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Recalibrating Patent Venue

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RECALIBRATING PATENT VENUE

COLLEEN V. CHIEN AND MICHAEL RISCH*

ABSTRACT

For most of patent law's 200-plus year history, patent holders could sue only in the district inhabited by the defendant. In 1990, the United States Court of Appeals for the Federal Circuit decided that the scope of permissible venue extended to all districts with personal jurisdiction over the defendant. In recent years, patentees have flocked to certain districts, fueling the widespread perception that patentees, particularly those that do not practice their patents, called non-practicing entities ("NPEs"), are abusing forum. Responsive to these concerns, Congress and the courts have moved to reinstate a more restrictive rule, culminating in the Supreme Court's 2017 TC Heartland LLC v. Kraft Foods Group Brands LLC¹ decision to limit venue to locations of the defendant. Yet, incredibly, to date there has been no measure of the overall pervasiveness of forum shopping and whether TC Heartland or any other venue reform will change this phenomenon.

We address this gap by estimating the differential impacts of reform on filing patterns. We find, based on an analysis of approximately 1500 patent and non-patent cases filed in 2015 that about 86% of patent cases—a striking share—were brought outside of

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1. *TC Heartland L.L.C. v. Kraft Foods Grp. Brands L.L.C.*, 137 S. Ct. 1514 (2017).

the defendant's home district. This practice is not limited to non-practicing entities, however; corporations, universities, and individuals all filed outside of defendant districts. Things would have been different if venue were reformed, but much depends on how reform is implemented. If the Supreme Court's decision to restrict venue to where the defendant resides or has an established place of business were already in effect, an estimated 58% of 2015 cases would have had to have been filed in a different venue. If the Congressional proposal to change venue to include home districts with research or manufacturing connections to the case had been in effect, about half the NPE cases in our sample would have needed to be refiled in another district, but only 14% of the operating company cases would. Cases would have become less concentrated in a single district, with the top district, Delaware, capturing 20–24% of cases, but the top three districts, the District of Delaware, the Eastern District of Texas, and the Northern District of California, would still have the majority of cases. Regardless of the reform, we expect smaller defendants to get more from venue relief than larger defendants because of their relatively smaller footprints. Among NPEs, universities, individuals, and small companies should be impacted to a lesser extent than patent assertion entities ("PAEs"), considerably so if the VENUE Act were enacted.

TABLE OF CONTENTS

ABSTRACT	47
INTRODUCTION.....	49
I. LEGAL AND DESCRIPTIVE HISTORY OF PATENT VENUE.....	54
A. How We Got Here—Permissive Venue in Patent Law	54
B. Studying Forum Shopping.....	58
C. Patent Filing Trends	59
D. The Popularity of the Eastern District in the Past	61
E. The Popularity of the Eastern District of Texas in the Future	68
F. Proposed Changes.....	74
II. METHODOLOGY AND ASSUMPTIONS: THE CONTEXT, THE STATIC	
EFFECTS, AND THE DYNAMIC EFFECTS.....	77
A. Methodology	78
III. RESULTS AND THEIR IMPLICATIONS FOR VENUE REFORM EFFORTS	84
A. How Extensively are Plaintiffs Filing Out of Defendants'	
Venues?.....	85
B. Are Patent Case Filing Patterns Exceptional?	86
C. How Would Patent Venue Reform Change Patent Case	
Filing Patterns?	89

D. Where Would Patent Cases Move To?.....	90
E. How Concentrated Would Cases Be?.....	92
IV. PARTIES MOST LIKELY TO SEE RELIEF AND REFORM	93
A. Which Parties (by Geography) Would Benefit or Lose from Venue Reform?	97
B. Which Defendants (by Size) Would Benefit Most from Venue Reform?	99
C. Which Defendant Industries Would Benefit Most from Venue Reform?	100
V. CONCLUSION	102
APPENDIX.....	104

INTRODUCTION

A party planning to file a lawsuit often has the option of filing its case in several different districts. Cost and convenience are likely to factor into this decision to some extent, but also important—some would say more so—is the expectation that certain forums are more likely than others to favor the plaintiff’s interest, perhaps by interpreting the law in a desired fashion or by offering procedural or other advantages. The selection of a forum believed to be favorable to one’s side—usually the plaintiff’s, though defendants have some opportunities to engage in the practice as well—is referred to as “forum shopping.”²

But while forum shopping has been called a “national legal pastime,”³ “rampant,”⁴ and an “evil” to be “exorcis[ed],”⁵ debates on forum shopping are often long on rhetoric and short on facts. What we know is that, over the past decade, patent plaintiffs have increasingly chosen to file their suits in just a few districts, primarily the otherwise little-noted Eastern District of Texas. Though the District encompasses about one quarter of the State of

2. See Francesco Parisi & Erin A. O’Hara, *Conflict of Laws*, in 1 THE NEW PALGRAVE DICTIONARY OF ECONOMICS AND THE LAW 387, 389 (Peter Newman ed., 2002). Parisi and O’Hara distinguish between bilateral, ex ante forum selection (by means of forum selection clauses), and ex post forum shopping (as described above) on the ground that the former, but not the latter, is likely to be efficient. *Id.* Forum selection clauses are found in many contracts, particularly mass merchandise contracts, and generally are enforceable. See, e.g., *Atl. Marine Constr. Co. v. U.S. Dist. Court*, 134 S. Ct. 568, 581 (2013) (finding that when parties have agreed to a valid forum selection clause, a court should give controlling weight to that clause except for in the most exceptional cases).

3. J. Skelly Wright, *The Federal Courts and the Nature and Quality of State Law*, 13 WAYNE L. REV. 317, 333 (1967) (“[F]orum-shopping, among both federal and state courts, [has become] a national legal pastime.”).

4. Lynn M. LoPucki, *Courting Failure: How Competition for Big Cases Is Corrupting the Bankruptcy Courts*, 1 J. SCHOLARLY PERSP. 55, 57 (2005).

5. Kevin M. Clermont & Theodore Eisenberg, *Exorcising the Evil of Forum-Shopping*, 80 CORNELL L. REV. 1507, 1507 (1995).

Texas geographically speaking, the Eastern District's 3.5 million people⁶ comprise only about 13% of the population of Texas, and about 1% of the total U.S. population.⁷ In 2015, nearly 44% of all patent cases were initiated there,⁸ and in 2016, over 36% were.⁹ The next closest district—which is also out of proportion compared to population—is Delaware, at about 10% of all patent cases.¹⁰

To be sure, the state of venue law before *TC Heartland* allowed filings in these districts, and there is no rule against forum shopping. Indeed, there are good business reasons for choosing a favorable forum. Thus, whether one views forum shopping as good or bad is often entwined with one's views of how the law should treat plaintiffs and defendants. However, whether forum shopping is consistent with the public interest is another matter. The sense that filing in Texas provides advantages to plaintiffs in outcomes and procedures—for better or worse—has harmed the reputation of the patent system. This conglomeration of cases has produced bizarre behavior that includes the sponsoring of an outdoor skating rink by frequent defendant Samsung to curry favor with local juries.¹¹ While choice of forum, in theory, can produce a more efficient, responsive judiciary, we believe that a system that incentivizes over-selection is far less defensible.

The Eastern District of Texas has been the most popular venue for patent cases in all but two of the last ten years, but not among all plaintiffs. While 63% of patent assertion entity (“PAE”, also known by the pejorative “troll”)¹² filings in 2015 were in the Eastern District of Texas,¹³ less than 10% of filings by operating companies and individuals were filed there. Any change to the

6. U.S. DEP'T OF JUSTICE, *District Info*, <http://www.justice.gov/usao-edtx/district-info> (last updated Mar. 17, 2015).

7. The U.S. population was 320 million in 2015 and 325 million in 2017. U.S. POPULATION BY YEAR, <http://www.multpl.com/united-states-population/table> (last visited Oct. 19, 2017).

8. Brian Howard, *Announcing the Patent Litigation Year in Review 2015*, LEX MACHINA BLOG (Mar. 16, 2016), <https://lexmachina.com/14318/>.

9. Brian Howard, *2016 Fourth Quarter Litigation Update*, LEX MACHINA BLOG (Jan. 12, 2017), <http://lexmachina.com/q4-litigation-update/>.

10. *Id.*

11. See Tom Gerencer, *John Oliver Takes on Patent Trolls*, MONEYNATION (May 4, 2015), <http://moneynation.com/john-oliver-takes-patent-trolls/> (describing sketch on John Oliver's show *Last Week Tonight*).

12. Colleen V. Chien, *From Arms Race to Marketplace: The Complex Patent Ecosystem and Its Implications for the Patent System*, 62 HASTINGS L.J. 297, 316 n.125 (2010). defining the term, “patent assertion entities” as “entities that use patents primarily to get licensing fees rather than to support the development or transfer of technology” and others who seek to commercialize their technology. *Id.* at 300.

13. UNIFIED PATENTS, 2015 PATENT DISPUTE REPORT (Dec. 31, 2015), <http://www.unifiedpatents.com/news/2016/5/30/2015-patent-dispute-report> [hereinafter 2015 PATENT DISPUTE REPORT]. In this Article, we adopt Unified Patents' definition and coding of a PAE: an “[e]ntity whose primary activity is licensing patents and acquired most of its patents from another entity.” *Id.* In Parts III and IV, we differentiate between the impact of venue reform on patent assertion entities and other types of non-practicing entities (“NPEs”). *Infra* Parts III–IV.

system will have differing costs and benefits for these and other groups of affected parties.

To be clear, in modeling different venue reform choices, we do not purport to claim that any venue reform would be, on balance, welfare enhancing, nor can we know with certainty the extent to which venue reform would change the number of cases that might be filed. Though limiting plaintiff options would dampen plaintiff filings, all other things being equal, we cannot count on this condition. However, we do make one thing clear: a patent system in which so much rides on where a lawsuit is filed is deeply flawed. As such, there is a chance, in contrast to other troll-targeting patent reforms that would sweep more broadly, such as loser-pays legislation or limits on discovery,¹⁴ reforms that would make forum shopping harder may represent changes upon which most of the patent system's diverse stakeholders can agree.¹⁵

There are two main routes for effecting changes to the law—Congress and the Court. Several bills with venue reform provisions have been introduced in Congress for potential consideration in the near term. More importantly, in May 2017, the Supreme Court decided *TC Heartland LLC v. Kraft Food Group Brands LLC*,¹⁶ a case that squarely presented the question of whether patent venue should be recalibrated and restored to a narrower ambit.

During the time preceding *TC Heartland*, plaintiffs' expansive choice of venue was the exception more than the rule, considering patent law's 200-plus-year history during which venue was restricted to districts inhabited by the defendant, namely its state of incorporation. But in 1990, the United States Court of Appeals for the Federal Circuit, in response to a change in the general venue law enacted by Congress in 1988, held that Congress intended to make the patent rule more permissive and allow disputes to be filed in any district in which there was personal jurisdiction over the defendant.¹⁷ Since corporations tend to sell products throughout the United States, the court's interpretation basically permitted patent owners to sue defendants for infringement anywhere,¹⁸ so long as they can survive a motion to transfer.

14. See, e.g., *Protecting American Talent and Entrepreneurship Act of 2015 (PATENT Act)*, Senate Judiciary Comm., <https://www.judiciary.senate.gov/imo/media/doc/Patents,%2004-29-15,%20PATENT%20Act%20-%20One%20Pager.pdf> (describing provisions that would limit early discovery and shift fees if the losing party was not "objectively reasonable").

15. We realize, of course, that patent plaintiffs may not be so happy with such changes, though if given a choice of sweeping reform and venue reform, they might well pick venue.

16. *TC Heartland L.L.C. v. Kraft Foods Grp. Brands L.L.C.*, 137 S. Ct. 1514 (2017).

17. *VE Holding Corp. v. Johnson Gas Appliance Co.*, 917 F.2d 1574 (Fed. Cir. 1990), *abrogated by TC Heartland L.L.C.*, 137 S. Ct. 1514, at 1514.

18. See, e.g., *Beverly Hills Fan Co. v. Royal Sovereign Corp.*, 21 F.3d 1558, 1565 (Fed. Cir. 1994) (shipping product through a state's distribution channels conferred jurisdiction). For further discussion, see, for example, Jeanne C. Fromer, *Patentography*, 85 N.Y.U. L. REV. 1444, 1451–55 (2010).

Scholars, advocates, and late-night comedians¹⁹ accused trolls of taking over the patent system by filing in Texas and contemplated how the rules should be reformed. As part of this groundswell, the decades-old plaintiff-friendly rule that the Federal Circuit endorsed came under attack. One defendant's challenge presented the Supreme Court with the opportunity to swing the venue pendulum back toward defendants, through the *TC Heartland* case, and the Court obliged.²⁰ The provisions introduced before Congress would position the law somewhere in between the extremes, allowing cases to be brought in districts of the plaintiff and the defendant with a connection to the accused infringement.²¹

While most academic commentary on forum shopping in patents to date has focused on explaining filing patterns and suggesting ways to curb forum shopping,²² our Article takes a different approach. Rather than debate the theory or merits of various versions of venue reform in the abstract, we empirically address several basic questions that have, as yet, curiously been glossed over in the national debate: 1) How prevalent is forum shopping in patent law, especially as compared to other cases?; 2) Who is doing it?; 3) What would the overall impact of proposed reforms be?; and, in particular 4) Would the intense concentration of cases just shift from the Eastern District of Texas to another district if reform were enacted? We report our findings briefly below and expand on them throughout this Article. This is the first attempt that we are aware of to measure forum shopping across *all* plaintiffs in a single area of law.²³

Based on our analysis of nearly 1500 patent and non-patent cases, we find, first, that forum shopping in patent cases is indeed pervasive. An overwhelming majority of cases—a whopping 86% of them—were filed out of defendants' venue;²⁴ while forum shopping exists in non-patent cases, this is a much higher percentage and shows far more concentration in a few districts. This share is not only large, it is also more than double the share of cases that were filed in the Eastern District of Texas, suggesting that the phenomenon is much more widespread than just “trolls taking over Texas.”

19. See Gerencer, *supra* note 11.

20. *TC Heartland L.L.C.*, 137 S. Ct. 1514 (2017).

21. See *infra* Part I.

22. See J. Jonas Anderson, *Court Competition for Patent Cases*, 163 U. PA. L. REV. 631, 632–38 (2015); Fromer, *supra* note 18, at 1444; Daniel Klerman & Greg Reilly, *Forum Selling*, 89 S. CAL. L. REV. 241, 241–42 (2016).

23. See *infra* Part I. The closest two studies, one by Lynn M. LoPucki and William C. Whitford and another by Samir D. Parikh, which both look at the prevalence of forum shopping in bankruptcy cases, limit their analyses to the bankruptcies of the largest firms. See Lynn M. LoPucki & William C. Whitford, *Venue Choice and Forum Shopping in the Bankruptcy Reorganization of Large, Publicly Held Companies*, WIS. L. REV. 11 (1991); Samir D. Parikh, *Modern Forum Shopping in Bankruptcy*, 46 CONN. L. REV. 159 (2013).

24. See *infra* Part III.A.

Our second finding reinforces this point. We find that not only did PAEs file out of the defendants' venue but almost all other plaintiffs—universities, corporations, and individuals—did as well. For example, even though 90% of PAEs initiated cases out of the defendants' venue, 80% of corporate plaintiffs did so as well.²⁵ Plaintiffs of all stripes took advantage of the Federal Circuit's permissive rule and did what was convenient for them, not the defendant.

Having documented this baseline, we evaluate the static effects of a rule change. To do so, we take a sample of 1000 randomly chosen patent cases from 2015 and assess whether or not they could have been brought in their chosen venues under proposed versions of the law. We combine court records with information about the parties themselves—their entity type, whether defendants were publicly traded companies and the primary industries they were in, and the past filing patterns of plaintiffs. While the problem of forum shopping may appear targeted and concentrated in the Eastern District of Texas, would a new rule simply shift filings to another location, such as Delaware, where many companies are incorporated, rather than resolve the concentration of patent cases?

We find that under either a return to the past statute or adoption of proposed legislation, the impact would be dramatic. Between 53% and 58% of the 2015 cases in our sample—the majority—would have to have been filed in a different venue. Because venue must be determined at the outset of a case, all cases, not just those that survive certain milestones, would be impacted by this rule change. However, among plaintiff types, the impacts would depend on which rule is implemented. If plaintiffs' home districts are also allowed, something Congress is considering primarily for the benefit of operating companies, universities, and failed startups, then 47% of non-practicing entity ("NPE") cases would have to move while 14% of operating company cases would have to be refiled in a different district.

This Article proceeds as follows. Part I explores the legal and descriptive history of patent venue and the enabling conditions and motivations for forum shopping through the present. It also reviews the potential future of venue through the lens of current congressional and court activity. Part II describes the methodology and assumptions we used to address the three issues discussed above—the context, the static effects, and the dynamic effects of the proposed changes—through rigorous empirical analysis. Part III presents and describes our results and their implications for venue reform efforts. Part IV considers which parties would be most likely to see relief from reform. Part V concludes.

25. *See infra* Part III.A.

I. LEGAL AND DESCRIPTIVE HISTORY OF PATENT VENUE

The question of where patentees can properly bring their cases has received a substantial amount of recent attention in light of the high concentration of patent filings in just a handful of venues. But for much of patent law's history, it had been well-settled that special rules limit where patent lawsuits can be brought. In this Part, we discuss the evolution of patent venue law and related developments in general venue law as well as the combination of favorable law, favorable procedures, and favorable economics that have contributed to the venue criticism. Next, we consider the patterns of filing that have followed and previous developments intended to limit forum shopping in patent cases. Finally, we discuss proposals for reforming patent venue currently under consideration.

A. *How We Got Here—Permissive Venue in Patent Law*

In order to bring a lawsuit, a plaintiff must establish proper venue and personal jurisdiction over a defendant. General rules, covering all civil suits, and rules specific to patent law, as well as rules that have sanctioned restrictive and permissive venue, have governed patent cases over their long history. For the first hundred years or so, patent venue was governed by a general statute. Section 11 of the Judiciary Act of 1789 allowed suits in civil cases—including patent cases—only where the defendant inhabited or could be found.²⁶ In the early nineteenth century, most defendants were individuals and could be found only where they inhabited. As a result, when Thomas Blanchard sought to enforce his patents over a time-saving turning lathe that permitted wood to be shaped into irregular forms such as gun stocks and tool handles, he had to enforce his patent in the venues of the woodworkers he accused of infringement—in Massachusetts, New Hampshire, Pennsylvania, and other locations.²⁷

The jurisdiction of the federal courts expanded with the Jurisdiction and Removal Act of 1875; before diversity and removal, state courts had heard many cases when both parties were in the same state.²⁸ Afterward, suits could

26. Judiciary Act of 1789, ch. 20, § 11, 1 Stat. 73, 79 (1789) (“And no civil suit shall be brought before either of said courts against an inhabitant of the United States, by any original process in any other district than that whereof he is an inhabitant, or in which he shall be found at the time of serving the writ . . .”); see *Chaffee v. Hayward*, 61 U.S. (20 How.) 208, 212 (1857) (denying venue where defendant was not an inhabitant of district).

27. Christopher Beauchamp, *The First Patent Litigation Explosion*, 125 YALE L.J. 848, 860–61 (2016).

28. Jurisdiction and Removal Act of 1875, ch. 137, § 1, 18 Stat. 470, 470 (1875); see *Landmark Legislation: Jurisdiction and Removal Act of 1875*, FED. JUDICIAL CTR., <http://www.fjc.gov/history/legislation/landmark-judicial-legislation-text-document-9> (last visited Aug. 4, 2017).

still be filed wherever defendants inhabited or could be found,²⁹ but while the rule was the same, the practical effect was broader than the habitation requirement because defendants were “found” essentially anywhere there was a business presence.³⁰ This development coincided with the rise of the “patent sharks,” patent holders who sued farmers for their use of farming implements such as sliding gates, barbed fences, and drivewells.³¹ The ability to consolidate multiple suits in a single venue led Congressman Nathaniel C. Deering of Iowa to report in 1879 that:

[A] single attorney is preparing papers for more than one thousand cases; and that the attorneys for the patentee of the iron barbs for wire-fences are preparing papers for upward of four thousand cases in . . . our State. Hundreds, if not thousands, of the unwary and unsuspecting farmers in my district will no doubt be compelled, by threats and intimidation, either to yield to the extortionate demands of these plunderers, and pay \$10 or \$20 each . . . or be dragged one hundred and fifty miles away from their homes, at great inconvenience and expense.³²

Note that these individuals were being sued in their home districts, and that the long distances were due to rural farm locations, but consider if they had all been sued 2000 or more miles from their homes. Even during this time, where a patent case could be brought had an influence on its outcome.

This early period of permissive venue came to an end about a decade after it started when, in 1887³³ and 1888,³⁴ Congress passed revisions that generally narrowed venue, but in a complex way. Under the new rule, if a case was brought under what was then federal question jurisdiction, then the suit could only be brought where the defendant inhabited.³⁵ But in diversity cases (e.g., a case worth more than \$500 but less than \$2000 with parties in different states), plaintiffs could sue either where they resided or where the

29. *Landmark Legislation: Jurisdiction and Removal Act of 1875*, *supra* note 28. (“[T]he act of 1875 attracted new types of litigation that swelled the caseload of the federal courts and challenged the existing organization of the judiciary.”).

30. *Ex parte Schollenberger*, 96 U.S. 369, 376 (1877) (“They have in express terms, in consideration of a grant of the privilege of doing business within the State, agreed that they may be sued there . . .”).

31. *Beauchamp*, *supra* note 27, at 926; Earl W. Hayter, *The Patent System and Agrarian Discontent, 1875–1888*, 34 *MISS. VALLEY HIST. REV.* 59, 73 (1947).

32. Hayter, *supra* note 31, at 67–68.

33. Act of Mar. 3, 1887, ch. 373, § 1, 24 Stat. 552, 552–53 (1887).

34. Act of Aug. 13, 1888, ch. 866, § 1, 25 Stat. 433, 433–34 (“[N]o civil suit shall be brought . . . against any person . . . in any other district than that whereof he is an inhabitant, but where the jurisdiction is founded only on the fact that the action is between citizens of different States, suit shall be brought only in the district of the residence of either the plaintiff or the defendant . . .”).

35. *Id.*; Act of Mar. 3, 1887, ch. 373 § 1.

defendant resided.³⁶ In either case, defendants could no longer be sued where they were found, only where they inhabited. However, for the first ten years of the new statute, courts were confused about the law's applicability to patent cases.³⁷ Eventually, the Supreme Court determined that, because district court jurisdiction to hear patent cases arose under a different statute, the general venue provision did not apply; venue in patent cases was permissible essentially anywhere.³⁸

In response to this trend, in 1897, Congress clarified its intent that patent defendants should be sued only where they inhabited or where they had a place of business and committed infringing acts.³⁹ This patent venue rule was narrower than a rule that allowed venue in any district with jurisdiction, but still broader than the inhabitant rule applicable to other cases. In one sense, it was a return to venue where the defendant might be found, with the added proviso that the infringement also take place in the selected district. In fact, the statute explicitly provided for service at other business locations, just as the "found" jurisdiction did.⁴⁰

Meanwhile, Congress continued to tinker with the general venue rules, enacting a provision that allowed broader venue in the case of two defendants in civil cases; notably, that rule's provenance predated the 1897 patent venue rule.⁴¹ The Supreme Court confirmed in the 1942 case *Stonite Products Co. v. Melvin Lloyd Co.*⁴² that these general venue rules did not undermine application of the special, narrower venue rules to patent cases, in large part because the recodification of the general rules did not trump the special rule.⁴³

But additional changes introduced additional ambiguity. In 1948, the Judicial Code was recodified to its current form, which specifies in 28 U.S.C. § 1400(b), rather succinctly, that patent venue is proper "in the judicial district where the defendant *resides* [rather than *inhabits*], or where the defendant has committed acts of infringement and has a regular and established place of business."⁴⁴ The terms "resides" and "inhabits" were

36. Act of Aug. 13, 1888, ch. 866, § 1

37. *Stonite Prods. Co. v. Melvin Lloyd Co.*, 315 U.S. 561, 564 n.3 (1942) (describing older cases).

38. *In re Hohorst*, 150 U.S. 653, 662 (1893).

39. Act of Mar. 3, 1897, ch. 395, § 1, 29 Stat. 695, 695 (placing jurisdiction over a patent suit "in the district of which the defendant is an inhabitant, or in any district in which the defendant, whether a person, partnership, or corporation, shall have committed acts of infringement and have a regular and established place of business").

40. *Id.*

41. Act of May 4, 1858, ch. 27, § 1, 11 Stat. 272, 272, *amended by* R.S. § 740, *amended by* JUDICIAL CODE § 52.

42. 315 U.S. 561 (1942).

43. *Id.* at 566 ("Even assuming that R.S. § 740 [which derived from the Act of May 4, 1858] covered patent litigation prior to the Act of 1897, we do not think that its application survived that act, which was intended to define the exact limits of venue in patent infringement suits.")

44. 28 U.S.C. § 1400(b) (2012) (emphasis added).

meant to be synonymous,⁴⁵ but a related provision of the law, 28 U.S.C. § 1391(c), was later revised to state that a corporate defendant *resides* anywhere it is doing business, seemingly restoring the broader concept of venue being proper anywhere a corporate defendant could be found.⁴⁶

The two changes implied a potential new meaning—that for corporations “reside” no longer meant “inhabit,” or place of incorporation, for patent venue. This new ambiguity brought another Supreme Court case about a decade later, considering again whether the new general rule modified the special patent rule. The very small difference between Sections 1400(b) and 1391(c) made a big difference to a West Virginia glass company called Fourco that was sued in New York.⁴⁷ The company had a place of business in New York and was doing business there, but the company was not committing infringing acts there.⁴⁸ In other words, though Fourco could be *found* in New York, it did not *inhabit* the state, making the suit proper only if Section 1391(c) had redefined “resides” as set forth in Section 1400(b).

In its 1957 *Fourco Glass Co. v. Transmirra Prods. Corp.*⁴⁹ decision, the Supreme Court determined that Section 1391(c) was a general statute that had not actually changed the patent landscape or the vision of limited patent venue set forth by the Court in the *Stonite* case.⁵⁰ Because Section 1400(b) is a specific prior statute, nothing indicated that Congress intended to change the meaning of Section 1400(b), the Court reasoned. The term “resides” in Section 1400(b) continued to mean “inhabit” as it always had.⁵¹

Ironically, despite fixed language, the *relative* breadth of patent venue changed with Congress’s whims in other parts of the statute. When first passed as a response to unfettered venue choices, for the period from 1897 until Section 1391(c) was passed in 1948, the patent rule provided for relatively broad venue compared to non-patent cases, which limited filings to place of habitation. But as Congress returned to unfettered venue choices for non-patent cases, patent venue began to look somewhat narrower.

It is within this context that the latest dispute over patent venue appears in many ways to be history repeating itself. Although 28 U.S.C. § 1400(b) has remained unchanged since 1948, the congressional provisions governing general venue have undergone two additional revisions. In 1988, a new clause was added to 28 U.S.C. § 1391(c)’s definition of residence, resulting

45. Historical and Revision Notes to 28 U.S.C. § 1400(b) (2012).

46. 28 U.S.C. § 1391(c) (1952); see Note, *Federal Venue and the Corporate Plaintiff: Judicial Code Section 1391(c)*, 28 IND. L.J. 256, 256 (1953).

47. *Fourco Glass Co. v. Transmirra Prods. Corp.*, 353 U.S. 222, 223 (1957).

48. *Id.* at 223–24.

49. 353 U.S. 222 (1957).

50. *Id.* at 228–29.

51. *Id.*

in the following language: “For purposes of venue *under this chapter*, a defendant that is a corporation shall be deemed to reside in any judicial district in which it is subject to personal jurisdiction at the time the action is commenced.”⁵² These three words, the Federal Circuit held in its 1990 case, *VE Holding Corp. v. Johnson Gas Appliance Co.*,⁵³ triggered a change in how Section 1400(b) should be interpreted because the patent venue rule was “under this chapter.”⁵⁴ As a result, patent holders could sue alleged infringers in “any district where there would be personal jurisdiction over the corporate defendant.”⁵⁵ Thus was born the modern era of permissive venue for patents, joining other civil cases.

Not content to leave venue alone, in 2011, Congress amended Section 1391 again. There were two primary changes. First, Section 1391(a) now says the section will apply to venue in all civil actions, “[e]xcept as otherwise provided by law.”⁵⁶ Second, instead of “under this chapter,” Section 1391(c) now reads, “[f]or all venue purposes.”⁵⁷

The courts did not adjust their interpretation of patent venue law after the most recent change, but should they have? Whether the general venue statute should trump patent venue rules has been before the Supreme Court several times since 1887, and it is one of the questions that was presented to the Federal Circuit and then the Supreme Court in the *TC Heartland* case, described in further detail below.

B. Studying Forum Shopping

Though *VE Holding*'s statutory construction expanded venue in patent cases, permissive venue is not unique to patent law. Indeed, as Clermont and Eisenberg have observed, “[t]he American way is to provide plaintiffs with a wide choice of venues for suit.”⁵⁸ Scholars have studied, critiqued, and defended strategic forum choices in several areas of law, including mass torts and bankruptcy in modern times;⁵⁹ there is even evidence from the 1600s that suggests that English judges made jurisdictional, procedural, and doctrinal

52. 28 U.S.C. § 1391(c) (1988) (current version at 28 U.S.C. § 1391(c)(2) (2012) (emphasis added)).

53. 917 F.2d 1574 (Fed. Cir. 1990).

54. *Id.* at 1579–80.

55. *Id.* at 1583.

56. 28 U.S.C. § 1391(c) (2012).

57. *Id.*

58. Clermont & Eisenberg, *supra* note 5, at 1507. As noted in the Introduction, though, it was not always the American way.

59. See, e.g., James D. Cox et al., *Do Differences in Pleading Standards Cause Forum Shopping in Securities Class Actions?: Doctrinal and Empirical Analyses*, 2009 WIS. L. REV. 421, 421 (2009); Theodore Eisenberg & Lynn M. LoPucki, *Shopping for Judges: An Empirical Analysis of Venue Choice in Large Chapter 11 Reorganizations*, 84 CORNELL L. REV. 967, 968–71 (1999); Craig S. Hilliard & Martin P. Schrama, *A Case Study on the Importance of Forum Selection in Mass Tort Litigation*, 200 N.J.L.J. 382, 382–83 (2010).

choices to attract plaintiffs.⁶⁰ A comprehensive study of transfer motions in the 1980s and 1990s found that cases that were successfully transferred to the defendant's preferred venue were much less likely to result in a victory for the plaintiff.⁶¹ It is not surprising, then, that in certain areas of federal law that allow for forum shopping, parties have availed themselves of this option. In one of the few studies we know of to measure the extent of forum shopping, Parikh found that among the largest bankruptcy cases from 2007–2012, 69% were forum shopped.⁶² Sukhatme examined more than 500,000 diversity cases and found that both plaintiffs and defendants were more likely to settle when away from their home jurisdictions.⁶³

C. Patent Filing Trends

But while permissive venue is not unique to patent law, among federal causes of action—besides bankruptcy⁶⁴—forum shopping in patents has attracted the most attention.⁶⁵ In 2001, then-Professor Kimberly Moore (now

60. Daniel Klerman, *Jurisdictional Competition and the Evolution of the Common Law*, 74 U. CHI. L. REV. 1179, 1186–87 (2007).

61. Clermont & Eisenberg, *supra* note 5, at 1507, 1512 (finding, based on a study of 2.8 million terminations of federal civil cases between 1979 and 1991, a disparity in plaintiff win rates among transferred and non-transferred cases of 29% versus 58%, respectively).

62. Parikh, *supra* note 23, at 177; *see also* LoPucki & Whitford, *supra* note 23, at 12 (finding a substantial number of bankruptcy cases involving the largest companies were filed in districts where the company had little or no physical presence).

63. Neel U. Sukhatme, A Theoretical and Empirical Study of Forum Shopping in Diversity Cases 3 (Aug. 18, 2014) (unpublished manuscript), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1989250.

64. *See* Barry E. Adler & Henry N. Butler, *On the “Delawarization of Bankruptcy” Debate*, 52 EMORY L.J. 1309, 1316–17 (2003) (questioning whether the observed number of bankruptcies filed in Delaware differs that greatly from a random walk); Eisenberg & LoPucki, *supra* note 59, at 968–71 (documenting and explaining the abrupt shift in 1990 when forum shoppers stopped filing in New York and started filing in Delaware); Lynn M. LoPucki & Sara D. Kalin, *The Failure of Public Company Bankruptcies in Delaware and New York: Empirical Evidence of a “Race to the Bottom,”* 54 VAND. L. REV. 231, 244–55 (2001) (presenting evidence of venue choice, debtor size, and refiling rates); LoPucki & Whitford, *supra* note 23, at 12 (finding that a substantial number of bankruptcy cases were filed in districts “where the company had little or no physical presence”); Parikh, *supra* note 23, at 177 (finding 69% of the largest bankruptcy cases filed between 2007 and 2012 were “forum shopped”); *see also* Kenneth Ayotte & David A. Skeel, Jr., *An Efficiency-Based Explanation for Current Corporate Reorganization Practice*, 73 U. CHI. L. REV. 425, 432–33 (2006) (acknowledging the high number of filings in Delaware while critiquing Professor LoPucki's explanations for it); Kenneth M. Ayotte & David A. Skeel, Jr., *Why Do Distressed Companies Choose Delaware? An Empirical Analysis of Venue Choice in Bankruptcy* 1 (May 21, 2003) (unpublished manuscript), http://scholarship.law.upenn.edu/cgi/viewcontent.cgi?article=1019&context=faculty_scholarship (finding “no evidence of agency problems governing . . . venue choice” in bankruptcy).

65. A search of forum shopping commentary in the context of copyright, trademark, antitrust, and civil RICO literature revealed only one empirical study, which found out-of-hometown forum shopping substantially less prevalent in copyright and trademark litigation than in patent litigation. *See generally* Matthew Sag, *IP Litigation in U.S. District Courts: 1994–2014*, 101 IOWA L. REV. 1065, 1095–97 (2016). Outside of the federal courts, commentators have also considered forum shopping in the context of mass tort cases. *See, e.g.,* Hilliard & Schrama, *supra* note 59, at 382.

a judge on the Federal Circuit) published an empirical study showing that the five most popular districts at the time for patent litigation (the Central and Northern Districts of California, the Northern District of Illinois, the Southern District of New York, and the District of Massachusetts) collectively accounted for only 15% of all civil case terminations but 29% of patent case terminations from 1995 to 1999.⁶⁶ Moreover, although the clusters of filings within certain districts appeared to correlate with their proximity to large numbers of patent-seeking companies and their headquarters, other popular districts, including the District of Delaware and the Eastern District of Virginia, did not.⁶⁷ Rather, filings appeared to correlate (albeit not uniformly) with procedural advantages, such as time to trial, and with differential win rates.⁶⁸ Since Judge Moore's early work, Lemley has performed a similar analysis relating to district processes and outcomes with respect to later cases.⁶⁹ Vishnubhakat examined survival rates by district for fifteen years of patent litigation,⁷⁰ and Lii considered reversal rates by district.⁷¹

None of these forum shopping studies, however, attempted to quantify the changes associated with different venue rules. The closest study, *Patentography*, considered how venue might cluster by technology area under certain constraints, an interesting yet oversimplified rule that has never been proposed in Congress.⁷² This Article expands on the prior literature in numerous ways. First, it shows how pervasive forum shopping really is. Second, it shows how widespread the practice is among various plaintiff groups. Third, and most importantly, it provides the first detailed analysis of current and proposed venue proposals and addresses lingering questions about the effectiveness of reforms.

66. Kimberly A. Moore, *Forum Shopping in Patent Cases: Does Geographic Choice Affect Innovation?*, 79 N.C. L. REV. 889, 903 tbl.1, 904 (2001).

67. *Id.* at 906. Delaware is a popular state for incorporation, but in our sample, few of the corporations incorporated in Delaware actually had their principal place of business there.

68. *Id.* at 907–23.

69. Mark A. Lemley, *Where to File Your Patent Case*, 38 AIPLA Q.J. 401, 407–18 (2010); see also Scott E. Atkinson et al., *The Economics of a Centralized Judiciary: Uniformity, Forum Shopping, and the Federal Circuit*, 52 J.L. & ECON. 411, 412 (2009) (examining forum shopping and outcomes before and after formation of the Federal Circuit).

70. Saurabh Vishnubhakat, *Reconceiving the Patent Rocket Docket: An Empirical Study of Infringement Litigation 1985–2010*, 11 J. MARSHALL REV. INTELL. PROP. L. 58, 76 (2011).

71. Teresa Lii, Comment, *Shopping for Reversals: How Accuracy Differs Across Patent Litigation Forums*, 12 CHI.-KENT J. INTELL. PROP. 31, 31 (2013).

72. Fromer, *supra* note 16, at 1478, 1493–506 (analyzing outcomes based solely on defendant's primary place of business rather than where venue is located would be proper under § 1400); see also Jay P. Kesan & Gwendolyn G. Ball, *Judicial Experience and the Efficiency and Accuracy of Patent Adjudication: An Empirical Analysis of the Case for a Specialized Patent Trial Court*, 24 HARV. J.L. & TECH. 393, 396 (2011) (examining case concentration by district and judge).

D. The Popularity of the Eastern District in the Past

Over the past ten or so years, however, while the District of Delaware has grown to be the second most popular forum for patent litigation (Virginia’s popularity having declined for a variety of reasons),⁷³ patent suits increasingly have clustered in the Eastern District of Texas. Table 1 below charts the raw numbers of patent actions filed in the Eastern District, beginning in 1999—when there were only 14 actions—through the first half of 2016—when there were 767 patent filings. There were 2540 filings in 2015.

TABLE 1: PATENT CASES FILED IN THE EASTERN DISTRICT OF TEXAS⁷⁴

Patent Cases Filed in the Eastern District of Texas								
1999	2000	2001	2002	2003	2004	2005	2006	2007
14	23	33	32	55	108	159	196	358
2008	2009	2010	2011	2012	2013	2014	2015	2016
289	235	283	414	1247	1494	1425	2541	1662

Of greater interest, however, is Table 2, which, based on data from Lex Machina and various academic studies, lists the patent caseload of the leading federal district courts by percentage. In 2015, approximately 44% of all U.S. patent infringement actions were filed in the Eastern District of Texas.⁷⁵ The

73. See Klerman & Reilly, *supra* note 22, at 280–81 (2016) (discussing factors that contributed to Delaware and Virginia’s popularity and the more recent adoption of measures intended to discourage overuse of Virginia as a forum, leading to its decline as a patent forum).

74. Source for data from 1999–2006: Yan Leychkis, *Of Fire Ants and Claim Construction: An Empirical Study of the Meteoric Rise of the Eastern District of Texas as a Preeminent Forum for Patent Litigation*, 9 YALE J.L. & TECH. 193, 206 tbl.6 (2007). Source for data from 2007–2013: Klerman & Reilly, *supra* note 22, at 249 tbl.1. Source for data from 2014: BRIAN C. HOWARD, LEX MACHINA, 2014 PATENT LITIGATION YEAR IN REVIEW 5 fig.7 (2015), pages.lexmachina.com/rs/lexmachina/images/2014%20Patent%20Litigation%20Report.pdf. Source for data from 2015 and 2016: BRIAN C. HOWARD & JASON MAPLES, LEX MACHINA, PATENT LITIGATION YEAR IN REVIEW 2016 4 fig.7 (2017), <http://pages.lexmachina.com/rs/098-SHZ-498/images/LexMachina%202016%20Patent%20Litigation%20Year%20in%20Review.pdf>. at i. Note that the jump from 2011 to 2012 is explained in large part by joinder rule changes in the Leahy-Smith America Invents Act (“AIA”). See *infra* text accompanying notes 79–82.

75. 2015 Patent Dispute Report, *supra* note 13, at fig.5. For the third quarter of 2015, Lex Machina reported a drop in filings nationally, to 1119, of which only 435 were filed in the Eastern District. Brian Howard, *Q3 2015 IP Filing Trends*, LEX MACHINA (Oct. 9, 2015), <http://lexmachina.com/q3-2015-ip-filing-trends/>.

Eastern District court also decided the largest proportion of NPE patent cases.⁷⁶ In 2016, this share dropped to 37%.⁷⁷

76. John R. Allison et al., *How Often Do Non-Practicing Entities Win Patent Suits?* 31 tbl. 2a (Stan. Law Sch., Working Paper No. 485, 2016).

77. BRIAN C. HOWARD & JASON MAPLES, LEX MACHINA, PATENT LITIGATION YEAR IN REVIEW 2016 4 fig.7 (2017), <http://pages.lexmachina.com/rs/098-SHZ-498/images/LexMachina%202016%20Patent%20Litigation%20Year%20in%20Review.pdf>.

TABLE 2: TOP 10 MOST POPULAR DISTRICTS FOR PATENT CASES, 2002–2016 (% OF TOTAL CASES)⁷⁸

District	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Eastern District of Texas	1%	2%	4%	6%	10%	13%	11%	9%	10%	12%	23%	24%	28%	44%	37%
District of Delaware	5%	5%	6%	5%	5%	6%	6%	9%	9%	14%	18%	22%	19%	9%	10%
Central District of California	10%	16%	11%	9%	10%	12%	8%	11%	8%	9%	9%	7%	7%	5%	6%
Northern District of California	8%	7%	7%	7%	6%	5%	6%	6%	6%	6%	5%	4%	5%	4%	4%
Northern District of Illinois	7%	6%	7%	5%	5%	5%	6%	5%	6%	6%	4%	4%	3%	3%	5%
District of New Jersey	4%	5%	4%	4%	6%	7%	6%	6%	6%	5%	3%	2%	6%	5%	4%
Southern District of New York	4%	5%	6%	5%	4%	4%	5%	6%	4%	4%	3%	2%	2%	3%	2%
Southern District of California	3%	2%	2%	2%	2%	2%	3%	3%	2%	2%	3%	4%	2%	1%	2%
Southern District of Florida	*	*	*	*	*	2%	1%	2%	2%	2%	2%	3%	1%	2%	3%
District of Massachusetts	*	*	*	*	*	2%	2%	2%	3%	2%	1%	2%	1%	1%	1%
National Total	2527	2744	2772	2523	2600	2775	2573	2547	2769	3574	5454	6115	5077	5830	4520

78. Leychikis, *supra* note 74, at 13 tbl. 5; Klerman & Reilly, *supra* note 22, at 249 tbl.1; BRIAN C. HOWARD, *supra* note 74; BRIAN C. HOWARD & JASON MAPLES, *supra* note 74.

It is important to acknowledge that some of the growth in the share of cases in the Eastern District was due to the joinder rule changes in the Leahy-Smith America Invents Act (“AIA”),⁷⁹ which required that cases against separate defendants be brought in separate actions rather than a single consolidated action with as many as 100 defendants. The size of this jump varied from district to district, based both on the predisposition to allow joinder and on the percentage of large cases. Because the Eastern District of Texas is favored by NPEs and because NPEs tend to sue more defendants at once,⁸⁰ the jump from 2011 to 2012 reflects expected growth in the Eastern District, both in absolute numbers and in comparison to other districts. Indeed, the anti-joinder provision of the AIA was targeted at the Eastern District.⁸¹ This does not downplay the significance of the Eastern District of Texas after 2012; it merely shows that it had been busy for a few years before that.⁸²

The concentration of cases does not stop at the district court level. The Eastern District’s longstanding practice is to assign judges to hear cases based on the *division* within the district in which the action is filed, rather than randomly assigning a judge as is more typical in districts with more judges or with fewer or more geographically concentrated divisions.⁸³ Under a recent district General Order, for example, Chief Judge Clark is assigned 100% of the patent actions filed in the Beaumont Division, Judge Mazzant is assigned 100% of Sherman Division patent cases, and Judge Gilstrap is assigned 95% of all civil litigation filed in Marshall Division (which includes patent). Judge Gilstrap also hears 30% of the patent cases filed in Tyler with the remaining Tyler patent matters assigned to Judge Schroeder.⁸⁴ This distribution of cases explains how some repeat litigants manage to have all of their cases assigned to the same judge.⁸⁵ It also explains how one single judge, Judge Gilstrap, wound up being assigned 982 patent actions in 2014—just under *one-fifth* of all the patent infringement actions filed in the entire United States that year.⁸⁶ Presumably, patentees might like the reliability of

79. Pub. L. No. 112-29, 125 Stat. 284 (2011).

80. Michael Risch, *A Generation of Patent Litigation*, 52 SAN DIEGO L. REV. 67, 82 (2015); see also Christopher A. Cotropia et al., *Unpacking Patent Assertion Entities (PAEs)*, 99 MINN. L. REV. 649, 695 (2014).

81. Joe Matal, *A Guide to the Legislative History of the America Invents Act: Part II of II*, 21 FED. CIR. B.J. 539, 592 (2012).

82. Sag, *supra* note 65, at 1080, 1098 fig.11.

83. See Anderson, *supra* note 22, at 671; Klerman & Reilly, *supra* note 22, at 254–55.

84. See General Order Assigning Civil and Criminal Actions 16-7 (E.D. Tex. July 15, 2016), <http://www.txed.uscourts.gov/sites/default/files/goFiles/16-07.pdf>. The district does occasionally deviate by assigning selected patent cases to designated senior judges from other districts, however.

85. See Anderson, *supra* note 22, at 673 (citing Leychkis, *supra* note 74, at 215 tbl.8) (propositioning, “since 1999, Data Treasury Corporation, Orion IP, and IAP Intermodal have collectively filed thirty-seven patent suits in the district,” each “before a single judge,” respectively Judges Folsom, Davis, and Ward).

86. See HOWARD, *supra* note 74, at 1 fig.2, 15.

knowing the presiding judge, for better or worse. At worst, to the extent that plaintiffs believe a certain judge will be favorable, this rule would encourage fine-grained selection of forum. At best, parties can opt-in to patent judge specialists. Even in the best case, overloading a few judges is more likely to cause delays from overburden.⁸⁷

The long-standing tendency of patent plaintiffs to pick favorable venues raises an important but largely ignored first order question: are there real benefits to the Eastern District of Texas? A review of the evidence does not yield a single answer. A comprehensive study of district court procedures and outcomes did not list it among the top five places to file a lawsuit in terms of win rate or in terms of aggregate rankings.⁸⁸ Instead, the nearby Northern District of Texas had by far the best win rate from 2000 to 2010.⁸⁹ And the District of Delaware was more likely to send a case to trial.⁹⁰ Time to trial was only the seventh best in the Eastern District of Texas from 1995 to 2014; median damages were only the fifth best, less than half of the next best district.⁹¹ The best district for combined time to trial, success rate, and median damages award remains the Eastern District of Virginia.⁹² Nonetheless, for the seventeen years between 1988 and 2005, no Eastern District of Texas jury found in favor of a defendant.⁹³ News of this pattern likely became more widespread and is reflected in the growth in 2005 and beyond.

Putting aside outcomes, the Eastern District of Texas's local procedures and people have also been a draw. Some of these procedures are long-standing, while others were developed in the courtroom of Judge Ward before being adopted more widely.⁹⁴ The Eastern District has maintained relatively

87. For example, the apparent reluctance of Eastern District judges to rule on summary judgment motions could be explained, in part, by the sheer number of them pending at any given time.

88. Lemley, *supra* note 66, at 407–09 tbl.3, 419–21 tbl.7.

89. *Id.* at 407–09 tbl.3.

90. *Id.* at 411–13 tbl.4. The selection effect of certain types of cases into each district might affect this.

91. CHRIS BARRY ET AL., PRICEWATERHOUSECOOPERS, 2015 PATENT LITIGATION STUDY: A CHANGE IN PATENTEE FORTUNES 15 fig.16 (2015), http://www.pwc.com/en_US/us/forensic-services/publications/assets/2015-pwc-patent-litigation-study.pdf (reporting that from 1999 to 2014, median damages in the Eastern District were just under \$9 million, ranking fifth nationally but well ahead of the national median of \$5.4 million); *see also* HOWARD, *supra* note 74, at 25 fig.45 (reporting that, from 2005 through 2014, median damages in the Eastern District ranked third nationally, at \$8.71 million based on 89 cases).

92. BARRY ET AL., *supra* note 91, at 15 fig.16.

93. Elizabeth P. Offen-Brown, *Forum Shopping and Venue Transfer in Patent Cases: Marshall's Response to TS Tech and Genentech*, 25 BERKELEY TECH. L.J. 61, 71 (2010). The apparent discrepancy between the Eastern District of Texas's high jury win rate and relatively mediocre overall ranking can be attributed to the high share of cases that settle or are determined by the bench. *See* Lemley, *supra* note 69, at 411 tbl.4 (showing a rate of 8% for cases that go to trial in the Eastern District of Texas).

94. *See* Anderson, *supra* note 22, at 652 (noting that Judge Ward's rules, which allowed an abbreviated nine-month discovery period and maintained strict adherence to "discovery deadlines

short times to trial (though with the increase in its caseload, the district's advantage along this metric has declined).⁹⁵ Perhaps more important is early and generous discovery coupled with a docket busy enough that it is difficult to have dispositive motions heard quickly.⁹⁶ The Eastern District also has a reputation for refusing to decide summary judgment motions,⁹⁷ which is likely at least indirectly tied to win rates and settlement pressure in that district. Finally, its juries have a reputation of awarding generous damages in patent cases.⁹⁸

And while the win rate is no longer what it was in 2005, parties in the Eastern District of Texas continue to see greater success than in other districts. According to PricewaterhouseCoopers ("PwC"), all NPEs had a 49% win rate there over a twenty-year period, in comparison with a 26% average win rate in other high-volume districts.⁹⁹ Ashtor and others found that, from 1995 to 2011, historic win rates for just PAEs were highest in the Eastern District among districts that decided more than five PAE cases.¹⁰⁰ Allison,

[and] trial dates, allow[ed] plaintiffs to impose a strict timeline on often overwhelmed defendants"); Klerman & Reilly, *supra* note 22, at 250, 266 & n.140.

95. See *supra* note 91 and accompanying text.

96. See Klerman & Reilly, *supra* note 22, at 269 (highlighting that, in the Eastern District, "parties must produce all documents 'that are relevant to the pleaded claims or defenses involved in this action' in conjunction with initial disclosures and without awaiting a discovery request" and that "[d]efendants must complete their document collection and production—probably the most costly aspect of discovery—within a few months of the case filing").

97. See *id.*, *supra* note 22, at 252 tbl.2, 312 app. 2 (showing that despite a larger docket, the court ruled on far fewer summary judgment motions). Reporting the results of studies by Iancu and Chung and by Allison, Lemley, and Schwartz, Klerman and Reilly also noted that as of 2011 and 2014:

The infrequency of summary judgment is not just the result of fewer motions by the parties. The Eastern District is far less likely to grant a summary judgment motion than elsewhere. One study found that the Eastern District's summary judgment motion win rate (26.2%) paled in comparison to other popular districts, like the Northern District of California (45%), the Central District of California (48.2%), the Northern District of Illinois (38.1%), and even the District of Delaware (32%). Another more comprehensive study found that accused infringers prevail . . . on summary judgment on patent invalidity only 18% of the time in the Eastern District of Texas, compared to 31% nationwide. Similarly, patent defendants prevail on non-infringement motions 45% of the time in the Eastern District, but 62% nationwide.

Id. at 252–53 (footnote call numbers omitted).

98. See BARRY ET AL., *supra* note 91, at 15; OWEN BYRD ET AL., LEX MACHINA, PATENT LITIGATION DAMAGES REPORT 24 (2014) (reporting that, from January 1, 2000 through December 31, 2013, median damages in the Eastern District ranked third nationally, at \$8,250,000, based on 84 cases).

99. See BARRY ET AL., *supra* note 91, at 16 & fig.17 (comparing outcomes in the Eastern District of Texas with the other twenty districts with five or more decisions involving NPEs). Note that Delaware had a 35% win rate, and the Northern District of California had a 16% win rate. *Id.* It should be noted that the sample size is very small, fifty-five final NPE decisions in the Eastern District of Texas over a period of twenty years, for example—owing to NPEs' high rate of settlement. *Id.*

100. Jonathan H. Ashtor et al., *Patents at Issue: The Data Behind the Patent Troll Debate*, 21 GEO. MASON. L. REV. 957, 957–59 (2014); see also BARRY ET AL., *supra* note 91, at 16 fig.17.

Lemley, and Schwartz report that for patent cases filed in 2008 through 2009, plaintiffs won in 45% of suits overall and 72% of cases that went to trial in the Eastern District, compared with 26% and 61% success rates, respectively, nationally.¹⁰¹ Their study's multivariate regression analysis concludes that the Eastern District of Texas and the District of Delaware "were both significantly more likely to rule for the patentee in the cases [they] studied than were the 'non-busy' patent districts."¹⁰² The Eastern District's benefits have not been limited to NPE plaintiffs. PwC also reported that the win rate for patent plaintiffs generally in the Eastern District for 1995 to 2014 was even higher than the NPE win rate and highest in the nation among the leading fifteen patent venues, at 55%,¹⁰³ with almost twice as many decisions relating to non-NPEs as to NPEs.

In theory, of course, a higher win rate could reflect the selection effect of higher-quality patents being asserted in a particular venue. Selection is always a concern when comparing districts, but it is unlikely to explain all of the differences here. Studies of NPE litigation generally (including before the rise of the Eastern District of Texas) indicate that NPEs lose more often than non-NPEs in any district.¹⁰⁴ It seems unlikely, then, that NPEs suddenly improved their patent quality and filed only in the Eastern District of Texas. This is especially difficult to believe given the sheer numbers and proportion of all cases there—that somehow almost all of the patents, and a significantly large portion of the good patents, have gravitated there despite the fact that very few operating companies file suit there.

In sum, there does not seem to be one single reason that the Eastern District has been popular with plaintiffs.¹⁰⁵ Rather, it seems, as Love and Yoon posit, the cumulative effect of many marginal advantages has made the district more favorable for plaintiffs than the alternatives.¹⁰⁶ The questions that matter now are: Are those advantages enduring? Or might the Eastern District, like other previously popular patent districts, cede its lead to other

101. See John R. Allison, Mark A. Lemley & David L. Schwartz, *Understanding the Realities of Modern Patent Litigation*, 92 TEX. L. REV. 1769, 1770, 1793 tbl.3A, 1794 tbl.3B (2014).

102. *Id.* at 1791–92.

103. See BARRY ET AL., *supra* note 91 at 15 (reporting an "[o]verall success rate" of 55% from 1995–2014); see also Pauline M. Pelletier, *The Impact of Local Patent Rules on Rate and Timing of Case Resolution Relative to Chain Construction: An Empirical Study of the Past Decade*, 8 J. BUS. & TECH. L. 451, 483 tbl.6 (2013) (reporting a 38% win rate in the Eastern District and a 43% win rate in the District of Delaware).

104. See Allison et al., *supra* note 76, at 40 (examining litigation from 2009); Michael Risch, *The Layered Patent System*, 101 IOWA L. REV. 1535, 1548 (2016) (examining litigation from the 1990s through 2009).

105. See generally Andrei Iancu & Jay Chung, *Real Reasons the Eastern District of Texas Draws Patent Cases—Beyond Lore and Anecdote*, 14 SMU SCI. & TECH. L. REV. 299, 299–300 (2011) (finding a variety of reasons for the popularity of the Eastern District of Texas).

106. Brian J. Love & James Yoon, *Predictably Expensive: A Critical Look at Patent Litigation in the Eastern District of Texas*, 20 STAN. TECH. L. REV. 1, 4–5 (2017).

districts over time? In the following paragraphs, we discuss what the district's procedures and practices to date suggest about whether its outsized influence is likely to continue in the future.

E. The Popularity of the Eastern District of Texas in the Future

Assuming the favorable procedures and outcomes caused the concentration of cases, are they likely to do so in the future? While the majority of this paper considers this question in view of proposed venue reforms, in the next few paragraphs we consider how filing trends might evolve in the *absence* of any venue reform. Even as venue law has largely stood still in the last few years, the rest of patent law has not. The Supreme Court's *Alice Corp. v. CLS Bank International*¹⁰⁷ decision has narrowed the scope of patentable subject matter, rendering a large number of existing patents invalid.¹⁰⁸ Procedures for challenging patents introduced by the 2011 AIA, in particular, *inter partes* review, have become more popular.¹⁰⁹ A pair of Supreme Court cases has made it easier for prevailing parties to recoup their fees.¹¹⁰ These and related developments have generally favored defendants regardless of district (though not all recent developments have),¹¹¹ resulting in high profile defense victories even in the Eastern District. For example, in 2015, Judge Gilstrap simultaneously terminated 168 cases on summary judgment and then awarded attorneys' fees against the plaintiff.¹¹² In fact,

107. 134 S. Ct. 2347 (2014).

108. *Id.* at 2352 (finding abstract ideas implemented on a computer ineligible for patent protection).

109. These procedures allow parties to challenge the validity of patents in the Patent and Trademark Office ("PTO") without litigation. See Colleen Chien & Christian Helmers, *Inter Partes Review and the Design of Post-Grant Patent Reviews* 3 n.2 (May 5, 2015) (unpublished manuscript) (on file with the Stanford Technology Law Review), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2601562 (noting the rise in *inter partes* petitions from 514 in 2013 to 1310 in 2014). In 2015, the number was 1737. Cyrus Morton et al., *Takeaways from PTAB's Fiscal Year Statistics*, LAW360 (Jan. 3, 2016, 8:28 AM), <http://www.law360.com/articles/740962/takeaways-from-ptabs-fiscal-year-statistics>.

110. See *Highmark Inc. v. Allcare Health Mgmt. Sys., Inc.*, 134 S. Ct. 1744, 1747 (2014) (finding that fee decisions should be subject to abuse of discretion, rather than *de novo* review); *Octane Fitness, LLC v. ICON Health & Fitness, Inc.*, 134 S. Ct. 1749, 1755–56 (2014) (relaxing the standard for finding a case to be "exceptional" according to the fee-shifting statute).

111. *Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 136 S. Ct. 1923, 1933–34 (2016) (easing the standard to prove willful infringement).

112. Joe Mullin, *East Texas Judge Throws out 168 Patent Cases in One Fell Swoop*, ARS TECHNICA (Oct. 1, 2015, 3:37 PM), <http://arstechnica.com/tech-policy/2015/10/east-texas-judge-throws-out-168-patent-cases-in-one-fell-swoop/>; Joe Mullin, *In a First, East Texas Judge Hits Patent Troll with Attorneys' Fees*, ARS TECHNICA (Dec. 20, 2015, 10:00 AM), <http://arstechnica.com/tech-policy/2015/12/in-a-first-east-texas-judge-hits-patent-troll-with-attorneys-fees/>.

plaintiffs only won 14% of the summary judgment motions that resulted in a dispositive order between 2000 and June 2015.¹¹³

Thus, while 2015 saw a record number of total cases and share of cases filed in the Eastern District, 2016 witnessed a decline in both figures from these peaks. Total cases were down 22% from 2015 levels, and the share of Eastern District cases was down to 37% of the total, from 43% of the total in 2015.¹¹⁴

It is too early to tell based on the numbers whether or not the share and number of cases in the Eastern District was on a long-term downward trend before any venue reform. However, two other data points can provide clues: 1) how policy efforts that were intended or anticipated to reduce case concentration in the district, in the areas of transfer and joinder, have fared, and 2) the impact on the district of the change to the patent system described earlier.

If the “American way” is to provide plaintiffs with their choice of venue, an important safeguard within the U.S. system against abusive forum shopping is the ability to transfer a case after it has been filed.¹¹⁵ The transfer provision states: “For the convenience of parties and witnesses, in the interest of justice, a district court may transfer any civil action to any other district or division where it might have been brought.”¹¹⁶ For a number of years, however, the Eastern District had a reputation for being unusually hostile toward motions to transfer.¹¹⁷ But in a series of cases starting in 2008, the Fifth Circuit and Federal Circuit granted writs of mandamus to overturn transfer denials out of the Eastern District of Texas. The extraordinary orders explicitly laid out that when the transferee venue was “clearly more convenient,” the case should be transferred there.¹¹⁸ In the few years following the decisions, commentators predicted the end of “forum shopping in general—and the Eastern District of Texas phenomenon in particular.”¹¹⁹ But that’s not what happened.

113. Klerman & Reilly, *supra* note 22, at 312–13 app.2 (showing seven summary judgment wins in fifty summary judgment rulings). Of course, a primary concern is that fewer motions seem to reach disposition.

114. *Lex Machina’s Fourth Annual Patent Litigation Year in Review Report Shows 22 Percent Decline in Patent Filings in 2016*, LEX MACHINA (MAR. 2, 2017), <https://lexmachina.com/media/press/report-shows-22-percent-decline-in-patent-filings-in-2016/>.

115. Clermont & Eisenberg, *supra* note 5, at 1509.

116. 28 U.S.C. § 1404(a) (2012).

117. *See* Anderson, *supra* note 22, at 676; Offen-Brown, *supra* note 93, at 62–63.

118. Offen-Brown, *supra* note 93, at 62; *see also id.* at 75–85 (describing *In re* TS Tech USA Corp., 551 F.3d 1315 (Fed. Cir. 2008), *In re* Volkswagen of Am., Inc. (*Volkswagen I*), 545 F.3d 304 (5th Cir. 2008), and *In re* Genentech, 566 F.3d 1338 (Fed. Cir. 2009).

119. Mark Liang, *The Aftermath of TS Tech: The End of Forum Shopping in Patent Litigation and Implications for Non-Practicing Entities*, 19 TEX. INTELL. PROP. L.J. 29, 32 (2010).

Though one might have expected that the overall transfer rate would increase since the *In re TS Tech USA Corp.*¹²⁰ decision, the transfer rate actually has declined.¹²¹ This may be in part because litigants have adjusted their behavior and have only filed in the Eastern District when cases meet the newly articulated standard. For example, most of the PAEs in our data set were incorporated in and/or nominally headquartered in Texas, changing the convenience balance. Further, electronic discovery has significantly eased documentary evidence concerns. But a change in behavior and evidence cannot explain the whole story. The Federal Circuit has, since *In re TS Tech*, granted petitions for mandamus thirteen times, compelling the Eastern District to transfer patent litigation elsewhere.¹²² By comparison, since its founding, the Federal Circuit appears to have denied all but one such petition seeking transfer out of any other district court.¹²³ Since late 2008, the district's share of cases has increased markedly. Plaintiffs appear willing to manage risk, hoping that their cases will not be transferred and that such a decision will withstand appeal.

Another policy intervention that was intended to target the Eastern District addressed the number of defendants sued there. Federal Rule of Civil Procedure 20(a)(2)(A) states that defendants can be sued jointly when a claim arises "out of the same transaction, occurrence, or series of transactions or occurrences."¹²⁴ From the mid-1990s, the Eastern District (among other districts) interpreted this rule liberally, allowing makers of different products to be sued jointly absent evidence that the defendants' products were "dramatically different."¹²⁵ As a result, and given NPE propensity to sue multiple defendants at a time,¹²⁶ one study found the estimated number of defendants in actions filed in the Eastern District of Texas went "from 1.66, in 1994, to

120. 551 F.3d 1315 (Fed. Cir. 2008).

121. See Klerman & Reilly, *supra* note 22, at 262.

122. See Paul R. Gugliuzza, *The New Federal Circuit Mandamus*, 45 IND. L. REV. 343, 346 & n.8 (2012) (identifying ten successful motions for mandamus between 2008 and 2011). Since then, by our count, there have been at least five more. *In re Google Inc.*, 588 F. App'x 988, 992 (Fed. Cir. 2014); *In re Apple, Inc.*, 581 F. App'x 886, 886 (Fed. Cir. 2014); *In re Nintendo of Am., Inc.*, 756 F.3d 1363, 1364, 1366 (Fed. Cir. 2014); *In re Toyota Motor Corp.*, 747 F.3d 1338, 1339, 1341 (Fed. Cir. 2014); *In re TOA Techs., Inc.*, 543 F. App'x 1006, 1007 (Fed. Cir. 2013).

123. See Gugliuzza, *supra* note 122, at 346 & n.10, 347 n.16.

124. FED. R. CIV. P. 20(a)(2)(A). Rule 20(a)(2) provides:

Persons . . . may be joined in one action as defendants if: (A) any right to relief is asserted against them jointly, severally, or in the alternative with respect to or arising out of the same transaction, occurrence, or series of transactions or occurrences; and (B) any question of law or fact common to all defendants will arise in the action.

FED. R. CIV. P. 20(a)(2).

125. Klerman & Reilly, *supra* note 22, at 258. The leading case, authored by Judge Leonard Davis, was *MyMail, Ltd. v. Am. Online, Inc.*, 223 F.R.D. 455, 456–57 (E.D. Tex. 2004).

126. Risch, *supra* note 80, at 82 & tbl.1, 92 fig.2 (showing growth in NPE and non-NPE defendant counts in districts throughout the country between 1986 and 2009).

12.37, in 2010,” while the national average over that period generally hovered between 2 and 4, with the exception of the last year when it went to 4.31.¹²⁷ Moreover, while the Eastern District represented 10% of 2010 patent cases, it accounted for 25% of all patent defendants.¹²⁸

One impact of liberal joinder is to reduce the patentee’s costs by enabling patentees to capture economies of scale. However, it can also put the squeeze on defendants; as one of the staffers behind the AIA (and later interim director of the Patent and Trademark Office) put it:

[C]ourts typically do not increase the time for presenting evidence during a trial by a multiple of the number of defendants who are sued Each defendant was given a sharply abbreviated amount of time to present its case, despite the fact that most, if not all, of the defendants made different products whose alleged infringement of the patent presented different factual questions.¹²⁹

When Congress had the opportunity to amend patent law in 2011, it enacted a stricter joinder rule for patent cases¹³⁰ with “the Eastern District of Texas’s interpretation of Rule 20 . . . [and the] substantial denial of due process to defendants”—or at least the perception of it—in mind.¹³¹ But while the average number of defendants per patent infringement suit filed in the Eastern District fell to 1.99 in 2014,¹³² this reflected plaintiffs adjusting, rather than fundamentally changing, their behavior in an entirely predictable way: they now sued few defendants in many separate cases instead of many defendants in few cases.¹³³ Patent lawsuits continued to grow, and the total

127. See Sag, *supra* note 65, at 1082 tbl.3, 1084. Another study reported that the average number of defendants in a patent infringement action filed in the Eastern District in 2010 was 13, compared to between 2 and 4 in other leading districts. See James Pistorino, *Concentration of Patent Cases in Eastern District of Texas Increases in 2010*, 81 PAT., TRADEMARK & COPYRIGHT J. 803, 805–06 (2011). Yet another reported a mean of 9.1 and a median of 4 defendants in patent actions filed in the district from January 1, 2008 to September 15, 2011 (the date on which the AIA was enacted), compared with 2.4 and 1 in the Northern District of California. See David O. Taylor, *Patent Misjoinder*, 88 N.Y.U. L. REV. 652, 724, 726 tbl. (2013). The mean number of defendants with an identified tie (defined as incorporation, headquarters, principal place of business, or residency) to the Eastern District was 1.2; the median was 0. See *id.* at 724 n.309, 726 tbl.

128. See Pistorino, *supra* note 127, at 805–06.

129. Matal, *supra* note 81, at 592.

130. See 35 U.S.C. § 299 (2012) (“[P]arties that are accused infringers may be joined in one action as defendants . . . only if—(1) any right to relief is asserted against the parties jointly, severally, or in the alternative with respect to or arising out of the same transaction, occurrence, or series of transactions or occurrences . . .”).

131. Matal, *supra* note 81, at 592.

132. See Sag, *supra* note 65, at 1084.

133. The costs and benefits of the changes are difficult to disambiguate. Allowing each defendant sufficient time to present its case is a clear benefit. There were additional defense cost benefits associated with not having to coordinate, but this is difficult to measure, as multiple cases are still often related for claim construction purposes. But these defense cost gains may have been offset

number of patent defendants sued in the Eastern District grew disproportionately with it, with the 2015 number of total defendants exceeding the 2010 total.¹³⁴

These two examples show why plaintiffs have continued to file in the Eastern District despite developments that have restricted which cases and which defendants can be named in suits there. Why has the venue's popularity persisted? There are at least a few plausible explanations. First, plaintiffs have adapted their behavior as the new rules have required—as in the case of joinder, by bringing more cases to compensate for the fewer number of permissible defendants per case. Whether plaintiffs can do that in response to a particular intervention depends on the specifics of the particular case, however. The second explanation is that, even though developments like *In re TS Tech* make certain cases harder to justify keeping in the Eastern District, they do not fundamentally change the calculus when plaintiffs are deciding to bring their cases in light of the many advantages that the forum has. The third explanation might be that even as rules have changed, they have still provided discretion to district courts for supporting the implementation of rules in a way that maintains the venue's comparative advantages over other jurisdictions.¹³⁵

These explanations may provide clues as to how the Eastern District would fare—assuming venue rules were undisturbed—in light of the more challenging climate that patent plaintiffs are now experiencing. As described earlier, the Supreme Court has made it easier to award attorney's fees to prevailing parties and to invalidate patents as claiming impermissible subject matter. Defendants can request reviews of patents that are asserted against them using new post-grant procedures and seek stays of parallel district court litigation. The Eastern District has changed its behavior accordingly. But consistent with its reputation, the data suggest that the Eastern District implemented these pro-defendant changes in a seemingly *pro-plaintiff* way relative to other districts, at least initially. As one report stated:

[O]n awards of attorneys' fees post-*[Octane Fitness]*, in 2015, the Eastern District of Texas granted only 9 percent of such motions,

(or at least redistributed) by the cost to small defendants who could previously rely on larger defendants to keep a large consolidated defense going but now each had to seek counsel to take the lead.

134. Many of those cases are on the same patents, and now courts will often construe the same patent multiple times. Risch, *supra* note 80, at 91 (presenting data on multiple patent filings and outcomes). For the total 2010 figure of 3501, see Klerman & Reilly, *supra* note 22, at 249 (noting 283 total cases in 2010); and Sag, *supra* note 65, at 1082 tbl.3. See also Sag, *supra* note 65, at 1084 (noting the average number of defendants sued in the Eastern District of Texas in 2010 as 12.37).

135. We do not speculate in this article about why the Eastern District may seek to maintain its pro-plaintiff edge, but note that other commentators have identified judicial interest in patent cases, the positive impact of case concentration on the local economy, and post-bench career opportunities as possible motives. See, e.g., Anderson, *supra* note 22, at 661–66; Klerman & Reilly, *supra* note 22, at 270–77.

as compared to 33 percent nationwide. And, on § 101 challenges, in 2015, the court granted (or partially granted) only 33 percent of all motions to find asserted patents ineligible, as compared to 64 percent nationwide.¹³⁶

In the three years following the availability of the AIA's post-grant review processes, the district granted requests to stay the district court litigation 48% of the time as compared to 58% of the time nationwide.¹³⁷ Though it is possible that the Eastern District's relatively lower summary judgment, stay and fee-shifting rates are an artifact of the cases that are filed there, plaintiff-friendly local rules and applications of the law have been blamed as well.¹³⁸ As with other comparisons, we do not suggest that one district is more accurate than another—rather, we suggest that there is a disparity. It may be that “extraordinary” circumstances for fee-shifting purposes should occur 9% of the time. It may also be that there are selection effects.

These differences may diminish to some degree in the future. For example, though the Eastern District denied all fee-shifting requests in 2015, in the first four months of 2016, it granted 3 out of 10 of them, in line with national norms.¹³⁹ Likewise, Judge Gilstrap of the Eastern District, who himself has decided an outsized number of cases, has suggested that he is evolving his practice.¹⁴⁰ But regardless, as long as the district's implementations

136. Lionel M. Lavenue et al., *De Facto Patent Reform in the Eastern District of Texas*, LAW360 (Jan. 29, 2016, 10:43 AM), <http://www.law360.com/articles/750017/de-facto-patent-reform-in-the-eastern-district-of-texas> (footnote call number omitted); see also Love & Yoon, *supra* note 106, at 1 (noting that Eastern District judges tend to “exercise[] their discretion in ways that dampen the [impact of] reforms that were aimed (at least in part) at deterring abusive patent suits”); Nirav Desai & Lauren Johnson, Octane Fitness, *Two Years On: How It Has Impacted District Courts' Award of Attorneys' Fees in Patent Cases*, 31 LEGAL BACKGROUNDER, Apr. 29, 2016, at 4, [http://www.skgf.com/uploads/1455/doc/Octane_Fitness_two_years_on_how_it_has_impacted_district_courts_award_of_attorneys_fees_in_patent_cases_\(Desai_and_Johnson\)_Washington_Legal_Foundation_April_2016.pdf](http://www.skgf.com/uploads/1455/doc/Octane_Fitness_two_years_on_how_it_has_impacted_district_courts_award_of_attorneys_fees_in_patent_cases_(Desai_and_Johnson)_Washington_Legal_Foundation_April_2016.pdf) (reporting that in the first year following the *Octane Fitness* decision, the Eastern District granted none of the 13 motions for attorney's fees motions made, but in the first 4 months of 2016, they granted 3 of 10).

137. Jonathan Stroud et al., *Stay Awhile: The Evolving Law of District Court Stays in Light of Inter Partes Review, Post-Grant Review, and Covered Business Method Post-Grant Review*, 11 BUFF. INTELL. PROP. L.J. 226, 238–39 (2015).

138. See Petition for Writ of Certiorari at 5, *Newegg Inc. v. MacroSolve, Inc.*, 136 S. Ct. 2475 (2016) (Mem.) (No. 15-1369) (arguing that the Eastern District has set forth an elevated standard for awarding fees). For example, Judge Gilstrap of the Eastern District initially set forth, though quickly withdrew, a process that made it difficult for litigants to file § 101 challenges. See Lavenue et al., *supra* note 136.

139. See Desai & Johnson, *supra* note 136, at 4.

140. Ryan Davis, *Gilstrap Eases Filing Of Patent Summary Judgment Motions*, LAW360 (July 22, 2016, 7:15 PM), <http://www.law360.com/ip/articles/820536> (describing the changes in Judge Gilstrap's practice, including removing a requirement that litigants get his permission before seeking summary judgment or filing motions seeking to invalidate a patent under *Alice*, and eliminating required in-person meetings for litigants prior to discovery); see also Lavenue et al., *supra* note 136 (describing the softening of pro-plaintiff positions initially taken on fee-shifting, stays, and dispositive motions by Judge Gilstrap).

of these developments do not fundamentally change the calculus when plaintiffs are deciding to bring their cases—which would only happen if, on net, Texas became less attractive to plaintiffs than plaintiffs’ other options—it is likely that plaintiffs will continue to select the district over those other options.

F. Proposed Changes

Against this backdrop, there were at least two policy vehicles to change the venue rules, one in the courts and one in Congress. In the *TC Heartland* case, the well-known food company Kraft Foods (“Kraft”) sued plaintiff TC Heartland LLC (“Heartland”) for infringement of three of Kraft’s patents covering liquid water enhancers.¹⁴¹ Though Kraft has its principal place of business in Illinois, it exercised its choice of venue and sued Heartland in Delaware, about 700 miles away from Heartland’s home venue, the Southern District of Indiana.¹⁴² Heartland moved to dismiss the action or transfer venue under 28 U.S.C. §§ 1404 and 1406.¹⁴³

According to Heartland, it has no offices, supply contracts, registered business locations, or permanent presence in Delaware. Its only connection to the venue, then, was that it had shipped orders of the accused product pursuant to two national contracts it had, amounting to about 2% of Heartland’s sales in 2013.¹⁴⁴

After the Delaware District Court denied Heartland’s motion, Heartland filed a mandamus petition asking the Federal Circuit to overrule the District’s motion. Heartland argued that Congress’s changes to the general venue statute¹⁴⁵ effectively superseded *VE Holding* and thereby restored the traditional interpretation of patent venue set forth in the literal language of 28 U.S.C. § 1400(b), wherein “reside[]” is limited to the place of incorporation or primary place of business of a firm.¹⁴⁶ The Federal Circuit denied this motion and the merits of Heartland’s argument.¹⁴⁷

Heartland’s argument was no slam dunk before the Federal Circuit. First, *VE Holding* was delivered between the two congressional changes in 1988 and 2011. This means that Congress knew that patent venue was a live issue and yet never mentioned it (or otherwise addressed it while making the change in 2011). In 1957, when *Fourco* was decided, one could argue that there had been no substantial change to venue rules that might override the

141. *In re TC Heartland L.L.C.*, 821 F.3d 1338, 1340 (Fed. Cir. 2016), *rev’d sub nom.* *TC Heartland L.L.C v. Kraft Foods Grp. Brands L.L.C.*, 137 S. Ct. 1514 (2017).

142. *TC Heartland L.L.C. v. Kraft Foods Grp. Brands L.L.C.*, 137 S. Ct. 1514, 1517 (2017).

143. *In re TC Heartland L.L.C.*, 821 F.3d at 1340.

144. *Id.*

145. 28 U.S.C. §§ 1391(a), 1391(c).

146. *In re TC Heartland L.L.C.*, 821 F.3d at 1341–42.

147. *Id.* at 1345.

specific meaning of patent venue. But that is a taller order after two amendments that seem to broaden the general provision to more specifically cover Section 1400(b)—and an appellate court ruling that agreed and governed venue for the next twenty-five years. Thus, the Federal Circuit saw no reason to change its interpretation that the general venue statute governed.

But, in its *TC Heartland* decision, the Supreme Court disagreed, holding that the specialized patent venue of Section 1400 was not changed by Congress—not in 1988 and not in 2011. Instead, the Court determined that its *Fourco* precedent had never stopped applying to venue: absent an explicit repeal of specialized venue, Congress did not intend the general venue statute to apply. Thus, it ruled venue had been detoured for some thirty years, and corporations could only be sued where they are incorporated or have a regular place of business (and infringe).

Where the general venue rule allows for suit nearly anywhere, the specialized statute allows for suit nearly nowhere. Thus, another approach being pursued by certain members of Congress would be to amend the federal venue statute to allow some middle ground. “Venue reform” has been a feature of congressional acts dating back to at least 2008.¹⁴⁸ One latest version of reform, the Venue Equity and Non-Uniformity Elimination (“VENUE”) Act of 2016,¹⁴⁹ was introduced by Senators Jeff Flake, Mike Lee, and Cory Gardner in March 2016 and would have amended Section 1400 and specified appropriate venue in the following districts:

- (1) where the defendant has its principal place of business or is incorporated;
- (2) where the defendant has committed an act of infringement of a patent in suit and has a regular and established physical facility that gives rise to the act of infringement;
- (3) where the defendant has agreed or consented to be sued in the instant action;
- (4) where an inventor named on the patent in suit conducted research or development that led to the application for the patent in suit;
- (5) where a party has a regular and established physical facility that such party controls and operates, not primarily for the purpose of creating venue, and has—(A) engaged in management of significant research and development of an invention claimed in a patent in suit prior to the effective filing date of the patent; (B) manufactured a tangible product that is alleged to embody an invention claimed in a patent in suit; or (C) implemented a manufacturing process for a tangible good in which the process is alleged to embody an invention claimed in a patent in suit; or
- (6) in

148. See Patent Reform Act of 2008, S. 3600, 110th Cong. § 8 (2008) (providing venue rules very similar to the Venue Equity and Non-Uniformity Elimination Act of 2016).

149. S. 2733, 114th Cong. § 2 (2016).

the case of a foreign defendant that does not meet the requirements of paragraph (1) or (2), in accordance with section 1391(c)(3).¹⁵⁰

A version of venue reform endorsed by the Intellectual Property Owner's Association would be substantially similar in terms of its impact.¹⁵¹ Another version of congressional reform would leave the venue rules alone, but aims to increase the likelihood of transfers by mandating that full discovery be stayed until a district court ruled on a transfer motion.¹⁵²

While the specifics differ, each development would aim to reduce the outsized influence of districts like East Texas, where few accused infringers are incorporated or are believed to have a regular and established place of business. But if plaintiffs could not choose the Eastern District, it is unclear where they would choose, if they had such a choice. While the discussion here has compared the Eastern District to national averages, districts are far from homogenous in their treatment of patents. Thus, while NPEs exceed the national average win rate in Texas, in the Northern District of California they win 16% of the time, 10 percentage points below the national average for NPEs of 26%.¹⁵³ Even the Northern District overall plaintiff win rate of 26% is below the national average (33%). As with the Eastern District of Texas, it could simply be that plaintiffs save all of the bad patents for the Northern District of California; this, too, seems unlikely. It is not surprising, then, that tech companies favor this district, in addition to their own home districts. And if this were a study of declaratory relief actions, the analysis here would likely have been that potential defendants in a position to choose between venues would sue in the Northern District if, factoring in home-court advantage, they are most likely to win there.¹⁵⁴ Venue is in some sense a zero-sum game.

One problem with retaining the state of incorporation as a possible venue, however, is that many large firms are incorporated in Delaware without maintaining offices there. The District of Delaware is already the second most popular district and sometimes subject to criticism for being overly friendly to patent plaintiffs (albeit somewhat less so than the Eastern District

150. *Id.*

151. INTELLECTUAL PROP. OWNERS ASS'N, 2015 BOARD RESOLUTIONS, <http://www.ipo.org/index.php/advocacy/board-resolutions/2015-board-resolutions/> (last visited Dec. 12, 2017).

152. See Congressional Research Service, *Summary: S.1137—114th Congress (2015–2016)*, CONGRESS.GOV (Sept. 8, 2015), <http://www.congress.gov/bill/114th-congress/senate-bill/1137> (“(Sec. 5) Directs courts to stay discovery in patent actions during the pendency of certain preliminary motions (motions to dismiss, transfer venue, or sever accused infringers), but allows a court to permit further discovery to resolve a motion or preserve evidence. Permits parties to voluntarily exclude themselves from such discovery limits.”).

153. See BARRY ET AL., *supra* note 91, at 9 fig.9, 15 fig.16, 16 fig.17.

154. Chester S. Chuang, *Offensive Venue: The Curious Use of Declaratory Judgment to Forum Shop in Patent Litigation*, 80 GEO. WASH. L. REV. 1065, 1082 (2012).

of Texas).¹⁵⁵ Thus, venue reform commentators have looked for other options. Fromer has suggested limiting venue to a domestic firm's principal place of business, which she believes would "promote better decisionmaking . . . by tending to aggregate technology- and industry-specific patent cases in those districts that already have clusters of businesses engaging in a technology or industry."¹⁵⁶ However, as Klerman and Reilly note, this might give rise to a corresponding risk that defendants would be unduly benefitted by home court advantages.¹⁵⁷ Perhaps a better solution, as suggested by Klerman and Reilly, would be to limit venue to the district forming the largest market for the defendant's allegedly infringing product,¹⁵⁸ though it might be considerably more difficult for the plaintiff to ascertain this precise location in advance.

As defendant states of incorporation would remain available to plaintiffs under various proposals, would cases merely move from Texas to Delaware if these proposals are enacted? The hope behind these reforms—that the concentration of cases in the Eastern District would subside—and the fears that cases would just reconcentrate in Delaware can be approximated empirically. The next section sets out our approach for doing so.

II. METHODOLOGY AND ASSUMPTIONS: THE CONTEXT, THE STATIC EFFECTS, AND THE DYNAMIC EFFECTS

To understand the potential impact of various proposals, we tested them empirically. After *TC Heartland*, patent venue reverts to either (1) defendant's residency (place of incorporation) or (2) a combination of infringing acts plus a regular-place-of-business. The congressional VENUE proposal, as described above,¹⁵⁹ would add to this set of eligible venues (3) where the defendant has consented to be sued, (4) where the inventor on the patent has done research, and (5) districts in which either party had a Research and De-

155. Fromer, *supra* note 18, at 1492 (arguing that retaining state of incorporation as an alternative venue would "sacrifice[] the benefit of clustering suits by industry" since most firms incorporated in Delaware do not carry on their principal business there); Klerman & Reilly, *supra* note 22, at 281–82, 304 (noting that Delaware is already an overly popular forum).

156. Fromer, *supra* note 18, at 1478–79. In a case in which all properly joined defendants are foreign firms with no principal place of business in the United States, Fromer would allow the plaintiff to sue in any district, as is the case now, and she would institute a "safety valve" under which a court could order a case transferred to the plaintiff's principal place of business "in extreme cases that raise due process concerns." *See id.* at 1478 & n.208, 1489.

157. *See* Klerman & Reilly, *supra* note 22, at 304. Klerman and Reilly also raise the possibility that firms could strategically locate their principal place of business to districts "with a pro-defendant reputation." *See id.* Fromer dismisses this possibility as unlikely. *See* Fromer, *supra* note 18, at 1491.

158. *See* Klerman & Reilly, *supra* note 22, at 304.

159. *See supra* text accompanying notes 148–149.

velopment (“R&D”) or manufacturing nexus to products embodying the invention. In this Part, we describe our methodology for modeling these rule changes and their impacts.

A. Methodology

We performed analyses that attempted to model the main features of these venue rules. We considered what would have happened in 2015 had either *TC Heartland* or VENUE Act been in effect then. In that year, patent plaintiffs filed 44% of their cases in the Eastern District of Texas. Where would they have filed (assuming that they would have filed at all) had the proposed rules of patent venue been in place? That is, where would patent plaintiffs file if they couldn’t all go to Texas?

To carry out our analysis, we asked Lex Machina to select 1000 cases at random¹⁶⁰ and provide us with all of the defendants in those cases. After correcting for miscodes, declaratory relief, and Doe defendants,¹⁶¹ we ended with 939 cases against 1128 defendants. We then modeled three pieces of information for each defendant/case pair. First, we approximated where each named defendant could be sued under proposed venue rules. Second, we compared the results of the first step with the actual suit’s venue to determine the percentage of cases that would *have to* be moved to a different district under the proposal. That is, we flagged a case if the plaintiff could not file suit in its chosen district under the proposed rule. Third, we considered where plaintiff (and plaintiffs of its type) had sued in the past and matched that historical behavior to locations where defendant could be sued. Then we approximated the likely venue of each suit. That is, if a plaintiff sued all over the country, then we assumed it would continue to do so. But if a plaintiff sued only in one district, we assumed it would sue again in that district if it could legally do so. For each plaintiff-defendant pair (“case” for short)¹⁶² this yielded the following “matches”:

- An exact match: The plaintiff could have filed the case as is without change. For example, if plaintiff *P* sued defendant *D* in Oregon, and *D* can be sued in Oregon under the proposal, then the venue would not change under the proposal.
- A plausible match: The plaintiff could have filed in “*P*’s preferred venue”—any venue the plaintiff filed in in 2014–2015. For example, assume plaintiff *P* sues defendant *D* in Delaware.

160. The cases represented those initially filed in 2015, not those transferred from another district and opened in 2015, which are often miscoded as new cases if not carefully examined.

161. Miscodes included cases that were not actually from 2015 or not patent infringement cases, for example. Doe defendants were defendants listed on the complaint but not actually identified as a real party.

162. In reality, each pair was not a case because some cases had multiple defendants. We address this situation below.

Assume as well that *P* filed three cases in 2014–2015, two in Delaware and one in Minnesota. If *D* could only be sued in Minnesota, we would call that a plausible match. Even though *P* did not sue *D* in Minnesota, *P* was also not necessarily adverse to Minnesota, having sued someone else there in the last two years.

- No match: The plaintiff could not sue in the chosen venue, but it could have sued in a “class preferred venue”—any venue in the top five of plaintiff’s type.¹⁶³ For example, if plaintiff *P* sued defendant *D* in the Northern District of Illinois, but *D* could not be sued in the Northern District of Illinois, then there would be no match. But assume *D could* be sued in Delaware. Then we flagged the case as “class preferred.” Delaware was one of the top five choices for NPEs in 2014–2015, and it was also one of the top five choices for product companies during that time.¹⁶⁴ Thus, *P* would sue in Delaware, whether *P* was an NPE or an operating company.
- No match: No venue is available under any of the above options. In this case, the plaintiff would have to sue according to the proposed rule but would not have any of its plausible or plaintiff class preferences fulfilled. We assumed that the suit would be filed where the defendant’s primary place of business was located.

To be sure, our model is imperfect and subject to selection effects. Some cases might not be filed at all if they could not be filed in their selected district. Some plaintiffs might have selected a location that we coded as less attractive. And all parties might change their behavior, such as where they conduct their research and development, in response to new rules.

We recognize that these things could happen but believe that our static model is nonetheless valuable. First, there is no evidence to suggest that the selection effect would be large. For example, most plaintiffs are not located in Texas and could just as easily travel somewhere else. Furthermore, the win rate in Texas isn’t *that* high and as we noted above, there are many other

163. Based on our analysis of actual patent suits from 2015, for NPEs, the top five were the Eastern District of Texas, the District of Delaware, the Northern District of California, the Northern District of Illinois, and the Northern District of Texas. For PEs, the top five were the District of Delaware, the District of New Jersey, the Eastern District of Texas, the Central District of California, and the Southern District of New York.

164. Operating companies tended to favor their home districts but not nearly as much as one might think. Contrary to popular belief, for example, not all pharmaceutical cases were filed in New Jersey. While the “preferred class venue” categorization is the least likely, it still has some explanatory power. Because it is the last choice before no match at all (defendant’s principal place of business), we believe that operating plaintiffs may well choose a popular district before going to the defendant’s principal place of business.

districts that may have compelling procedures and win rates. Second, even if there is some selection effect, our model points to where that effect may be, by showing which cases would have to move to another district. Armed with that data, one can bring any number of assumptions to bear about which types of cases are likely to move and which are likely to go away. But those assumptions are many, and so we do not apply them in our model.

1. Sources

We relied on Unified Patent's coding of each case by plaintiff type: NPE-Patent Assertion Entity, NPE-Small Company, NPE-Individual (and individually run companies), Operating Company, and Other Entity (including universities, non-profits, and government and non-governmental entities).¹⁶⁵ When we speak of NPEs collectively, we mean PAEs, small company NPEs, and individuals. We also determined the industry of the defendant and whether the entity was publicly or privately held. We obtained information about the industry, revenue, and employee base of the defendant where possible.¹⁶⁶ We used this profile data to better understand the impact of proposed rule changes on different stakeholders.

To carry out our analysis, we relied on case law, several data sources, and our own assumptions. As these have bearings on our results and introduce known limitations, we describe our efforts and sources in Appendix Table A below.

TC Heartland restores venue to the narrowed interpretation of Section 1400(b), which specifies that venue is proper in "the judicial district where the defendant resides, or where the defendant has committed acts of infringement and has a regular and established place of business."¹⁶⁷ In *Brunette Machine Works, Ltd. v. Kockum Industries, Inc.*,¹⁶⁸ the Supreme Court, interpreting the special patent venue statute (Section 1400(b)) as well as the general venue statute (Section 1391(d)), confirmed that where a corporation

165. As noted above, these codings were provided by Unified Patents. While we might have quibbled with some of their NPE categorizations, these categorizations were sufficient for our purposes. For a description of their definitions, see *2015 Patent Dispute Report*, *supra* note 13.

166. We attributed revenues and employees of operating parents to each company. To be sure, each entity was distinct, but the goal was to differentiate "mom and pop" defendants (of which there were few) from small North American offices associated with multi-billion dollar, multi-national conglomerates. We did not attribute investment-only holding company revenues to any defendant unless the holding company was sued. Under this methodology, we assumed that wholly owned subsidiaries belonged to the parent corporation (e.g., we treated each of the five ACE insurance entities that were sued as part of the single parent, and we profiled the QVC entity by its corporate owner, Liberty Interactive). However, we did not, for example, attribute the revenue affiliated with investment conglomerate Madison Dearborn Partners to its subsidiary company, Things Remembered.

167. 28 U.S.C. § 1400(b) (2012).

168. 406 U.S. 706 (1972).

“reside[s]” is where it is incorporated,¹⁶⁹ and that for “alien[s],” or foreign companies, venue is proper “in any district.”¹⁷⁰ We coded qualifying venues accordingly, by coding state of incorporation. Even after *TC Heartland*, we are somewhat confident that foreign corporations could be sued in any district.¹⁷¹ Some might argue that, after recent Supreme Court personal jurisdiction cases,¹⁷² “resides” should instead be the principal place of business. To the extent that residency under Section 1400(b) might apply beyond place of incorporation, or the Congressional proposals suggest that it might, we also coded primary place of business based on the complaints (which may contain errors), and in some cases, company websites. This location would satisfy the second prong of Section 1400(b) in any event—where the defendant has a place of business and has infringed.

For years, plaintiffs have relied on the liberal interpretation of “reside” under *VE Holding* and, therefore, have not had to rely on the prong of the venue statute that allows for venue where there is “infringement and [the defendant] has a regular and established place of business.”¹⁷³ This has changed now—what is old is new again. To determine all of the places of business associated with each party, we used ReferenceUSA, a widely used database of business locations relied upon by other scholars¹⁷⁴ which distinguishes between retail, office and manufacturing, and other types of facilities. We supplemented ReferenceUSA with data from Hoovers and company websites.

We had to determine whether or not every retail location should qualify as a “regular and established place of business.” Under the majority view, “control” of a business is required to trigger venue.¹⁷⁵ Virtually any presence by a business will count under the statute so long as it is not transitory.¹⁷⁶

169. *Brunette Mach. Works, Ltd. v. Kockum Indus., Inc.*, 406 U.S. 706, 707 n.2 (1972) (citing *Fourco Glass Co. v. Transmirra Prods. Corp.*, 353 U.S. 222 (1957)).

170. *Id.* at 707.

171. 28 U.S.C. § 1391(c)(3) (2012) (“[A] defendant not resident in the United States may be sued in any judicial district, and the joinder of such a defendant shall be disregarded in determining where the action may be brought with respect to other defendants.”). Even if the special patent venue statute applied, a strict reading of it would mean you could not sue a foreign corporation in any district, which would be absurd.

172. *See, e.g., Daimler AG v. Bauman*, 134 S. Ct. 746 (2014).

173. 28 U.S.C. § 1400(b) (2012).

174. *See, e.g., Sheila E. Fleischhacker et al., Evidence for Validity of Five Secondary Data Sources for Enumerating Retail Food Outlets in Seven American Indian Communities in North Carolina*, 9 INT’L J. BEHAV. NUTRITION & PHYSICAL ACTIVITY 137 (2012), <http://ijbnpa.biomedcentral.com/articles/10.1186/1479-5868-9-137> (using ReferenceUSA for convenience food store locations).

175. 8 DONALD S. CHISUM, CHISUM ON PATENTS § 21.02[2][d] (Matthew Bender ed., 2016) (“To constitute a ‘regular and established place of business,’ there must be some physical location at which the defendant conducts business and over which the defendant exercises control.”); Matthew J. Sampson, Note, *Corporate Venue in Patent Infringement Cases*, 40 DEPAUL L. REV. 207, 223 (1990). *See, e.g., In re Cray*, 871 F. 3d 1355 (Fed. Cir. 2017).

176. CHISUM, *supra* note 175, § 21.02[2][d] (citing several very small locations constituting a place of business: “Generally, any physical location at which business is conducted will suffice, no

However, independent dealers are insufficient to establish a place of business unless sufficient control is exerted.¹⁷⁷

Thus, to determine whether a retail location was in a state, we examined the results from ReferenceUSA for indicia of ownership and control. This included corporate-owned stores, like those owned by Costco, Wal-Mart, and GameStop. We also looked to ensure that the business presence in a state was not attributed to a subsidiary rather than the parent. And when the presence was attributed to the subsidiary, we flagged that as presence for the subsidiary, not the parent.¹⁷⁸ Finally, we excluded subsidiaries whether they were wholly owned,¹⁷⁹ independent franchises or dealers (which are not really subsidiaries at all), or otherwise independent.

Once we determined that a qualifying business was present in a district, we assumed that infringement took place in the district;¹⁸⁰ however, this assumption may not hold in every jurisdiction for every case, just as it did not in *Fourco*.

In some cases, multiple defendants were named. We coded each defendant group and each defendant separately, analyzing not only whether or not the defendant, but also the defendant group, could be sued in the original venue or a desired venue. In accordance with the statute, when the defendant group included a foreign defendant, the foreigner's venues were excluded from the analysis.¹⁸¹

matter what the amount or character of the activity.”). We recognize the existence of border cases, such as home offices. In re Cray, 871 F. 3d 1355 (Fed. Cir. 2017). While such cases are important, we do not believe there were sufficient cases to affect our estimates, especially because the type of home offices that do not qualify would likely not have shown up in our searches.

177. *Id.* § 21.02[2][d][iii] (“The cases generally hold that a defendant’s distribution of products through an independent representative or agent in the district, even on an exclusive basis, does not constitute a regular and established place of business.”).

178. In some cases where a holding corporation’s only subsidiary was the owner of all the stores and the holding company was the only party sued, we attributed the store location to the parent holding company on the theory that a plaintiff could easily substitute the proper party in order to obtain venue.

179. *Id.* § 21.02[2][d][iv] (“A defendant corporation does not have a regular and established place of business in a district merely because a subsidiary has such a place. This is true even of a wholly-owned subsidiary so long as the formalities of separate existence are respected.”).

180. Three factors also led us to make this inference—a) the ubiquity of retailers as defendants, b) online sales, and c) software patents. In other words, we assumed that retailers and other branch locations would be accused of either selling products at local stores or using software at various locations (or even to communicate between locations). Further, we assumed that companies would sell products into the state even if those sales were not made by the local branches. *Id.* § 21.02[2][d] (“Furthermore, there need be no particular connection between the activity at the place of business and the alleged act of infringement.”).

181. *See* 28 U.S.C. § 1391(e)(3) (2012).

2. Approach

While both court and congressional proposals would allow venue in the place of incorporation, primary place of business, or other place of business (with infringement), the congressional VENUE bill adds additional locations: 1) where the defendant has consented to be sued, 2) where the inventor on the patent has done research, and 3) districts in which either party had an R&D or manufacturing nexus to products embodying the invention.¹⁸² We assumed defendants would not consent to any venue. We obtained patent data for each lawsuit and, based on the inventor's location listed on the face of each patent, determined where the inventor on the patent lived and assumed that the research occurred where the inventor lived. We attempted to model the portion of the proposal that allows for venue where either party had an R&D or manufacturing nexus to products embodying the invention as follows: for practicing plaintiffs and small company NPEs, we assumed that R&D, manufacturing, or product management took place at the location of the initial assignee and at the principal place of business. For PAE plaintiffs, we assumed that such plaintiffs could not find an R&D location due to the express terms of the VENUE Act, which only offers such options to parties with operations. Due to a lack of reliable information, we made no assumptions about research and manufacturing locations of defendants' relevant products, but our inclusion of principal places of business likely compensates for this deficiency in some cases. For this reason, our analysis probably overstates the extent to which cases against larger defendants would have to move under the VENUE Act although, as we note below, this number is already relatively small.

Another known shortcoming of our analysis is that, outside of "exact" matches, it is hard to tell with certainty where plaintiffs would choose to file. We assume that plaintiffs plausibly would file where they have before, due to greater familiarity with the court. The most tenuous matches, however, are those that were considered "preferred" on the basis that other plaintiffs of the same type (e.g., NPE-operating company) favored those venues in 2014 and 2015. In reality, those plaintiffs might consider other factors. After all, by definition, if the plaintiff had not filed in one of these districts already, it may be a leap to assume it would do so later. Finally, our dataset is small—only 939 cases. Still, the distribution of districts and NPE filings is both random and representative of the population for the last full year available;¹⁸³ we believe that the results from this analysis are instructive.

182. Venue Equity and Non-Uniformity Elimination Act of 2016, S. 2733, 114th Cong. § 2(b)(3)–(5) (2016).

183. Of course, the fact that only one year is represented might be a limitation, though rapid changes in the numbers and locations of suits over the last ten years may imply that recent cross-sections are more important than longitudinal data.

While our primary analysis makes it possible to estimate the share of patent cases that are filed outside of plaintiffs' and defendants' primary districts, we also thought it would be instructive to explore the extent to which patent cases differ (or do not) from non-patent cases along this metric. To do so, we performed a supporting analysis of venue in non-patent cases, by analyzing a limited sample of data with respect to two sets of defendants: (1) the three top patent defendants from 2015 (Samsung, Apple, and Actavis)¹⁸⁴ for whom we gathered data on all of their non-patent cases in 2015, and (2) 99 randomly selected patent defendants for whom we gathered data on up to 10 non-patent cases in 2015.¹⁸⁵ For the randomly selected patent defendants, we noted where their primary place of business and state of incorporation were, based on complaints. We compared these defendant districts to the districts where the defendant was actually sued.

III. RESULTS AND THEIR IMPLICATIONS FOR VENUE REFORM EFFORTS

In Part III we present the results of our analysis, organized around the central questions behind the case for, and the results of, proposed venue reforms. The case for reforming venue is motivated by the sense that plaintiffs

184. BRIAN C. HOWARD & JASON MAPLES, LEX MACHINA, PATENT LITIGATION YEAR IN REVIEW 2015, at 17 fig.28 (2016) <http://pages.lexmachina.com/rs/098-SHZ-498/images/2015%20Patent%20Litigation%20Year%20in%20Review.pdf>.

185. Defendants include: 3M Company; ACE US Holdings, Inc.; Adore Me, Inc.; Advance Stores Company, Inc.; Alembic Pharmaceuticals Limited; Alkem Laboratories Ltd.; Alliant Energy Corporation; Allstate Insurance Company; Alvogen Pine Brook Inc.; Amazon; American Airlines; AOL; Audible Magic Corporation; AVer Information Inc.; Avon Products; Barnes & Noble Booksellers; Barrel House Cooker, LLC; Bath & Body Works; Blue Cross and Blue Shield Association; BOK Financial Corporation; Boschung America, LLC; BPI LABS, LLC; Bristol-Myers Squibb Company; Broadcom Corporation; Verizon Wireless; Cequel Communications LLC; Ceridian HCM, Inc.; Charter Communications, Inc.; City and County of San Francisco; Command Airsoft Technologies, Inc.; Commercial Bank of Texas, N.A.; Connected Telematics; Extreme Outdoor Products; D-Link Systems, Inc.; Dale Alldredge; Dr. Reddy's Laboratories, Ltd.; Edwards Lifesciences Corporation; EMC Corporation; Eva Airways; FCA US LLC; Fitbit, Inc.; Ford Motor Company; Foursevens LLC; Fremont Bancorporation; GTM Products, LLC; Harper and Two, Inc.; Hotpads Inc.; InterActiveCorp; Ipsen Biopharmaceuticals, Inc.; ITC Inc.; Jive Communications, Inc.; King Digital Entertainment PLC; Knight Transportation, Inc.; Kohl's Corporation; KVH Industries, Inc.; Landis+Gyr Technologies, LLC; Ledequipped.com Corp.; LEDwholesalers.com, Inc.; Lockheed Martin Corporation; LA Times; Luhua Biomarine (Shandong) Co., Ltd.; Mercedes-Benz USA; Mylan Inc.; Dual Electronics Corp.; NEC Corporation; NeoMedia Technologies, Inc.; NHL Interactive Cyberenterprises, LLC; Nico Chee-Ping; Nvidia Corporation; OpticsPlanet, Inc.; Optimum Trading Co., LLC; OptionsXpress, Inc.; Philips Electronics North America Corporation; Praestone Services Ltd.; Pulse Secure, LLC; Puzhen, R.B. Sandrini, Inc.; Redbox Automated Retail, LLC; Regions Financial Corporation; Royal Design, Inc.; RTIC Coolers, LLC; Sandisk Corporation; Schurman Fine Papers; Schuster Products, LLC; Strassburg Medical, LLC; Straumann Holding AG; Telebrands Corp.; Texas Instruments Incorporated; Thunder Box Inc.; Tolmar Inc.; Tyco Integrated Security Puerto Rico, Inc.; U.S. Auto Parts Network, Inc.; Vitek Industrial Video Products, Inc.; Voipo LLC; W.R. Grace & Co.-Conn.'s; Wal-Mart; Wusthof-Trident of America, Inc.; and XO Communications, LLC. We selected from our list of defendants, so if a defendant appeared in multiple cases, then it was more likely to be selected. Very few defendants appeared in multiple cases.

are filing extensively out of defendants' venues and choosing the Eastern District of Texas. Congressional and court reforms are being advanced to ostensibly change case filing patterns in a way that would reduce the high concentration of cases in the Eastern District and more evenly distribute cases across the country, preferably in venues relevant to the cases. Critics argue that reforms will not reduce concentration¹⁸⁶ and will unduly benefit defendants by moving cases to their home districts. We test all of these premises, by first establishing the status quo (current filing patterns) and then by reporting how case filings would have been distributed according to our model under congressional and court reform. We report each reform scenario separately, referring to the narrowed interpretation of Section 1400 after *TC Heartland* as "*TC Heartland* reform," and to congressional enactment of the VENUE Act as "VENUE reform" or "congressional reform."

A. How Extensively are Plaintiffs Filing Out of Defendants' Venues?

Though it is widely accepted that NPEs are filing in the Eastern District of Texas, the extent to which patent plaintiffs in general are taking advantage of permissive venue to sue outside of defendants' venues has not before been established. Based on our analysis, we found that defendants were sued in the district of their primary place of business only 14% of the time, leaving defendants out of their home venue 86% of the time (Table 3). This behavior was not limited to NPEs—though they sued within the defendant's primary venue only 10% of the time, operating companies sued within the defendant's primary venue only 20% of the time and 80% of the time outside of defendant's preferred venue.

If all defendants' business locations are factored in, including retail stores, defendants were sued in a place of business 29% of the time and at the place of their incorporation about 15% of the time. The salience of this result is unclear. On the one hand, defendants can hardly complain about being sued where incorporated given that they voluntarily chose the laws and benefits of the state when incorporating, especially given the long history of the patent venue statute. On the other hand, many defendants have few ties to their state of incorporation other than filing paperwork.

In contrast, plaintiffs sued in their own home districts 60% of the time. This count may be inflated by NPE formation of LLCs in the Eastern District, even if none of the LLC members live there. For example, operating companies only sued in their home district 44% of the time. But even when plaintiffs didn't sue in their own home districts, they didn't necessarily sue

186. Brief of 22 Law, Economics, and Business Professors as Amici Curiae in Support of Respondent in *TC Heartland v. Kraft Foods Grp. Brands L.L.C.*, 137 S. Ct. 1514 (2017) (No. 16-341) (arguing that there would be "no impact on the present concentration of roughly 60% of all patent cases in five jurisdictions").

in the defendant's primary place of business; they exercised their freedom to sue anywhere they wanted.

TABLE 3: LOCATION OF 2015 FILINGS BY PLAINTIFF ENTITY TYPE

Location	OpCo π	NPE π	Total
Defendant Principal Place of Business	19.0%	10.0%	14%
Defendant Places of Business (All)	27.1%	27.3%	29%
Defendant Place of Incorporation	17.4%	12.4%	15.4%
Defendant Businesses (All) or Incorporation	35.3%	32.3%	33.2%
Plaintiffs' Principal Place of Business	44.4%	66.7%	60%

The results are different for individuals, who are not subject to the same expansive venue rules. A total of 27 individuals were sued, or 2.4% of the defendants. Of those, 19 were sued along with other defendants, while 8 were sued as the only defendant. Individuals were more likely to be sued in their home district, about 37% of the time. Somewhat counterintuitively, however, whether individuals were sued along with other defendants or on their own made no difference in the rate at which they were sued in their home district.

B. Are Patent Case Filing Patterns Exceptional?

Our comparative sample of non-patent cases shows the extent to which patent law may be an outlier. Table 4 shows the results of our “deep dive” case studies of the three most sued patent defendants, as well as our “shallow dive” into the first ten cases of a random selection of 99 patent defendants. Fifty-two of these defendants had only patent cases, resulting in a sample that included 271 non-patent cases among approximately 47 defendants.¹⁸⁷ We

187. Several of the companies hit all ten cases, while some had none at all. Thus, the results could possibly be biased toward the smaller companies. We divided the defendants into two groups: one of parties who saw eight or more cases and one who saw seven or less. The percentage parties sued in their primary place of business did not change appreciably between groups (19% versus 20%). There was a difference for suits in the state of incorporation (4% versus 11%), which we attribute to larger companies incorporating in popular lawsuit locations such as Delaware, New York, and New Jersey.

compared non-patent filing patterns to patent filing patterns along three principal dimensions: the extent to which defendants were sued outside of their primary place of business, the extent to which multiple defendants were named in cases, and the extent to which cases were concentrated in particular districts.

Table 4 shows that non-patent cases were more likely than patent cases to be filed within defendants' home districts. But not by much—while 14% of patent cases were filed in the defendant's primary place of business, 20% of non-patent cases were filed there. While the difference between 14% and 20% is significantly different,¹⁸⁸ it is barely economically different—plaintiffs of all stripes file their cases where they want, and that is rarely where the defendant keeps its offices.¹⁸⁹

We observed greater differences between non-patent and patent case filing patterns along two other dimensions, however. In 2015, about 44% (45% in our sample) of patent cases were filed in a single district, the Eastern District of Texas. Among non-patent cases in our random sample, the top district attracted only 14% of all cases. This suggests that while non-patent plaintiffs are suing in their preferred venues, rather than defendants', they aren't all choosing the same venue.

The share of cases involving multiple defendants is also a lot higher among non-patent cases. While Table 4 shows that 56% of non-patent cases involved multiple defendants, only 16% of patent cases did. Ironically, the additional defendants in those non-patent cases did not reduce the out-of-district filings to match patent cases. When there were multiple parties, one would have expected at least one of them to be located in the district while all the rest would be dragged in from a distant location. But instead, the random defendants were sued in groups more than half the time and yet, were still sued in their home district more often than patent plaintiffs.

This evidence confirms that the AIA misjoinder rule, curbing the practice of naming multiple unrelated patent defendants in a single case, seems to have been successful in reducing the number of defendants in each case (consistent with the spike in post-AIA cases described earlier) because there was a much smaller proportion of cases involving multiple defendants as compared to non-patent cases. But it also suggests that the single-defendant patent rule did not shift multiple-defendant patent cases into defendants' home districts as the drafters had hoped.

188. $P=.008$ in a one-side t-test.

189. Sukhatme, *supra* note 63, at 25 (finding 43% of diversity defendants—in a sample of more than 550,000 cases—are sued in their home location or state of incorporation). The greater number of individuals sued in diversity may account for the differences as compared to our data, because personal jurisdiction is harder to obtain.

TABLE 4: COMPARISON OF VENUES IN PATENT AND NON-PATENT CASES

Cohort	All Ds (Patent)	D Apple (Non- Patent)	D Samsung (Non- Patent)	D Actavis (Non- Patent)	D Random (Non- Patent)
N	1026	47	37	396	271
Sued in D primary place of business (PPB)	14.1%	21.3%	38.2%	0.0%	20.3%
Sued in D place of incorporation (POI)	15.3%	14.9%	35.3%	0.0%	9.6%
Cases involving multiple defendants	16.2%	59.6%	73.0%	96.5%	55.6%
Share of cases in top district	45.3%	21.3%	35.1%	90.7%	13.6%
Top District	(E.D. Tex.)	(N.D. Cal.)	(N.D. Cal.)	(N.D. Ill.)	(N.D. Cal.)

But while comparing our random sample of non-patent cases with our patent cases suggests both similarities and differences between these two groups, our case studies provide some insight into the variable dynamics of particular types of non-patent cases. First, Apple was sued outside of its principal place of business 79% of the time and Samsung 62% of the time. Actavis, a pharmaceutical company, in contrast, was *never* sued in its home district despite hundreds of cases filed against it. The Actavis cases comprised state mass tort claims, in which multiple parties all filed suit against multiple drug companies at once. This is analogous in some ways to high volume patent litigation, in which many defendants are sued in the same district by a plaintiff. In addition, many of the Samsung cases, which were filed in the defendant's home district (the Northern District of California) were antitrust cases, which have special venue rules. This implies that special venue rules can have the effect of increasing the number of cases brought in the defendant's home district. We explore this prediction by looking next at how patent venue reform would change case filing patterns.

C. How Would Patent Venue Reform Change Patent Case Filing Patterns?

While the preceding results were based on a party-by-party analysis, we considered venue on a case-by-case basis in order to predict where cases would have been brought under different rules. We find that if *TC Heartland* reform had been¹⁹⁰ in effect, 52% of operating companies would have needed to pick a different district than they had originally chosen. For NPEs, 60% would have needed to pick a different district. Another 5% of the cases for each plaintiff type would be a plausible match—that is, they could be brought somewhere else the plaintiff sued in the last two years. That this percentage is small is not surprising, given that most plaintiffs don't sue in that many locations.

If the VENUE Act were passed, however, the change from the status quo would be a lot less dramatic for operating company plaintiffs—only 18% would have to move their case while the rest could have been filed as is. NPE plaintiffs also have more choice of where to file under the VENUE Act than under *TC Heartland* reform. Even so, their choices are still significantly constrained: 54% would have had to move their cases, compared to the 60% of cases that would have had to move under the new *TC Heartland* rule. Table 5 below shows the different outcomes of our predictions.

190. We vacillate between past and future tense for variation, recognizing that our data is both an estimate of what would have happened as well as a forecast of what could happen assuming a similar group of plaintiffs files suit in the future.

TABLE 5: LIKELY OUTCOMES UNDER DIFFERENT REFORM OPTIONS, BY PARTY

Plaintiff Type	<i>TC Heartland</i>			VENUE Act		
	Non-NPE π	NPE π	Total	Non-NPE π	NPE π	Total
Exact Match (Case Would Not Move)	47.7%	40.0%	42.3%	82.2%	46.4%	57.1%
Non-Exact Match (Case Would Move)	52.3%	60.0%	57.7%	17.8%	53.6%	42.9%
Plausible Match—Plaintiff Sued There Before	5.7%	5.0%	5.2%	4.3%	6.8%	6.1%
No Match—But D can be sued in a popular district	26.0%	36.9%	33.7%	7.5%	31.5%	24.3%
No Match—D cannot be sued in any of the above	20.6%	18.1%	18.8%	6.0%	15.3%	12.6%

Table 5 shows that under *TC Heartland* reform, 42% of the cases would remain in place with another 5% moving to another district that the plaintiff had used in the past. That number grows to 57% exact matches under the VENUE Act with another 6.1% for plausible matches. The plausible matches were smaller than expected but consistent with the data given that most plaintiffs only sued in one or two districts. Thus, there were few places for them to go if they could not file in their first choice. The “popular” district results are not surprising. Because many cases are currently filed in Texas, Delaware, California, and Illinois, and because many defendants are located in at least one of those places, then displaced plaintiffs could have properly sued many defendants in one of those popular districts if they chose to.

D. Where Would Patent Cases Move To?

Given the predicted displacement, we attempted to predict where cases might move to. Table 6 below reports the original locations of each case,

followed by the likely location after each proposed reform.¹⁹¹ The distribution of original cases roughly matches the venue location of the full population, implying a representative data set.

We found that under *TC Heartland* reform, 46% of defendants would be sued in the district of their principal place of business. This drops to 37% under the VENUE Act. In that sense, the VENUE Act comparatively favors operating plaintiffs (who can now sue at their home location as compared to *TC Heartland*) with minor effects on NPE plaintiffs (who cannot sue in their home location).

Results are divided by NPE- and non-NPE-initiated cases to show the varying impacts of venue rule changes.

TABLE 6: MODELED VENUE UNDER DIFFERENT REFORM OPTIONS, BY PARTY TYPE

District	Final Districts – OpCo π			Final Districts – NPE π		
	Actual Case	Prediction <i>Heartland</i>	Prediction VENUE Act	Actual Case	Prediction <i>Heartland</i>	Prediction VENUE Act
E.D. Tex.	7.8%	4.6%	5.0%	64.1%	19.0%	19.1%
D. Del.	10.0%	18.9%	11.0%	7.3%	25.8%	23.1%
D.N.J.	10.3%	12.1%	10.7%	0.9%	2.4%	2.0%
C.D. Cal.	7.5%	14.2%	9.6%	2.1%	2.6%	2.4%
N.D. Cal.	5.0%	2.8%	3.9%	3.0%	17.3%	16.6%
S.D.N.Y.	3.9%	3.6%	3.6%	2.7%	3.0%	2.7%
N.D. Ill.	3.6%	1.8%	3.2%	2.7%	4.1%	4.3%
N.D. Tex.	1.4%	0.4%	0.7%	2.7%	3.6%	3.3%
S.D. Fla.	0.4%	1.8%	1.1%	2.9%	1.8%	4.6%
W.D. Wash.	3.6%	1.4%	3.6%	0.5%	1.2%	1.5%

Table 6 makes clear that either of the proposed changes to the venue rules would likely result in a general shift in case locations. For NPE cases, that would be decidedly away from the Eastern District of Texas, though 19% of cases could still be brought there, down from nearly 65%. But both NPE and non-NPE cases would primarily move to the District of Delaware, whose share would increase from 10% to 19% for operating companies and from 7% to 25% for NPEs.¹⁹² Interestingly, a move to the Northern District of

191. Only the top ten districts are shown; there were ninety-four districts in total.

192. Here, too, there are assumptions, for example, that changes in other districts will not affect the propensity to bring suit there. *But see, e.g.,* Barnes & Thornburg LLP Intellectual Prop. Dep't, "The Times They Are a-Changin'"—*Delaware's Judge Stark Outlines New Patent Case Management Practices*, NAT'L. L. REV. (May 16, 2014), <http://www.natlawreview.com/article/times-they->

California is only pronounced for NPE cases, from 3% to more than 16%, whereas operating companies would likely sue there less than they already do.

Table 6 also shows that the overall redistribution of NPE cases under the VENUE Act would be comparable to the impact of *TC Heartland* reform, but that operating company cases would redistribute to lesser extent under VENUE than under *TC Heartland* reform. Under the VENUE Act, we estimate that operating company filings in Delaware would rise from the present 10% to 11%, whereas *TC Heartland* reform would result in 19% of non-NPE cases being filed there. Similarly, filings in the Central District of California would rise only 2% (from 7.5% to 9.6% of all cases) under congressional reform rather than double (from 7.5% to 14.2%) under *TC Heartland*. Note that these differences are not offset by large gains among the top-ten most popular districts. Instead, operating companies would continue to sue where they sue now— at their own primary places of business, which are geographically dispersed.

This explains why NPE filing patterns would be similar under the VENUE Act or court-initiated *TC Heartland* reform. NPE primary places of business are mostly in the Eastern District of Texas. Putting aside for a moment the question of whether they actually operate out of Texas (a hotly disputed point), the VENUE Act would not allow them to file in Texas because they do not make a product there. Thus, there would be no shift to the plaintiff's hometown, the way there would be for operating companies. We do not address whether this is by design to deliberately harm NPEs or whether it is merely favoritism to plaintiffs that actually perform research, development, and manufacturing. We do note, however, that our final predictions are not foregone conclusions. We defaulted to the defendant's place of business if there were no other matching districts, but presumably NPEs could file where the original inventors lived, and that would be geographically dispersed. If NPEs did file where their inventors lived, then litigation might wind up in many different districts that no one has considered.

E. How Concentrated Would Cases Be?

Table 7 lists the net effect of the reforms on the most popular districts and the concentration of cases within them. Regardless of the model, the distribution of cases would be decidedly less concentrated with respect to the most populous district. The District of Delaware would be the most popular district, but it would host about half of the Eastern District of Texas' 2015 share under *TC Heartland* reform and a smaller share under the VENUE Act. While a ~24% share is sizeable, it does not necessarily represent more than

are-changin-delaware-s-judge-stark-outlines-new-patent-case-management-pr (discussing changes in a Delaware judge's case management practices and whether such changes will affect filing strategy).

Delaware has seen in the past. If we assumed that filings continued at their 2016 pace of 4534 cases per year, which is aggressive, a ~24% share would be about 1088 cases, less than Delaware saw in 2013 and close to what it saw in 2012.¹⁹³

SHARE TABLE 7: PREDICTED MOST POPULAR DISTRICTS, BY REFORM OPTION

District	2015 Actual	Heartland	VENUE Act
D. Del.	9%	23.8%	19.5%
E.D. Tex.	44%	14.7%	14.9%
N.D. Cal.	4%	13.0%	12.8%
C.D. Cal.	5%	6.1%	4.6%
D.N.J.	5%	5.3%	4.6%

While the top district would be less concentrated, the top three districts would, in total, account for about 50% of all the cases—the same as they do in the first half of 2016 (but about 10% less than in 2015). The cases would, however, be a bit more distributed among those three districts, with the California courts seeing 17%–19% of cases, up from 9% in 2015, and the Eastern District of Texas shrinking its docket share to about a third of its 2015 share.¹⁹⁴

When divided by entity type, however, the concentration changes. NPEs would be concentrated in the same top three districts with about 40% in Delaware and Northern California and another 19% in Texas. Among operating company cases, the top three districts would be Delaware, Central California (Los Angeles), and New Jersey with the top two hosting 31% of cases under *TC Heartland* reform and 22% of cases under the VENUE Act.¹⁹⁵

IV. PARTIES MOST LIKELY TO SEE RELIEF AND REFORM

The model also allows some examination of which parties would be most impacted by venue reform. We relied upon plaintiff coding provided by Unified Patents and gathered industry and size data about the defendants to make these determinations. Although reliable revenue and size data are generally available for public companies, as with any data relating to private companies, the data we provide are only categorical estimates rather than pinpoint determinations.

193. See *The Supreme Court's TC Heartland Decision: Hearing Before the Subcomm. On Intellectual Prop. of the H. Comm. on the Judiciary*, 115th Cong. (2017) (testimony of Colleen Chien, Associate Professor, Santa Clara University Law School), <https://judiciary.house.gov/wp-content/uploads/2017/06/06.13.17-Chien-Testimony.pdf> (noting that decrease in overall filings may mean that Delaware will not see as many cases even if its share of cases increases).

194. See *supra* Table 7.

195. See *supra* Table 6.

Coding the defendants by industry allowed us to also take a representative snapshot of the varying degree to which industries are impacted by NPE and non-NPE cases in general. Retailers, tech, and financial services companies have formed a *big Tent* defense patent coalition to lobby for reforms to litigation, and a look at the distribution of existing cases confirms why. Within our sample, 100% of financial services patent cases and over 75% of communication services, software, high-tech, and retail patent cases were NPE-initiated. In the pharmaceutical sector, only 23% of suits were brought by NPEs. Upon closer inspection, the majority of these cases appear to have involved high-tech patents (asserted, e.g., by Data Carriers LLC, Eclipse IP, and eDekka LLC) that pharmaceutical firms were using, not devising.

TABLE 8.1: DISTRIBUTION OF SAMPLED 2015 CASES, BY DETAILED DEFENDANT INDUSTRY¹⁹⁶

Industry	Count of Ds ¹⁹⁷	NPE	NPE%
Education	3	3	100%
Financial	71	71	100%
Communication Services	52	51	98%
Oil & Gas	11	10	91%
Software	107	91	85%
High Tech	219	182	83%
Paper/Printing	24	18	75%
Transportation	59	44	75%
Retail	160	118	74%
Business Support	37	27	73%
Farms/Food	49	34	69%
Clothes Manufacturing	26	18	69%
Fitness/Entertainment	6	4	67%
Medical	41	23	56%
Building/Tools	25	14	56%
Consumer Goods	45	18	40%
Sports Manufacturing	21	7	33%
Industrial Goods	36	11	31%
Pharma	103	24	23%

When we grouped these industry segments into larger sectors, as shown in Table 8.2, we found that the industry most sued by NPEs was tech: The primary industry of 42% of NPE defendants was in the broader tech-sector. The remaining majority (58%) of NPE defendants were in non-tech sectors

196. See the Appendix for a broader industry distribution and how we grouped the finer grained categories depicted in this chart into those categories.

197. Related defendants are each counted.

including retail and services, sectors that themselves use, rather than make, technology. This implies that naming the users and sellers, rather than the makers, of technology is a common practice of NPEs. Given the ubiquity of software innovation even in traditional sectors like manufacturing,¹⁹⁸ it is not possible to tell what precise share of the defendants in the manufacturing and financial services sectors, for example, were sued because they were customers or sellers rather than makers, of technology.¹⁹⁹ But defendants from the retail, services, biopharma, and other sectors together represented 35% of all NPE defendants, a sizeable share, as Table 8.2 shows.

TABLE 8.2: DISTRIBUTION OF SAMPLED 2015 CASES, BY BROAD DEFENDANT INDUSTRY²⁰⁰

D Industry	Share of All Ds	Share of NPE Ds
Tech	34%	42%
Manufacturing	17%	12%
Retail	14%	15%
Biopharma	13%	6%
Other	10%	11%
Finance	6%	9%
Services	3%	3%

With this baseline established, we probed the question of which defendants would benefit from venue reform, in the sense that cases would need to be refiled so that they reflected some nexus to the defendant's business and not just plaintiff's choice. In particular, we considered the relationship between the defendant's geography, size, and industry and the share of cases that would have to be refiled.

198. See generally Ashish Arora et al., *The Acquisition and Commercialization of Invention in American Manufacturing: Incidence and Impact*, 45 RES. POL'Y 1113 (2016) (reporting on the role of customers and other sources of innovation across a variety of fields).

199. The phenomenon of patentees suing end users of technology that may, for example, use communications technology (like wifi or scanning) or other types of software (for example, to facilitate e-commerce transactions) to offer their services is explored further in Colleen Chien & Edward Reines, *Why Technology Customers Are Being Sued En Masse for Patent Infringement and What Can Be Done*, 49 WAKE FOREST L. REV. 235 (2014).

200. See the Appendix for how we grouped finer-grained categories into the ones depicted in this chart.

A. *Which Parties (by Geography) Would Benefit or Lose from Venue Reform?*

Overall, VENUE Act reform would require only 18% of non-NPE cases to be refiled and over 50% of NPE cases to be filed in another district.

1. *Impact on Defendants (based on TC Heartland)*

The differential impact on defendant types is illustrated most clearly in the analysis of *TC Heartland* reform, which would have required a majority of both NPE and non-NPE cases to move. Among defendants sued by NPEs, companies located all over the country would move districts at about the same relative rate. However, in absolute terms, the number of defendants headquartered²⁰¹ in Northern and Central (Los Angeles) California is much larger than the others. More than a quarter of all the moved NPE cases would affect companies headquartered in those two districts alone. Further, reform would affect nearly 75% of the NPE cases filed against companies from those two districts.

Among those companies sued by operating companies, the defendants that would see the greatest share of their cases move are defendants headquartered in New Jersey (known for pharmaceuticals), the Northern District of Illinois, and the Northern District of California.

Some cases would not move, however. Foreign defendants would get relief only 5% of the time—primarily in cases in which they were defendants with non-local U.S. companies. There were very few of these cases as most foreign companies were either sued on their own or were sued with companies located in the district.

2. *Impact on Plaintiffs*

We found that not only would defendants experience venue reform differently, but so would plaintiffs, both NPEs and operating companies.

a. *NPE Plaintiffs*

In general, university, small company, and individual NPE plaintiffs would experience less dislocation than would PAEs, as illustrated in Table 9. In fact, the universities and non-profits would not have to change where they sued at all, and individuals would have to move their suits to a lesser degree than operating companies. But the differences between NPEs were much more dramatic under the VENUE Act: While 55% of PAEs would have to move their suits, only 18% of individual and 21% of small company NPEs would have to do so. Operating companies would have to move their suits

201. Also known as their primary place of business.

18% of the time. While these differences are dramatic, they are not surprising. Individuals and failed small companies lack the sophistication, resources, and favorable economies of scale that drive PAEs to file in the Eastern District of Texas. Universities likely also prefer to sue in their hometown, and because they do research there, the VENUE Act permits them to do so. But PAEs cannot do so; to the extent that individuals, small companies, and universities are asserting their patents with the help of PAEs, limits on PAEs also indirectly limit their options. This might channel lawsuits away from PAEs and into inventor-owned companies.

TABLE 9: IMPACT OF VENUE REFORM BY PLAINTIFF TYPE

Plaintiff Type	Number of Associated Defendants	VENUE	<i>TC Heartland</i>
University/Other Non-Profit	5	0%	0%
NPE (Individual)	174	18%	41%
NPE (Patent Assertion Entity)	222	55%	59%
NPE (Small Company)	192	21%	54%
Operating Company	241	18%	51%

b. Operating Company Plaintiffs (Under *TC Heartland* Reform)

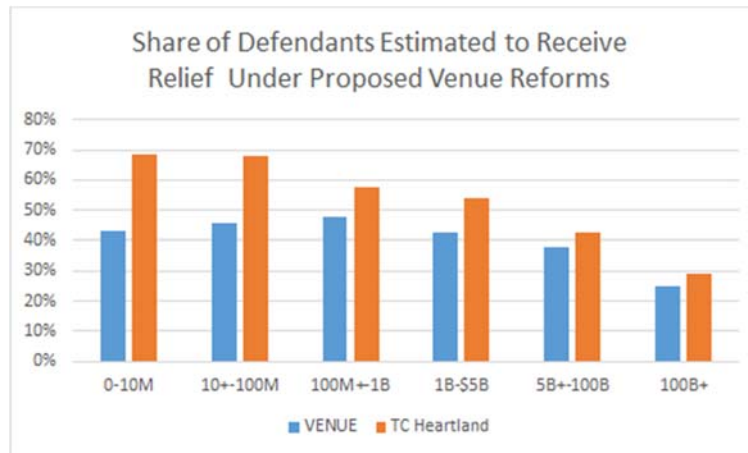
Though operating company plaintiffs would only move 18% of their cases under the VENUE Act, 51% of their cases would have moved under *TC Heartland*. Among the plaintiffs, those with a principal place of business in the Eastern District of Texas would be the most impacted. More than two-thirds of plaintiffs located there would have had to file their cases in another district. Most of these are NPEs, though a handful of operating companies were also affected by the model. Among operating companies, about one-third of foreign plaintiffs would have had to choose a different district. Virtually all of the cases filed by operating companies located in Washington, Utah, and Illinois would have to file their cases elsewhere.

B. Which Defendants (by Size) Would Benefit Most from Venue Reform?

Companies of all sizes would be impacted by venue reform but non-uniformly. We generally find that smaller defendants (as defined by revenue) would benefit more from venue reform than larger defendants. For example, Table 10 and Figure 1 show that cases against defendants making less than \$10 million in revenue would get venue relief 43%–69% of the time (under VENUE and *TC Heartland* reform, respectively) while cases against defendants making more than \$100 billion would get relief only 25%–29% of the time. It should be noted that, in the case of VENUE reform, companies of all sizes (up to \$5 billion, at least) would be impacted by reform by about the same amount. That is, company size makes less of a difference under the VENUE Act, at least up to a certain point.²⁰²

That small companies would benefit more from venue reform makes sense because their smaller footprints subject them to venue in fewer districts under proposed reforms. In strongest contrast, a case against large retailers that have a presence in many if not all districts would not need to be moved if the retailer had a location in the district of suit.

FIGURE 1:



First Column: Venue, Second Column: TC Heartland

202. Table D in the Appendix provides more information.

TABLE 10:

Share of Defendants Impacted by Venue Reform			
Revenue of D	Number of Ds	VENUE	<i>TC Heartland</i>
0-10M	182	43%	69%
10+-100M	174	45%	68%
100M+-1B	222	48%	58%
1B-5B	192	43%	54%
5B+-100B	241	38%	43%
100B+	48	25%	29%

Another clear takeaway is that *TC Heartland* reform will likely benefit smaller defendants more than VENUE Act reform would. That is because small defendants sued by operating company plaintiffs were less likely to see a venue change under the proposed VENUE Act than the rule post *TC Heartland*.²⁰³ The correlation between number of employees and share of cases that would move was less linear, but it remains the case that defendants with the largest number of employees had the lowest chance of having their cases moved.²⁰⁴

C. Which Defendant Industries Would Benefit Most from Venue Reform?

Different industries would see different effects of venue reform.²⁰⁵ Table 11 shows the modeled changes associated with different defendant industry segments. If the future follows the past, *TC Heartland* will provide venue relief to over 50% of the defendants in all major sectors except finance and biopharma. Table 11 projects that the defendant industries that would experience the greatest relief, as estimated based on the proportion of cases that would need to migrate away from current venues, under *TC Heartland* would be services, finance, and tech.

203. All differences below \$5 billion were statistically significant ($p < .001$).

204. See Appendix Table D (estimating the percent of case movement based on revenue and employees).

205. Industry is based on SIC Codes combined with an analysis of company business to further narrow defendants into relevant categories.

TABLE 11: ESTIMATED EFFECTS OF VENUE REFORM BY BROAD DEFENDANT INDUSTRY

Industry	Defendants	<i>TC Heartland</i>	Venue Act
Services	37	65%	54%
Tech	378	62%	48%
Manufacturing	188	60%	34%
Other	117	52%	38%
Retail	160	51%	39%
Finance	71	46%	51%
Biopharma	144	44%	33%

Under the VENUE Act, the defendant industries that would experience the least amount of relief, based on the same methodology, are biopharma, manufacturing, and other industries, including transportation and education products.²⁰⁶ These industries have many branches in different locations. As a result, they are more likely to be found in one of the districts that plaintiffs might prefer. Also on this list are pharmaceutical and drug companies. In those cases, however, the low likelihood of change is due more to the plaintiff's selection of a convenient district than it is to a branch location in, say, the Eastern District of Texas.

At the granular level, high-tech (which includes computer and electronics companies), printing, and business support (which includes internet-based service providers) defendants would be more likely to receive relief from venue reform.²⁰⁷ Companies in these industries typically have one or two business locations but otherwise would likely need to be sued in their home districts. Consumer and industrial goods manufacturers are similar because their products are made in one place and then shipped to other locations.

As before, the percentages of "dislocated" cases are lower across the board under the VENUE Act, and the differences between industries are less pronounced. That said, the percentages of affected cases remain higher in the software, high-tech, printing, and business support industries. These industries see a higher proportion of NPE cases, and NPE plaintiffs do not generally get the choice of venue that other plaintiffs do.

D. How might TC Heartland boost the Patent Pilot Program?

One unexpected beneficiary of TC Heartland might be the Patent Pilot program, a 10-year Congressional initiative enacted as part of the America Invents Act that allows cases to be funneled to districts and judges that opt

206. Appendix Table E provides more granular industry breakdowns.

207. See Appendix Table E.

into the program.²⁰⁸ The idea was to allow plaintiffs to choose venues where judges were experienced, and welcomed, rather than dreaded patent cases.²⁰⁹ But because of the forum issues described above, over the past five years, plaintiff's choices have arguably been driven largely by the lure of procedural benefits rather than substantive expertise. A study by Amy Semet has found that during this time, while judges that do not like patent cases arguably have been able to more easily avoid them, pilot judges have not achieved greater success on appeal.²¹⁰ With the change to venue law, the expertise and specialization offered by the Patent Pilot program may well be more of a deciding factor for plaintiffs with options about where to file, enabling the promise of realizing the potential of trial court specialization to be more thoroughly tested.

V. CONCLUSION

This Article examined the concentration of cases in the Eastern District of Texas and explores how changing venue rules might affect that concentration of cases. It considered where parties have been sued, where they would be sued under different rules, and which types of parties will be affected. It found that every type of plaintiff tends to sue in its preferred district, which is usually not where the defendant is located. It also examined how proposed reforms might change this behavior, particularly as to the Eastern District of Texas. Court reform—the *TC Heartland* opinion—goes the farthest; we found that both NPEs and non-NPEs would not have been properly venued in most of their cases under Section 1400(b). We also found that the reforms Congress is contemplating would impact product and service plaintiffs less than NPEs. The normative takeaways from this exercise will surely depend on viewpoint, as well as assumptions about where plaintiffs would choose to file or whether they would file at all under a new system. But as venue reform rolls out, this Article has shown who will be affected, where they are currently filing cases, and where they could have filed in an alternate world.

The analysis presented here is largely static, so we take a moment to discuss the possible dynamic impacts on litigant behavior. First, patent assertion entities may adapt their behavior, focusing on foreign defendants and defendants with large footprints, like retailers and their customers. Calls for

208. See, e.g., Randall R. Rader, *Addressing the Elephant: The Potential Effects of the Patent Cases Pilot Program and Leahy-Smith America Invents Act*, 62 AM. U. L. REV. 1105, 1106–07 (2013).

209. *Id.*

210. Amy Semet, Patent Law Differences Among the Federal District Courts: A Review of the Patent Pilot Project at the Five Year Mark (unpublished manuscript), http://scholar.princeton.edu/sites/default/files/amysemet/files/semet_amy_patent_paper.docx (finding, based on a careful five-year review, that, “the pilot program has not yet achieved its aims and that specialized judges do not have greater success on appeal.”)

customer stay or other provisions may become more urgent. Patentholders—operating companies as well as patent assertion entities—may lobby for a more moderate rule. If the pre-Heartland rule was plaintiff friendly, the post-Heartland rule could be considered defendant friendly, with equity perhaps lying somewhere in between. Unlike *TC Heartland*, which impacts all plaintiffs uniformly, the Senate’s VENUE act, which we also modeled, takes a more surgical approach—impacting a majority (54%) of NPE cases, we found, but only a small minority (14%) of non-NPE cases. Third, other problems could remain unresolved or get worse. The best options the smallest defendants now have, while less expensive than litigating in Texas, still cost tens or hundreds of thousands of dollars and a lot of stress, making nuisance settlement attractive. The smallest plaintiffs likewise can’t afford to defend against challenges to their patent and will have fewer options to sell their patents.

Poor patent quality as well as changes in the law are expensive to keep up with, placing the smallest parties at a disadvantage. How we encourage innovation in the patent system through technology transfer, licensing, and commercialization, and not litigation should remain in view of policymakers.

APPENDIX

TABLE A: DATA SOURCES AND COMMENTS

Data	Primary Data Source	Comments
1,000 2015 cases selected at random	Lex Machina	Final cases reflect slight skew to NPE cases (71% in sample ²¹¹ versus 67% overall ²¹²), but are representative of venue distribution
Plaintiff status codings (e.g., NPE, OpCo, Individual)	Unified Patents	
Party Place of Incorporation and Primary Place of Business	Complaints	Supplemented with website research
Place of Business with R&D or manufacturing nexus to the invention	ReferenceUSA, Innography	Supplemented with website research and Hoovers
Revenue, Employee Size, Industry	ReferenceUSA, Lexis company databases, including Dun & Bradstreet and Hoovers	Supplemented with website research and third party industry classifications (e.g., Manta)

TABLE B: DISTRIBUTION OF SAMPLED 2015 CASES, BY BROAD DEFENDANT INDUSTRY

Defendant Industry	Number of Ds	NPE Defendants	NPE%
Finance	71	71	100%
Tech	378	324	86%
Retail	160	118	74%
Services	37	27	73%
Other	117	85	73%
Manufacturing	188	96	51%
Biopharma	144	47	33%
Total (including N/As)	1128	777	69%

211. These figures come from the Authors' analysis.

212. *2015 Patent Dispute Report*, *supra* note 13, at fig.7.

TABLE C: INDUSTRY CONCORDANCE²¹³

Detailed Industry (generally based on SIC)	Broad Industry
Building/Tools	Manufacturing
Business Support	Services
Clothes Manufacturing	Manufacturing
Communication Services	Tech
Consumer Goods	Manufacturing
Education	Other
Farms/Food	Other
Financial	Finance
Fitness/Entertainment	Other
High-Tech	Tech
Industrial Goods	Manufacturing
Medical	Biopharma
Oil & Gas	Manufacturing
Paper/Printing	Manufacturing
Pharma	Biopharma
Retail	Retail
Software	Tech
Sports Manufacturing	Manufacturing
Transportation	Other

213. Derived primarily from NAICS codes provided by Manta and Reference USA. See Table A, *supra* for additional sources.

TABLE D: ESTIMATED PERCENT OF CASE MOVEMENT BASED ON REVENUE AND EMPLOYEES²¹⁴

	N	Heart-land	VENUE Act	Em- ployees	N	Heart-land	VENUE Act
\$0-\$299,999	14	57%	43%	1-9	79	67%	39%
\$300,000-\$999,999	28	68%	39%	10-24	70	64%	39%
\$1,000,000-\$4,999,999	86	67%	42%	25-49	63	65%	43%
\$5,000,000-\$9,999,999	51	73%	43%	50-100	60	72%	52%
\$10,000,000-\$24,999,999	59	66%	47%	100-199	60	72%	47%
\$25,000,000-\$99,999,999	113	68%	47%	200-499	77	65%	51%
\$100,000,000-\$299,999,999	111	66%	50%	500-999	72	57%	44%
\$300,000,000-\$999,999,999	114	53%	46%	1000-1999	71	61%	55%
\$1,000,000,000-\$4,999,999,999	193	53%	42%	2000-4999	90	61%	52%
\$5,000,000,000-\$19,999,999,999	136	41%	38%	5000-9999	84	51%	36%
\$20,000,000,000-\$99,999,999,999	104	46%	38%	10000-19999	77	42%	36%
\$100,000,000,000+	50	28%	24%	20000-49999	87	49%	44%
Not Available	69	55%	29%	50000-99999	52	38%	33%
				100000-249999	86	41%	36%
				250000+	30	20%	10%
				Not Available	70	53%	29%

The “not available” category contains mostly individuals, along with the few companies for which we could find no data.²¹⁵

214. Derived primarily from Reference USA. See Table A, *supra* for additional sources.

215. One should not assume that companies without data are small. Some were large international firms.

TABLE E: ESTIMATED EFFECTS OF VENUE REFORM BY DETAILED DEFENDANT INDUSTRY

	N	<i>Heartland</i>	VENUE Act
Building/Tools	25	48%	28%
Business Support	37	65%	54%
Clothes Manufacturing	26	42%	27%
Communication Services	52	38%	33%
Consumer Goods	45	69%	36%
Education	3	67%	67%
Farms/Food	49	49%	35%
Financial	71	46%	51%
Fitness/Entertainment	6	67%	50%
High-Tech	219	64%	48%
Industrial Goods	36	56%	22%
Medical	41	66%	49%
Oil & Gas	11	64%	55%
Paper/Printing	24	71%	63%
Pharma	103	35%	27%
Retail	160	51%	39%
Software	107	71%	57%
Sports Manufacturing	21	67%	24%
Transportation	59	53%	39%