district court proceeding, and that institution would have yielded a high likelihood of a stay.³³⁰ In even more recent decisions, Acting Director Stewart clarified that actual notice is not necessary: “the longer the patent has been in force, the more settled expectations should be,” so patent age can result in rejection without any actual notice because patent publication and issuance carry a presumption of constructive notice.³³¹ In *Dabico Airport Solutions v. AXA Power APS*, for example, the fact that the patent had been in force for eight years created settled expectations to warrant discretionary denial.³³²

We perceive multiple important objections to the consideration of settled expectations when deciding whether the PTAB will institute a petition. First, it appears only indirectly related to patent quality. There are many reasons a patent may remain unchallenged until later in its life. These include preexisting mutually beneficial relations between the patent holder and potential petitioners that would be upset with an invalidity challenge. Further, much has been written about the practice of software and information technology NPEs stretching the interpretation of claim scope to cover innovations conceived after the patent’s issuance.³³³ Many such patents will not be on the radar of technology implementors until time has passed and patent owners begin to enforce a stretched interpretation of its scope. In the extreme, we can imagine prophetic patent owners laying low for years like the “submarine patents” of the 1980s, waiting until an industry adopts technology that might be covered by a stretched construction of the claims.³³⁴ Due to their untethered nature, such patents are also more likely to be found to claim old or obvious technology.

328. See Dennis Crouch, *PTAB’s New “Settled Expectations” Doctrine*, PATENTLY-O (July 6, 2025), <https://patentlyo.com/patent/2025/07/settled-expectations-doctrine.html> (on file with the Berkeley Technology Law Journal) (collecting cases).

329. *iRhythm Techs., Inc. v. Welch Allyn, Inc.*, No. IPR2025-00363, Paper 10, at 3 (P.T.A.B. June 6, 2025).

330. See *id.* at 2.

331. *Dabico Airport Sols. Inc. v. AXA Power APS*, No. IPR2025-00408, Paper 21, at 3 (P.T.A.B. June 18, 2025).

332. *Id.* at 2–3.

333. See, e.g., Miller, *It Takes Two to Incorporate*, *supra* note 258, at 1401–02; see also James Bessen & Michael J. Meurer, *Lessons for Patent Policy from Empirical Research on Patent Litigation*, 9 LEWIS & CLARK L. REV. 1, 14–18 (2005) (discussing factors contributing to the success of opportunistic claims).

334. See Stuart J.H. Graham & David C. Mowrey, *Submarines in Software? Continuities in US Software Patenting in the 1980s and 1990s*, 13 ECON. INNOVATION & NEW TECH. 443, 447 (2004).

It is possible that this dire vision of the effect of settled expectations will not materialize. Already, the PTAB is setting limits on the doctrine. For example, patents in force for only five or six years have been deemed not to have developed strong settled expectations favoring discretionary denial.³³⁵ Further, Acting Director Stewart indicated that a petitioner can overcome the “settled expectations” doctrine by showing that a “significant change in law . . . occurred since the patent issued” that “directly bears on the patentability of the challenged claims.”³³⁶ Notably, settled expectations are less likely to be a basis for denial for petitioned patents that “have been in force for years but may not have been commercialized, asserted, marked, licensed, or otherwise applied in a petitioner’s particular technology space, if at all.”³³⁷ This suggests that NPEs, including our hypothesized next-generation patent submariners, will not be able to avoid institution via settled expectations.

These and other changes to the IPR process implemented during the second Trump Administration—including Director Squires’s limited approach to IPR institution determinations³³⁸—are too new for extensive empirical investigation. As the USPTO continues to implement its new approach to discretionary denials, more research assessing the effects of decisions that rely on new factors and comparing them against the decisions within the scope of our analysis will shed more light on just how far the resilience of the U.S. patent system can stretch.

VII.

CONCLUSION

Since the enactment of the AIA, IPR proceedings before the PTAB have sparked vigorous debate. Designed as a cost-effective alternative to traditional district court litigation for challenging patent validity, the IPR process is seen by proponents as an invaluable tool to eliminate low-quality patents. Opponents, however, argue it undermines inventors’ rights. The battlelines have only hardened since the emergence of discretionary denials, whereby the PTAB dismisses otherwise meritorious IPR petitions to avoid duplicative parallel proceedings at the PTAB or in copending district court litigation. Opponents welcomed this development as ameliorating the financial burden on patent owners and perceived PTAB bias in favor of patent challengers. Some proponents of IPRs, however, argue discretionary denial practice thwarts congressional intent and punts too many invalidity disputes back to more expensive and uncertain district court trials. They argue that many technology users have returned to settlement rather than providing the public good of testing the validity of patents with questionable quality.

335. See, e.g., *Cambridge Indus. USA, Inc. v. Applied Optoelectronics, Inc.*, No. IPR2025-00434, Paper 11, at 2–3 (P.T.A.B. June 26, 2025).

336. *Intel Corp. v. Proxense LLC*, No. IPR2025-00327, Paper 12, at 2 (P.T.A.B. June 26, 2025).

337. See *id.* at 2–3.

338. See *supra* Section II.E.

This Article tests the merits of these arguments and finds that discretionary denials are overwhelmingly used to avoid duplicative invalidity challenges when there are parallel disputes involving the same patents either at the PTAB or in the district courts. Further, we demonstrate that the increased use of discretionary denials during the late 2010s did not affect the rate at which patents subject to IPR challenges ultimately have their validity tried in district courts or in some other IPR. Finally, we find that very few discretionary denials generated significant new litigation post-discretionary denial, thus discounting concerns of widespread *VLSI*-type waste. Combined, our results show that with rare exceptions, discretionary denial practice has been appropriately used to address duplicative proceedings, while having little or no effect on the effectiveness of IPR in providing technology implementors with a cheap and effective alternative to litigation to test the validity of the patents that matter economically—those that are valuable enough to be enforced and challenged in IPR.

Nevertheless, the battle over the IPR process generally and discretionary denial in particular continues as the two major political parties have pushed in opposite policy directions since the enactment of the AIA. The second Trump Administration has expanded the scope of discretionary denial beyond the Biden Administration's emphasis on avoiding duplicative parallel proceedings to include additional considerations, such as patent age at the time of challenge and the USPTO's resource constraints. If these Trump-era reforms persist, future research should test the effect of these new justifications for discretionary denial on the effectiveness of IPRs. For now, we argue that granting discretionary denial in the absence of duplicative proceedings will probably weaken the public good the PTAB provides by strengthening patent quality.

