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IP LITIGATION IN UNITED STATES DISTRICT COURTS: 1994 TO 2014

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ABSTRACT

This article undertakes a broad-based empirical review of Intellectual Property (IP) litigation in United States federal district courts from 1994 to 2014. Unlike the prior literature, this study analyzes federal copyright, patent and trademark litigation trends as a unified whole. It undertakes a systematic analysis of the records of more than 190,000 cases filed in federal courts and examines the subject matter, geographical and temporal variation within federal IP litigation over the last two decades.

This article analyzes changes in the distribution of the IP litigation over time and their regional distribution. The key findings of this article stem from an attempt to understand long-term patterns in the filing data as well as short-term deviations from various trends. This data-driven approach has yielded insights in relation to such diverse topics as Internet filesharing litigation, the true impact of patent trolls on the level of patent litigation, and the extent of forum shopping and forum selling patent litigation. Just as importantly, this article lays the foundation for planning and evaluating future empirical studies of IP litigation with a narrower focus. Many of the results and conclusions herein demonstrate the dangers of basing empirical conclusions on narrow slices of data from selected regions or selected time periods.

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INTRODUCTION

Intellectual property (IP) law in the United States has changed dramatically in the last two decades. Advances in digital technology, the commercialization of the Internet, and the invention of entire new fields of human activity, such as e-commerce and biotech, have driven changes in the substance of copyright, patent and trademark law and have also increased the significance of those fields. There is no shortage of normative legal scholarship discussing, debating and assessing these tectonic shifts; there is, however, almost no academic literature assessing the long-term trends in intellectual property litigation from an empirical perspective.[1] This article seeks to fill that gap. More than 190,000 individual copyright, patent and trademark cases were filed in United States District Courts in the period of this study, from 1994 to 2014.[2] This article synthesizes and analyses this data and examines the subject matter, geographical and temporal variation within federal intellectual property litigation.

To the extent that legal scholars undertake any empirical studies at all, they are usually confined to an analysis of litigation outcomes in decided cases. Analyzing all of the decided cases in an area is an improvement on simply reading the Supreme Court and Court of Appeals decisions, but it does not go far enough. After all, why study only those disputes that generate written opinions when we know that most civil cases settle, or are otherwise terminated, without a written opinion?[3] The majority of cases filed in

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[1] One of the few long-term studies of IP litigation across more than one field is William M. Landes, *An Empirical Analysis of Intellectual Property Litigation: Some Preliminary Results*, 41 HOUS. L. REV. 749 (2004) (analyzing annual summary data on trademark, copyright, and patent litigation from 1978-2000, focusing on win rates and the number of trials).

[2] The federal courts have exclusive jurisdiction over copyright and patent cases, however cases arising under the Federal Lanham Trademark Act are subject to concurrent federal and state jurisdiction. As the McCarthy treatise notes, "As a matter of litigation strategy, however, most plaintiffs appear to bring such cases in the federal courts, perhaps on the assumption that federal judges are more likely to be familiar with problems of trademark infringement under a federal statute." 6 MCCARTHY ON TRADEMARKS AND UNFAIR COMPETITION § 32:1 (4th ed.)

[3] George L. Priest and Benjamin Klein, *The Selection of Disputes for Litigation*, 13 J. LEGAL STUDIES 1 (1984). David A. Hoffman, Alan Izenma, and Jeffery Lidicker make a compelling argument that we should study dockets and think more seriously about why some filed cases generate written opinions and others do not. See, David A. Hoffman, Alan Izenma, and Jeffery Lidicker, *Docketology, District Courts, and Doctrine*, 85 WASH. UNIV. L. REV. 681 (2007).

federal courts do not result in anything that a first year law student would recognize as a case, yet these filings are very much part of the machinery of the law in action.

The premise of this article is that if we truly want to understand IP litigation we need to examine the proverbial 'haystack' of infringement actions that are actually filed, in addition to the proverbial 'needles' of well-reasoned appellate or even district court opinions. Looking at the world from a large-n empirical perspective is no substitute for the close reading of cases, but it is a useful and at times essential complement. In pursuit of this complementary understanding, this study examines the entire universe of copyright, patent and federal trademark cases filed in US Federal Courts over an extended time period, from 1994 to 2014.

This article makes a number of significant contributions to our understanding of IP litigation. It analyzes time trends in copyright, patent and trademark litigation filings at the national level, but it does much more than simply count the number of cases; it explores the meaning behind those numbers and shows how in some cases the observable headline data can be positively misleading. Exploring the changes in the distribution of IP litigation over time and their regional distribution leads to a number of significant insights, these are summarized below. Just as importantly, one of the key contributions of this article is that it frames the context for more fine-grained empirical studies in the future. Many of the results and conclusions herein demonstrate the dangers of basing empirical conclusions on narrow slices of data from selected regions or selected time periods.

Some of the key findings of this study are as follows. First, the rise of Internet filesharing has transformed copyright litigation in the United States.[4] More specifically, to the extent that the rate of copyright litigation has increased over the last two decades, that increase appears to be almost entirely attributable to lawsuits against anonymous Internet file sharers. These lawsuits largely took place in two distinct phases: the first phase largely consisted of lawsuits seeking to discourage illegal downloading; the second phase largely consists lawsuits seeking to monetize online infringement.

Second, in relation to patent litigation, the apparent patent litigation *explosion* between 2010 and 2012 is something of a mirage; however there

[4] See *infra*, Part II-B.

has been a sustained patent litigation *inflation* over the last two decades the extent of which has not been fully recognized until now.[5] The reason why this steady inflation was mistaken for a sudden explosion was that the true extent of patent litigation was disguised by permissive joinder, a practice that was suddenly curtailed by patent reform legislation passed in 2011.[6]

Third, in relation to the geography of IP litigation, it appears that filings in copyright, patent and trademark litigation are generally highly correlated.[7] The major exceptions to that correlation are driven by short term idiosyncratic events in copyright and trademark litigation—these are discussed in detail—and by the dumbfounding willingness of the Eastern district Texas to engage in forum selling to attract patent litigation.[8] The popularity of the Eastern District of Texas as a forum for patent litigation is a well-known phenomenon. However, the data and analysis presented in this study provides a new way of looking at the astonishing ascendancy of this district and the problem of form shopping in patent law more generally.

The structure of this article is as follows. Part I situates this study in the context of the broader literature on empirical studies of IP and explains the methods and data used. Part II examines the changing composition of IP litigation at a national level over the past two decades. Part III addresses regional variations in IP litigation.

PART I METHODOLOGY AND PRIOR LITERATURE

A. Prior Literature

Empirical studies of IP litigation are most advanced in the field of patent law. These studies primarily examine particular areas of doctrine,[9] but they also include several important studies of patent litigation trends more

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[5] See *infra*, Part II-C.

[6] *Id.*

[7] See *infra*, Part III-A.

[8] See *infra*, Part III-B and Part III-C, respectively.

[9] For a recent example, see J. Jonas Anderson & Peter S. Menell, *Informal Deference: A Historical, Empirical, and Normative Analysis of Patent Claim Construction*, 108 NW. U. L. REV. 1 (2014) (analyzing claim construction from the Federal Circuit between 2000 and 2011).

generally.[10] A number of private data providers also publish summary statistics on patent litigation.[11] The same depth of analysis has not been reached with respect to copyright or trademark, but there are some important studies in these fields as well.[12] There are very few observational studies of copyright or trademark litigation as such,[13] and almost none

[10] See e.g., Jay P. Kesan & Gwendolyn G. Ball, *How Are Patent Cases Resolved? An Empirical Examination of the Adjudication and Settlement of Patent Disputes*, 84 WASH. U. L. REV. 237 (2006); John R. Allison, Mark A. Lemley & David L. Schwartz, *Realities of Modern Patent Litigation*, TEX. L. REV (forthcoming) (Analyzing outcomes in all patent lawsuits filed in a federal district court between January 1, 2008 and December 31, 2009); Christopher A. Cotropia, Jay P. Kesan & David L. Schwartz, *Unpacking Patent Assertion Entities (PAEs)*, MINN. L. REV. (forthcoming) (conducting a detailed review of the entity status of patent litigants in 2010 and 2012 to determine whether "patent troll" litigation is in fact increasing).

[11] Lex Machina provides access to cleaned and verified PACER data for district court patent litigation, see http://www.lexmachina.com. See also, Docket Navigator, http://home.docketnavigator.com/overview/

[12] There are several excellent empirical studies related to copyright outside the context of litigation. For example: Peter DiCola, *Money from Music: Survey Evidence on Musicians' Revenue and Lessons About Copyright Incentives*, 55 ARIZ. L. REV. 301 (2013); Christopher Buccafusco & Christopher Jon Sprigman, *The Creativity Effect*, 78 U. CHI. L. REV. 31 (2011); Paul J. Heald, *Property Rights and the Efficient Exploitation of Copyrighted Works: An Empirical Analysis of Public Domain and Copyrighted Fiction Bestsellers*, 92 MINN. L. REV. 1031, 1046-50 (2008).

[13] See Generally, Matthew Sag, *Empirical Studies of Copyright Litigation*, in PETER S. MENELL & DAVID L. SCHWARTZ (eds.), RESEARCH HANDBOOK ON THE ECONOMICS OF INTELLECTUAL PROPERTY LAW (Vol. II -- ANALYTICAL METHODS) (Edward Elgar Publishing, forthcoming 2016). Empirical studies of copyright litigation include, Barton Beebe, *An Empirical Study of U.S. Copyright Fair Use Opinions, 1978-2005*, 156 U. PENN. L. Rev. 549 (2008) (fair use cases 1978-2005); Neil Weinstock Netanel, *Making Sense of Fair Use*, 15 LEWIS & CLARK L. REV. 715 (2011) (fair use cases 2006-2010); Deborah R. Gerhardt, *Copyright Publication: An Empirical Study*, 87 NOTRE DAME L. REV. 135 (2011) (empirical study of 446 copyright decisions reported addressing publication); Matthew Sag, *Predicting Fair Use*, 73 OHIO ST. L.J. 47 (2012) (district court fair use cases 1978-2010); Jiarui Liu, *Copyright Injunctions After Ebay: An Empirical Study*, 16 LEWIS & CLARK L. REV. 215 (2012) (empirical study based of reported copyright-injunction decisions during the period from May 15, 2006 to June 1, 2010); Katherine Lippman, *The Beginning of the End: Preliminary Results of an Empirical Study of Copyright Substantial Similarity Opinions in the U.S. Circuit Courts*, 2013 MICH. ST. L. REV. 513, 535 (2013) (empirical study of 234 reported appellate court opinions ruling on the issue of substantial similarity in copyright law). Empirical studies of trademark litigation include, Barton Beebe, *An Empirical Study of the Multifactor Tests for Trademark Infringement*, 94 CAL. L. REV. 1581 (2006) (empirical study of reported federal district court trademark opinions applying a multifactor test for the likelihood of consumer confusion, 2000-2004. There are, of course, authors who have simply read and synthesized all the relevant cases in an area without

analyzing filing data as opposed to reported decisions.[14]

B. Methods and Data

Rather than focusing on just one area of doctrine, or just one area of IP, this article adopts a broader perspective and incorporates data relating to copyright, patent and federal trademark claims. The first reason that this more expansive approach is appropriate is that intellectual property is, essentially, a unified field. This is true economically, as a matter of legal practice and as a matter of academic inquiry. From an economic perspective, businesses in knowledge-based fields may rely more on one form of IP protection than the others, but in these days of business method patents and ubiquitous branding, it is quite unusual for that focus to be exclusive. From a legal perspective, copyright, patent and trademark each involve specialized knowledge—and in the case of patent, require specialized qualifications—however they are more often than not combined as practice areas within law firms. From an academic perspective, intellectual property law in the United States is a cohesive community—almost every law school offers an IP survey course and the conferences organized around IP in general, as opposed to copyright, patent or trademark specifically, are invariably the most well attended. One of the objectives of this article is to understand trends in copyright, patent and trademark litigation not merely as three isolated phenomena but in relation to each other and as part of a unified whole.[15]

The second reason to undertake a contemporaneous study of litigation behavior across the entire field of federal IP claims is that trends in one

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resorting to tables, graphs or equations, see e.g. Pamela Samuelson, *Unbundling Fair Uses*, 77 FORDHAM L. REV. 2537 (2009).

[14] The only ones this author is aware of are, Landes, *supra* note 1, and a recent article by Christopher Cotropia and James Gibson which itself notes that "Empirical studies of copyright litigation are almost completely nonexistent."). See Christopher A. Cotropia & James Gibson, *Copyright's Topography: An Empirical Study of Copyright Litigation*, 92 TEX. L. REV. 1981, 1982 (2014).

[15] There is an ongoing debate about the history of the term "Intellectual Property" and the normative implications of using IP as an umbrella term for the distinct fields of copyright, patent and trademark law. See e.g., Mark A. Lemley, *Romantic Authorship and the Rhetoric of Property*, 75 Tex. L. Rev. 873, 895-96 (1997); Mark A. Lemley, *Property, Intellectual Property, and Free Riding*, 83 TEX. L. REV. 1031 (2005); Justin Hughes, *Copyright and Incomplete Historiographies: Of Piracy, Propertization, and Thomas Jefferson*, 79 S. Cal. L. Rev. 993 (2006); Justin Hughes, *A Short History of "Intellectual Property" in Relation to Copyright*, 33 CARDOZO L. REV. 1293 (2012).

subject matter are easier to see when they are contrasted against the others. This is particularly applicable to understanding geographic variation in IP litigation. As discussed in Part III-C, one way of measuring forum shopping in patent litigation is to compare a district's rank order in terms of patent litigation to its combined ranking for copyright and trademark litigation.

A third reason to take the broad view is that many cases are both copyright and trademark, or copyright and patent, or patent and trademark, etc. The Nature of Suit ("NOS") coding in the Public Access to Court Electronic Records ("PACER") database[16] is the basis of all federal caseload statistics produced by the federal judiciary.[17] Litigants only file under one NOS code and that code determines the suit's subject matter classification in PACER. Relying on the NOS coding is satisfactory for many purposes, but it may lead to a systematic bias and undercounting for others.[18] As I have shown in previous work, the NOS code for copyright captures about 80% of district court written opinions that have something to do with copyright.[19] Of the remaining 20%, almost half were filed under the NOS code for trademark and a quarter were filed under the NOS code for patent.[20]

C. Data

The primary source of data for this article is the records of federal litigation maintained by the Public Access and Records Management Division of the

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[16] PACER or Public Access to Court Electronic Records is an electronic public access service that allows users to obtain case and docket information from Federal Appellate, District and Bankruptcy courts. PACER is maintained by the Administrative Office of the U.S. Courts, PACER Service Center. PACER stands for "Public Access to Court Electronic Records", see http://pacer.psc.uscourts.gov/.

[17] Administrative Office of the U.S. Courts, PACER Service Center, Frequently Asked Questions, available at http://www.pacer.gov/psc/faq.html. A complete list of NOS codes is available at http://www.pacer.gov/documents/natsuit.pdf.

[18] See generally Matthew Sag, *Empirical Studies of Copyright Litigation: Nature of Suit Coding* (Loyola Univ. Chi. Sch. of Law, Pub. Law & Legal Theory, Research Paper No. 2013-017), available at http://papers.ssrn.com/ sol3/papers.cfm?abstract_id=2330256.

[19] The universe of cases was determined by searching the Lexis district court database for all cases within a specific date range with word "copyright" and then reviewing each case to determine whether it actually addressed a claim of copyright infringement. *Id.*

[20] *Id.* The remaining quarter were filed under a almost ever category imaginable including: Contract, Cable/Sat TV, Other Statutory Actions, Insurance, Assault, Libel, & Slander, Other Personal Property Damage, Civil Rights, Fraud, Personal Injury and even some criminal filings. *Id.*

Administrative Office of the U.S. Courts, available on the PACER website.[21] The 192,524 court records[22] in this study come from federal IP cases filed in 94 U.S. federal district courts in all 50 states plus the District of Columbia, Puerto Rico, the Virgin Islands, Guam, and the Northern Mariana Islands between 1994 and 2014.[23] The PACER data was verified against the database maintained by Bloomberg Law.[24]

These data sources have been supplemented with extensive additional coding to identify, among other things, the number of unique parties in each case, cases against unnamed, anonymous and other "John Doe" defendants, and copyright cases where the subject matter is pornography.[25]

PART II TIME TRENDS IN FEDERAL COPYRIGHT, PATENT AND TRADEMARK LITIGATION

This Part examines trends in the composition of federal IP litigation since 1994, first in terms of subject matter variation over time, and second in terms of regional variation.

A. Subject Matter Variation in General

From January 1, 1994 to December 31, 2014, U.S. district courts have seen an average of 9,167 IP cases filed every year. Over that period, copyright and patent cases made up 31% of the federal IP caseload each and trademark has averaged about 38%. However, these generalizations conceal significant year-to-year variation and a marked long-term trend of

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[21] See https://www.pacer.gov/about.html. For convenience, and to correct errors and discrepancies, this data was converted into a Stata file and extensively scrubbed. Most discrepancies are attributable to the litigants' inability to spell company names consistently. Complete replication files are available from the author upon request. For the reasons explained in Part II, infra, patent false marking cases were excluded for cases filed in 2010.

[22] The data herein is based on the summary information for each case filed. I have not read or independently processed the millions of individual litigation documents that are associated with this set of over 190,000 cases.

[23] This excludes 653 patent false marking claims filed in 2010. See *infra* note 38 and accompanying text.

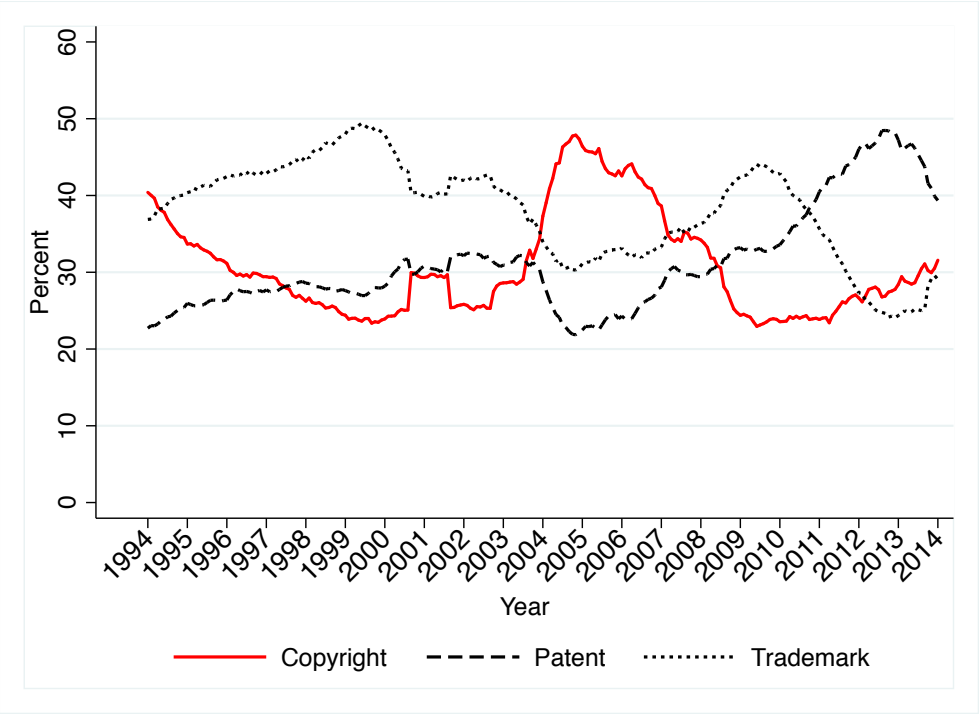
[24] See Appendix A for additional comparison of the Pacer and Bloomberg records.

[25] This data is **[will be]** available on the author's website, www.matthewsag.com under the heading "publications+" and "data sets".

increasing patent litigation, declining trademark litigation and wildly varying rates of copyright litigation.

Figure 1 (below) shows the relative proportions of copyright, patent and trademark cases filed based on a 12 month moving average. At first glance it appears that the proportion of trademark cases is declining while the proportion of patent cases is steadily increasing. In 1994, the relative proportions of copyright, patent and trademark were 40%, 23% and 37%; by 2014 they were 32%, 39% and 29% respectively.

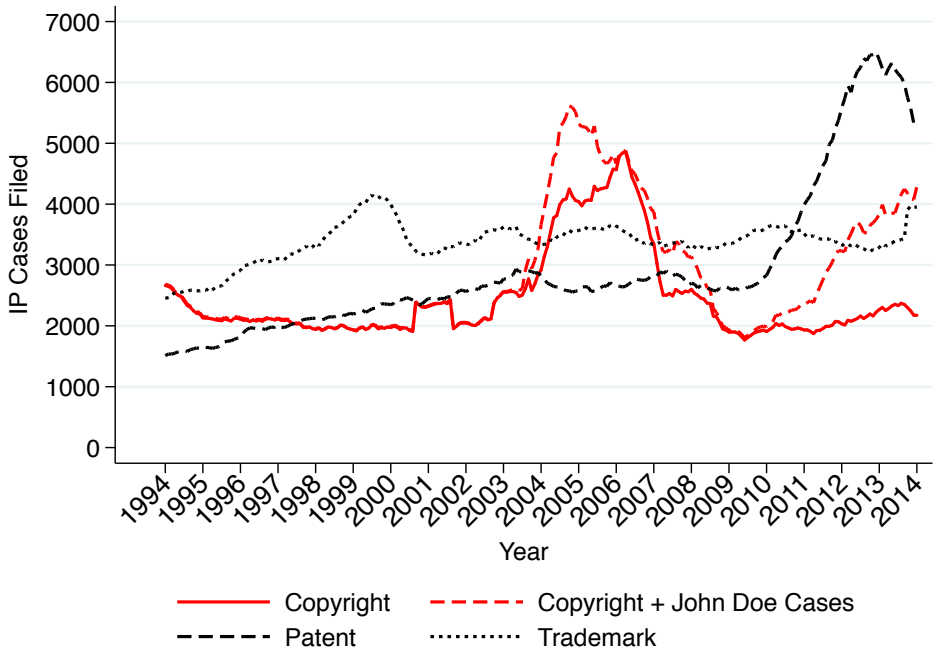
Figure 1: Copyright, Patent and Trademark Filings 1994—2014 (Percent)



Twelve month moving average of percent of Federal IP litigation. Source: Administrative Office of the U.S. Courts, PACER records, 1994—2014.

Figure 2 (below) displays the same underlying data in terms of the raw number of cases filed (displayed as a 12 month moving average), distinguishing between copyright, patent and trademark filings. This figure also shows the number of copyright cases including (dashed red line) and excluding (solid red line) cases filed against John Doe defendants.

Figure 2 Copyright, Patent and Trademark Filings 1994—2014 (Cases)



Twelve month moving average of cases filed. Source: Administrative Office of the U.S. Courts, PACER records, 1994—2014.

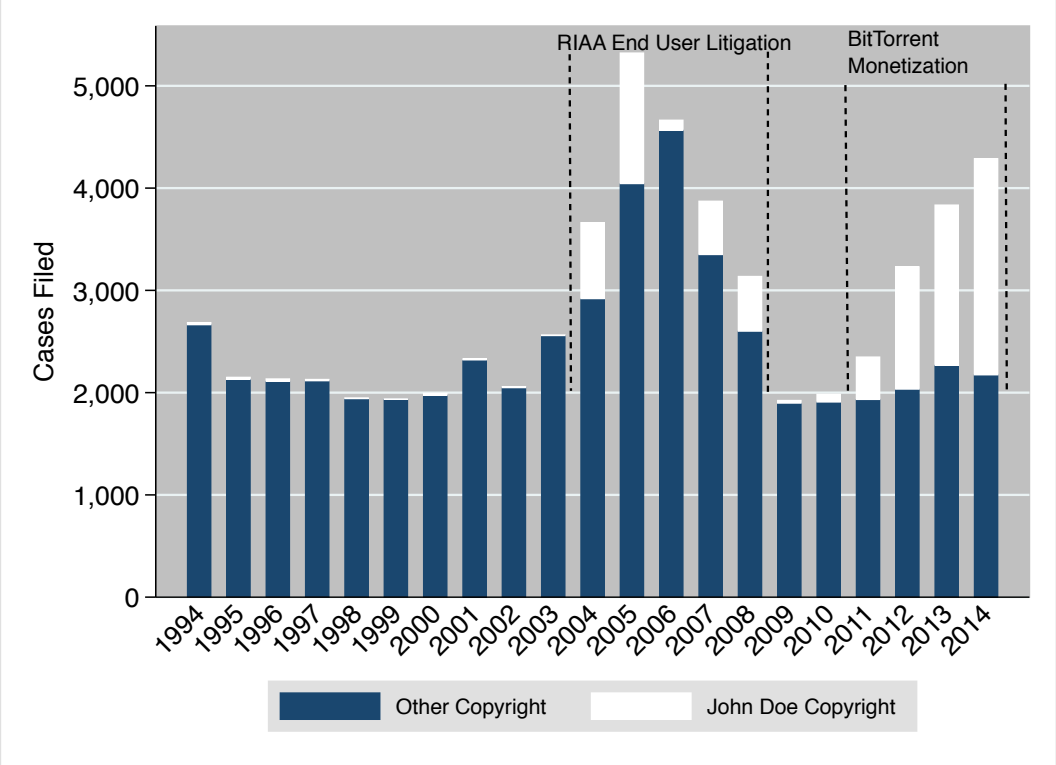
As this figure shows, the annual rate of trademark litigation has varied within a much narrower band than copyright or patent. This figure also shows the threefold increase in the number of patent suits filed per year from 1994 to 2013. The other trend revealed in Figure 2 is that, but for litigation against the uses of Internet filesharing software (the John Doe cases), the annual rate of copyright litigation has been slightly declining for the past 20 years. The remainder of this part explores these two trends — (i) the apparent patent litigation explosion and (ii) the impact of John Doe litigation in copyright — in more detail.

B. Copyright John Doe Litigation

The rise of Internet filesharing has transformed copyright litigation in the United States. Federal district courts are currently inundated with copyright owner lawsuits against "John Doe" or "unknown" or otherwise unidentified

defendants.[26] Figure 3 (below) tracks the occurrence of these John Doe lawsuits from 1994 through 2014.[27] These John Doe lawsuits are almost exclusively related to allegations of illegal filesharing, which explains why they were virtually non-existent prior to 2004.[28]

Figure 3: Copyright Cases Filed in U.S. District Courts (1994—2014)



Source: Administrative Office of the U.S. Courts, PACER records, 1994—2014.

The John Doe phenomena can be segmented into two distinct phases: first, the Recording Industry Association of America (RIAA) End-User Litigation era, 2004—2008; and second, the BitTorrent Monetization era,

[26] This subsection extends the data in my recent empirical study of internet filesharing litigation, see Matthew Sag, *Copyright Trolling, An Empirical Study,* 100 IOWA L. REV. 1005 (2015) (available at SSRN: http://ssrn.com/abstract=2404950).

[27] "John Doe" lawsuits were identified by hand, based initially on the appearance of the words "John Doe" and "Doe" in the case title (in plural and singular form). Cases with titles such as *"___ v. Unknown Parties"* or against defendants identified by IP Address or BitTorrent Swarm Hash were also included.

[28] See Sag, *Copyright Trolling, supra note 26.*

2010—2014. The RIAA announced its intention to target the end-users of filesharing software in 2003, however the litigation only began in earnest in 2004. By the end of 2008 the RIAA's campaign had largely subsided. The "BitTorrent Monetization" era began in 2010 and continues into the present day.

Plaintiffs in these two phases of John Doe litigation adopted essentially the same legal strategy, but with quite different aims. This legal strategy can be reduced to the following:

(1) Observe the unlawful use of BitTorrent (or similar filesharing tools);
(2) Identify the IP addresses of unauthorized downloaders;
(3) File a John Doe lawsuit;
(4) Seek a court order compelling Internet Service Providers (ISPs) to provide individual account holder information matching the IP address;
(5) Contact account holders and threaten to seek very large awards of statutory damages;
(6) Settle as many claims as possible.

In the first wave of John Doe litigation, the RIAA deployed this strategy to "educate" the public about filesharing and to reinforce that education with deterrence.[29] John Doe litigation in the second wave appears to be aimed primarily, if not exclusively, at monetizing infringement—i.e., creating an independent litigation revenue stream that is unrelated to compensation for the harms of infringement and unconcerned with deterrence.[30]

The availability of statutory damages is essential to the infringement monetization strategy. United States copyright law allows a plaintiff to elect statutory damages ranging from $750 to $150,000 for willful copyright infringement, regardless of the extent of the copyright owner's actual damage.[31] This puts copyright plaintiffs in a very different position to

[29] MGM v. Grockster, Inc. 545 U.S. at 963 (Breyer, J., concurring).

[30] Eriq Gardner, *New Litigation Campaign Quietly Targets Tens of Thousands of Movie Downloaders*, HOLLYWOOD REP. (Dec. 21, 2010), http://www.hollywoodreporter.com/blogs/thr-esq/litigation-campaign-quietly-targets-tens-63769. (quoting the attorney for one plaintiff explaining that the purpose of the lawsuit was to "creat[e] a revenue stream and monetize[e] the equivalent of an alternative distribution channels.")

[31] 17 U.S.C. § 504(c). The only prerequisite for statutory damages is copyright registration. 17 U.S.C. § 412 (requiring registration within three months of publication to qualify for awards of statutory damages and attorneys fees).

ordinary torts plaintiffs.[32] While the ordinary torts plaintiff can only hope to receive some approximation of his actual injury, the copyright plaintiff in a filesharing case can reasonably expect damages in the tens of thousands of dollars, if not the hundreds of thousands, even if their actual damages are quite modest.[33] Whereas torts plaintiffs are limited to compensation damages, but the prospect of statutory damages in copyright cases creates the opportunity for something quite different—monetizing infringement. Statutory damages were originally intended to provide a remedy for plaintiffs who had in fact been harmed, but would struggle to prove that harm in court.[34] They were also intended to act as deterrent against infringement.[35] However, there is nothing in the Copyright Act that limits statutory damages to plaintiffs with deterrence or compensation in mind. As the data in Figure 3 shows, beginning in 2010, a few enterprising plaintiffs have recognized this opportunity and developed a cottage industry of monetizing online infringement for its own sake.

Even within the "BitTorrent Monetization" era, the nature of John Doe cases has changed quite significantly in two respects. First, from 2010 to 2012 these cases relied on permissive joinder and were typically filed in the form "*XYZ Copyright Owner v. John Does 1 to 1000*". District Court judges appear to have grown more skeptical of the propriety of litigation in this form over time, and consequently the average number of John Does per suits has been declining. As seen in Table 1 (below), in 2010 the average number of John Doe defendants per suit was over 560; by 2014 it was just over 3. 2014 still witnessed the occasional mass-joinder suit, but by this time the model had almost entirely shifted to suits against individual unnamed defendants. Second, although BitTorrent monetization has always

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[32] "Ordinary" in the sense that there is no case for punitive damages. Courts may award punitive damages in some circumstances, but the scope for these has been drastically limited by recent Supreme Court authority. State Farm Mutual Automobile Ins. Co. v. Campbell, 538 U.S. 408 (2003) ("four times the amount of compensatory damages might be close to the line of constitutional impropriety.").

[33] In one case, a jury awarded statutory damages of more than $1.92 million against a defendant who had illegally downloaded about $54 worth of music on a peer-to-peer file-sharing network. Capitol Records v. Thomas-Rasset 579 F. Supp. 2d 1210, 1213, 1227 (D. Minn. 2008). See also, Sony BMG Music Entertainment v. Tenenbaum 593 F. Supp. 2d 319 (D. Mass. 2009).

[34] See, Pamela Samuelson & Tara Wheatland, *Statutory Damages in Copyright Law: A Remedy in Need of Reform*, 51 WM. & MARY L. REV. 439 (2009) at 448 (Summarizing the legislative history of the 1909 Copyright Act.)

[35] See Sag, *supra* note 28.

been closely associated with pornography, the percentage of pornography in the John Doe category has varied from 70% in 2010, 93% in 2011, 85% in 2012, 69% in 2013 and most recently, 88% in 2014.

Table 1 John Doe Copyright Cases 2010—2014

Year	John Doe Suits	Total John Does	Average Does	Percent Pornography
2010	77	43124	560	68
2011	415	61419	148	93
2012	1197	31042	26	85
2013	1586	22291	14	81
2014	2115	6564	3	88

Source: Administrative Office of the U.S. Courts, PACER records, 2010—2014.
John Doe and pornography cases identified by the author.

In a previous article I have criticized the Copyright Office for ignoring this phenomenon,[36] however, in light of the 2014 data it is increasingly apparent that policymakers should be cautious about extrapolating from current trends in this context because the BitTorrent Monetization era cases appear to be inherently idiosyncratic.

Table 2 Top Three Copyright John Doe Plaintiffs 2010—2014

	Plaintiff	Cases	Percent of John Doe	Cumulative Percent
2014	Malibu Media, LLC.*	1705	80.61	80.61
	Dallas Buyers Club, LLC.	178	8.42	89.03
	Good Man Productions, Inc.	98	4.63	93.66
2013	Malibu Media, LLC.*	1,027	64.71	64.71
	TCYK, LLC.	116	7.31	72.02
	Killer Joe Nevada, LLC.	49	3.09	75.11
2012	Malibu Media, LLC.*	333	27.82	27.82
	Patrick Collins, Inc.*	131	10.94	38.76
	AF Holdings, LLC.	124	10.36	49.12
2011	Patrick Collins, Inc.*	88	21.31	21.31
	K-Beech, Inc.*	61	14.77	36.08
	Hard Drive Productions, Inc.*	52	12.59	48.67
2010	IO Group, Inc.*	10	12.99	12.99
	LFP Internet Group, LLC.*	5	6.49	19.48
	Digital Content Protection, LLC.*	4	5.19	24.68

* Lawsuits related to pornography. Source: Administrative Office of the U.S. Courts, PACER records, 2010—2014. John Doe and pornography cases identified by the author.

[36] See Sag, *supra* note 26.

One measure of this idiosyncrasy is the extent to which litigation is driven by a handful of firms. In 2010, as the second wave was beginning, the top three plaintiffs accounted for less than 25% of John Doe lawsuits. In 2011 and 2012, the top three plaintiffs accounted for just under 50% of John Doe cases. In 2013, Malibu Media, alone accounted for 64% of John Doe cases and the top three in that year accounted for more than 75% of such cases. The top three plaintiffs in 2014 account for more than 93% of John Doe litigation filings in copyright.

Illegal filesharing is obviously a widespread problem for the film, television, music and software industries. However, filesharing litigation in the second wave of does not appear to be a broad-based phenomenon. The trend from 2012 to 2014 is one of increasing concentration of plaintiff activity. In fact, the pornography producer, Malibu Media is such a prolific litigant that in 2014 it was the plaintiff in over 41.5% of all copyright suits nationwide. John Doe litigation is not a general response to Internet piracy; it is a niche entrepreneurial activity in and of itself.

C. The Rather Complicated Story of the Patent Litigation Explosion

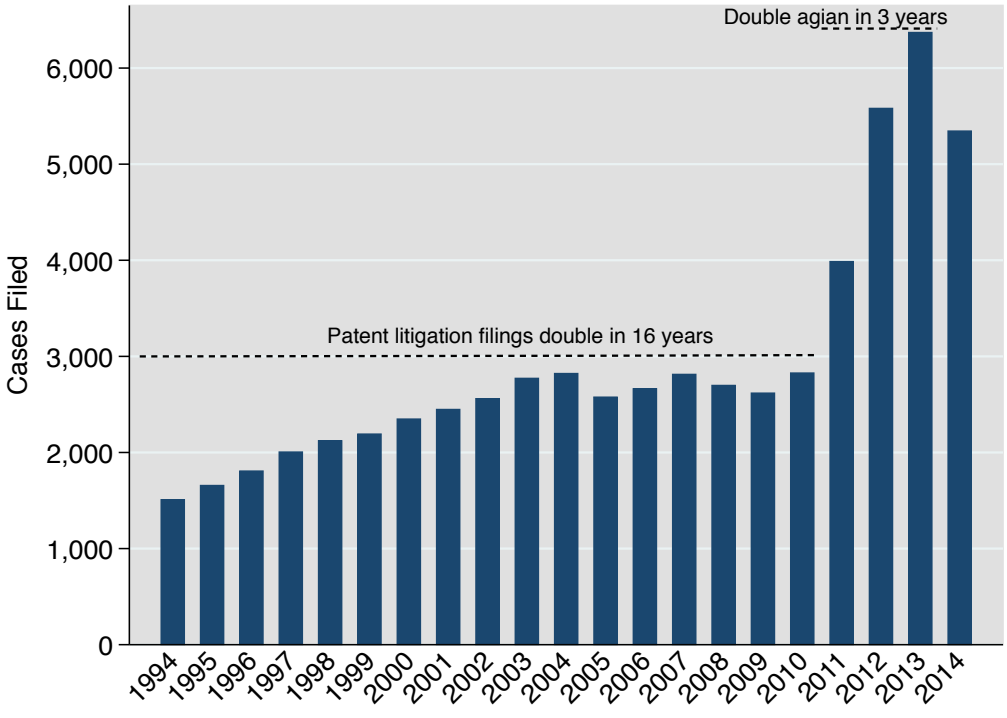
A simple analysis of filing data over the last two decades comports with a popular narrative of the "patent litigation explosion", an explosion some attribute to the actions of patent assertion entities or patent trolls.[37] As depicted in Figure 4 (below), the annual volume of patent litigation in the United States doubled in the 16 years from 1994 until 2010.[38] In the three

[37] EXECUTIVE OFFICE OF THE PRESIDENT, PATENT ASSERTION AND U.S. INNOVATION (June 2013). See also, Colleen Chien, *Patent Trolls by the Numbers* (available at http://www.patentlyo.com/patent/2013/03/chien-patent-trolls.html).

[38] False marking claims were a significant source of patent litigation in 2010 due to an influx of claims in the wake of the Federal Circuit's 2009 decision in Forest Group v. Bon Tool Co. 590 F.3d 1295 (Fed. Cir. 2009). At the time, false marking claims could be brought by any member of the public. The *Bon Tool* case triggered a rush to the courthouse by holding that the civil penalty for false patent marking should be calculated per marked product instead of per category of product. See R. David Donoghue, 2010 WL 4745692 (ASPATORE), 1. Based on Cotropia, Kesan & Schwartz's painstaking review of patent cases filed in 2010 and 2012, there are 653 false marking cases in data collected in this Article for the year 2010, compared to 2,818 other patent cases. Cotropia, Kesan & Schwartz actually identify 666 false marking cases in their data, but only 653 correspond to docket entries in the dataset for this Article. These identified false marking cases have been excluded from the figures reported herein, unless otherwise noted. Data in years prior to 2010 may include some patent false marking cases, but the number is thought to be very low. Cotropia, Kesan & Schwartz identified no false marking cases in 2012. Among many

years from 2010 to 2013 it doubled again. Even before 2011, the rate of increase of patent litigation was considered cause for concern. The recent dramatic increases in patent filings in 2011, 2012 and 2013 intensified that concern, especially in light of a recent government report finding that suits brought by 'patent assertion entities' or non-practicing entities (which to many are synonymous with patent trolls) had tripled between 2010 and 2012.[39]

Figure 4 US Patent Litigation Filings, 1994–2014



Source: Administrative Office of the U.S. Courts, PACER records, 2010—2014.

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recent legislative reforms to patent law, in 2011, standing to bring false marking claims was confined to the U.S. government and entities that have been competitively injured by false marking, thus effectively neutering the category. 35 U.S.C. § 292 (2011). See generally, Christopher Anthony Cotropia, Jay P. Kesan, and David L. Schwartz, *Unpacking Patent Assertion Entities (PAEs)*, 99 MINNESOTA L. REV. 649 (2014).

[39] EXECUTIVE OFFICE OF THE PRESIDENT, PATENT ASSERTION AND U.S. INNOVATION (June 2013). See also, Colleen Chien, *Patent Trolls by the Numbers* (available at http://www.patentlyo.com/patent/2013/03/chien-patent-trolls.html)

But all is not as it seems. In 2011, major patent reform legislation, known as the America Invents Act, (AIA) was passed.[40] The surge in patent filings following the AIA might suggest that this attempt at reform was ineffective or even counterproductive, but as will be explained in more detail below, it is far too early to pronounce upon the AIA on this basis. The reality of the recent increase in patent litigation is far more complicated than simply counting patent cases would suggest. In order to properly assess the effect of the AIA, or the role that non-practicing entities play in patent litigation, we need a better understanding of the underlying data.

Looking at the raw figures in figure 4 (above), there appears to have been an enormous spike in patent litigation in 2012, continuing in 2013 and falling off slightly in 2014. However, this spike is at least partly attributable to an important procedural change brought about by the AIA.[41] Prior to the AIA it was common practice, especially in the Eastern District of Texas, for plaintiffs in patent litigation to join multiple unrelated defendants in a single lawsuit based on a commonly-asserted patent or patents.[42] The AIA ended this ruse and resulted in a nominal explosion of patent infringement lawsuits. In an attempt to debunk the *Troll Fueled Patent Litigation Explosion* narrative, Professors Cotropia, Kesan & Schwartz ("CKS") recently undertook a painstaking review of the entity status of every patent plaintiff for every case filed in 2010 and 2012.[43] They report that the number of unique patentees barely changed between 2010 and 2012 (1588 to 1667), whereas the number of individual cases filed nearly doubled.[44] The CKS project is an excellent start in this regard, but there are limits as to what can be concluded based on just two years of filing data.[45] Replicating this painstaking review for a broader time period of cases would take

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[40] Leahy-Smith America Invents Act (AIA), Pub. L. No. 112-29, 125 Stat. 284 (2011) (codified in scattered sections of 35 U.S.C.).

[41] Leahy-Smith America Invents Act (AIA), Pub. L. No. 112-29, 125 Stat. 284 (2011) (codified in scattered sections of 35 U.S.C.).

[42] Cotropia, Kesan & Schwartz, *supra* note 38. See also Greg Reilly, *Aggregating Defendants*, 41 FLA. ST. U. L. REV. 1011 (2014). See *infra*, Part III-C for further discussion of patent litigation in the Eastern District of Texas.

[43] Cotropia, Kesan & Schwartz, *supra* note 38.

[44] *Id.* See also Robin Feldman, Thomas Ewing, and Sara Jeruss, *The AIA 500 Expanded: The Effects of Patent Monetization Entities* (April 9, 2013). UC Hastings Research Paper No. 45. Available at SSRN: http://ssrn.com/abstract=2247195.

[45] Limits Cotropia, Kesan & Schwartz were well aware of. *Id.* at 697.

considerable time and effort. However, there is more than one way to skin a cat.

The effect CKS describe can also be seen by looking at the number of defendants in patent cases.[46] In an ideal world, the PACER records would show the number of defendants in each case, or at least the number of parties in each case. Unfortunately, this is not so.[47] However, Bloomberg Law's docket search function, itself based on the underlying PACER filings, does at least list the parties for each suit.[48] From these records, it is possible to estimate the number of defendants in each suit on the assumption that there is only one plaintiff in each case. Obviously this assumption does not invariably hold true, but it nonetheless provides a useful basis for calculation and should be revealing of trends over time.[49]

[46] Indeed, CKS use this approach for 2010 and 2012 as well. *Id.*

[47] This is just one of many deficiencies in the PACER data that could be cured if the system were made available to researchers and nonprofits on a less restrictive basis.

[48] The Bureau of National Affairs, Inc., Bloomberg Law, https://www.bloomberglaw.com/dockets.

[49] Bloomberg only lists the first 50 parties, so the estimated number of defendants statistics reported here may be lower than the true number. These estimates do not include parties with substantially the same name as the first named plaintiff.

Table 3 Patent Defendants 1994—2014

Year	Cases	Total Parties-1	Average Parties-1
1994	1555	3876	2.49
1995	1693	4110	2.43
1996	1840	4169	2.27
1997	2042	4766	2.33
1998	2155	5667	2.63
1999	2192	5159	2.35
2000	2372	6102	2.57
2001	2516	6529	2.59
2002	2593	6537	2.52
2003	2802	7540	2.69
2004	2873	8097	2.82
2005	2612	7771	2.98
2006	2745	8179	2.98
2007	2883	10396	3.61
2008	2744	9514	3.47
2009	2704	9886	3.66
2010	2911	12558	4.31
2011	4039	15820	3.92
2012	5620	13789	2.45
2013	6445	14916	2.31
2014	5368	11672	2.17

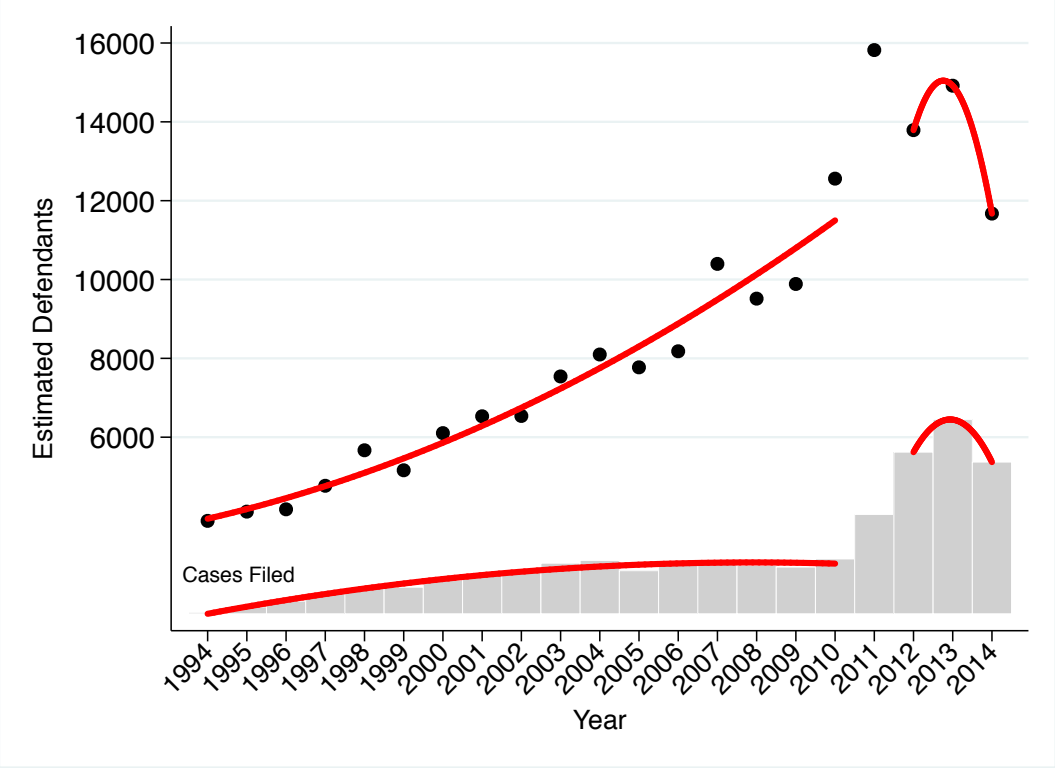
Source: Bloomberg Law, 1994—2014.

Table 3 (above) shows the relevant figures for 1994 to 2014. Note that although the actual number of cases filed in 2010 was barely more than either 2008 or 2009, the estimated number of defendants jumped from 9514 to 12558 from 2008 to 2010, and increase of almost 33%. Likewise, although the number of patent cases filed in 2011 went up almost 40%, the estimated number of defendants increased only 25%. The comparison is even more striking for 2012, the first full year in which the new provisions of the AIA were in effect. In 2012, the number of patent suits increased by a further 39% over 2011 (from 4039 to 5620), but the estimated number of defendants actually dropped by over 12% (from 15820 to 13789). Nationally, the estimated number of defendants per case filed with three or less from 1994 to 2006. That statistic increased to 4.32 in 2010 and then dropped to well under than 2.5 the years 2012, 2013 and 2014.

The real trend in patent litigation over the past two decades can be seen in the number of defendants filed against. The bar chart at the bottom of Figure 5 (below) shows the same filing data as in Figure 4. The scatter plot in Figure 5 shows the estimated number of defendants. Although it appears that the number of patent cases filed exploded after 2010, looking at the

estimated number of defendants, it becomes clear that the period from 2010 to 2013 was more or less a continuation of the existing trend.

Figure 5 Patent Cases Filed and Estimated Number of Defendants, 1994—2014



Source: Bloomberg Law, 1994—2014. Bar chart depicts cases filed. Scatterplot depicts estimated number of defendants. Quadratic fit lines from 1994 to 2010 and 2012 to 2014 are drawn for illustrative purposes.

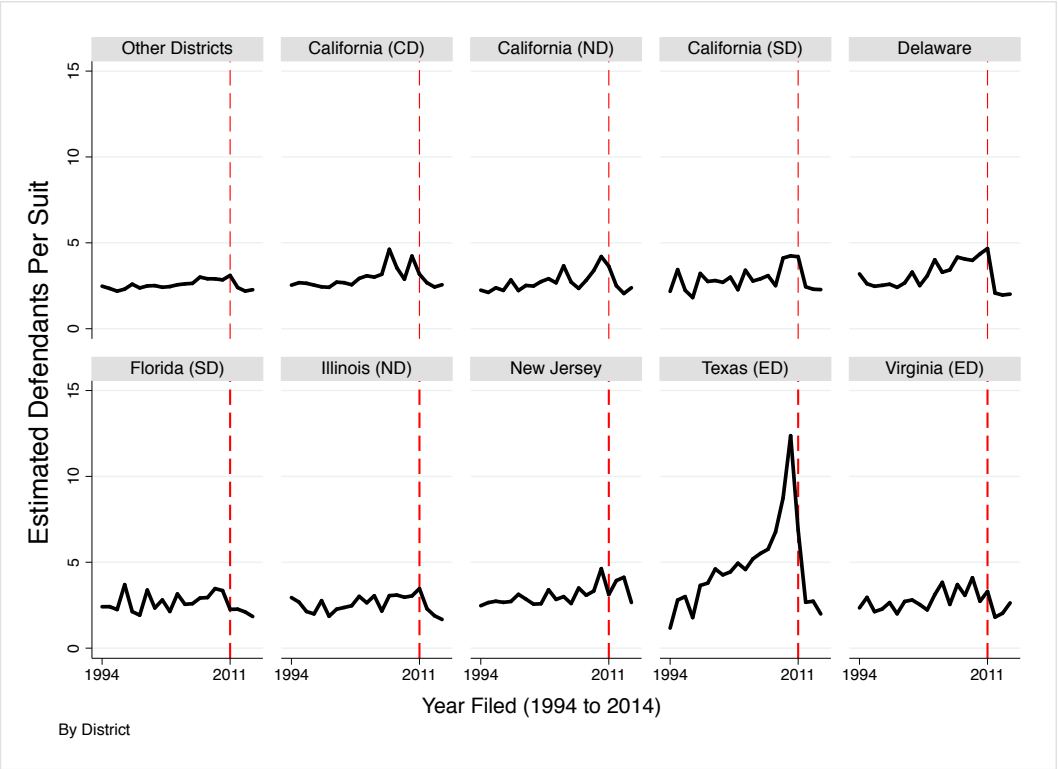
Of course, this data is subject to different interpretations, the quadratic fit lines in Figure 5 have been drawn to indicate that 2011, the year that the AIA was passed, should be treated as an outlier.[50] The volume of patent litigation decreased significantly in 2014. Whether this is a forerunner to a period of significant realignment in the patent system or simply a blip in the

[50] Robin Feldman, Thomas Ewing and Sara Jeruss have conducted a detailed review of month-by-month defendant counts and lawsuits filed showing the filing patterns immediately before and after passage of the AIA. Their data is derived from Lex Machina which estimates the number of defendants per case based on natural language processing of the underlying litigation records. See Robin Feldman, Thomas Ewing & Sara Jeruss, *The AIA 500 Expanded: The Effects of Patent Monetization Entities* (April 9, 2013). UC Hastings Research Paper No. 45. Available at SSRN: http://ssrn.com/abstract=2247195.

data remains to be seen. It may be that the anti-patent troll measures in the AIA have begun to take effect. Or it could be that the apparent downturn in 2014 is related to the surge of filings before the AIA became effective in September 2011.

There is circumstantial evidence that patent trolls were responsible for the significant increase in the estimated number of defendants in the period 2007 to 2010. The evidence is that this phenomenon is much more pronounced in the patent trolls' reputed favorite hunting ground, the Eastern District of Texas.[51] Other commentators have also noted that the tactic of aggregating multiple unrelated defendants is more common among patent trolls.[52]

Figure 6 Average Number of Patent Defendants per Filing 1994—2014



Source: Bloomberg Law, 1994—2014.

[51] See Greg Reilly, *Aggregating Defendants*, 41 FLA. ST. U. L. REV. 1011, 1023-25 (2014).

[52] *Id.* See also, Colleen V. Chien, *Of Trolls, Davids, Goliaths, and Kings: Narratives and Evidence in the Litigation of High-Tech Patents*, 87 N.C. L. REV. 1571, 1578 (2009).

Figure 6 (above) shows the estimated number of defendants per suit for the nine most popular federal districts from 1994 to 2014 and also for an aggregation of all other districts. The vertical dashed line is set to 2011 to mark the passage of the AIA. It is starkly apparent that the trend toward more defendants is greatest in the Eastern District of Texas. The estimated number of defendants in Eastern District of Texas climbs steeply from 1.66 in 1994 to 12.37 in 2010 and then drops precipitously down to 1.99 in 2014.[53]

Looking at the data this way, as summarized in the previous two figures, suggests some revision to the narrative of a *Troll Fueled Patent Litigation Explosion* is required. The long run data suggest that there was no sudden explosion between 2010 and 2012. However, just as importantly, it also suggests that the results of the CKS study are a distraction from the bigger picture.[54]

CKS undertook a similar analysis based on the number of parties in each case for the years 2010 and 2012, but only for those years.[55] They concluded that claims that the number of lawsuits filed by patent trolls or non-practicing entities had doubled in that period were unsound: previous studies had failed to take into account the procedural changes brought into effect in 2011.[56] This conclusion is clearly correct. However, it does not follow that there is no cause for concern. Estimating the number of defendants over much longer period and identifying district by district variation suggest that there really was a significant troll fueled increase in the rate of patent litigation; it is just that this increase started earlier and proceeded more smoothly than the simple case filing data suggests. I refer to this revised narrative as the *Troll Fueled Patent Litigation Inflation*. The reason why the steady inflation was mistaken for a sudden explosion is that the true extent of patent litigation was disguised by passive joinder.

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[53] See *infra*, Part III-D-(1).

[54] Cotropia, Kesan & Schwartz were well aware of this possibility. They noted that "We believe, without having studied it empirically, there was a large increase in PAE activity in the earlier time period. … while we suspect that there was an uptick in PAE litigation in the last ten years, we believe that more transparent and better data is needed to evaluate that hypothesis." See, Cotropia, Kesan & Schwartz, *supra* note 35 at 697.

[55] Cotropia, Kesan & Schwartz, *supra* note 35.

[56] *Id.*

D. The Timing of Empirical Legal Studies

The previous two subsections illustrate a broader general principle: focusing on relatively short windows of time can have distorting effects on empirical studies. Even if we set aside the John Doe copyright cases, it is apparent from Figure 1 that the level of copyright litigation can vary considerably from year to year. For most purposes, researchers would be better off taking a random sample of cases from a longer period than expanding all of their energies on studying one or two years with litigation comprehensively. For example, Professors Cotropia and Gibson recently published a detailed study of the dockets in a large sample of copyright cases filed between 2005 and 2008.[57] Cotropia and Gibson read the pleadings in almost a thousand cases and recorded detailed data on the characteristics of the parties, industries, works, claims, resolutions and remedies. The resulting "topographical" snapshot of copyright litigation provides an excellent overview of the legal landscape in which copyright disputes are resolved. However, the study begins at the height of the RIAA end-user litigation campaign and ends at the conclusion of that campaign.[58] Sensibly, the authors differentiate between filesharing copyright litigation and all other forms of copyright litigation, but given that they did not *intend* to study this difference specifically, they would have been better off sampling over a longer time period. Also it is not clear that the distortions of that period were only due to the RIAA end-user litigation campaign. One way to illustrate the unrepresentative nature of the 2005 to 2008 sample is to compare the duration of cases within that period to those in the two years preceding and the two years following. Excluding John Doe cases, 22% of cases filed between 2003 and 2004 closed within 12 months of filing, that figure is 63% for cases filed between 2005 and 2008 but drops back to 15% for the period 2009 to 2010.

As noted above, the same criticism could be directed toward CKS, except that their study was specifically designed to refute the claim that the percentage of cases filed by patent assertion entities had drastically increased between 2010 and 2012.

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[57] Christopher Anthony Cotropia and James Gibson, *Copyright's Topography: An Empirical Study of Copyright Litigation*. 92 TEX. L. REV. __ (2014).

[58] See Figure 3, *supra*.

PART III. REGIONAL VARIATION

This Part explores regional variation in federal IP litigation between 1994 and 2014. It begins by establishing some general patterns in the geographic distribution of copyright, patent and trademark cases and then investigates how those patterns have changed over time. This Part defines and explores these patterns of regional variation systematically and highlights particular variations that cannot be explained in macro-economic terms. Regional variation can be just as important as temporal variation for the design of empirical studies of litigation. Understanding how one off phenomena, such as the spike in trademark filings in Minnesota in 2014,[59] and sustained trends, such as forum selling in patent litigation,[60] can change the federal map IP litigation is important for the design of future research. The changes in the geographic distribution of copyright, patent and trademark litigation stand as a cautionary tale for anyone considering extrapolating trends from one locality to the entire country.

A. State and District Variation in IP Case Filings

Assuming that copyright, patent and trademark litigation are largely a product of economic factors, it follows which regions that attract a significant proportion of one type of IP litigation should also attract similarly high proportions of IP litigation in other fields. Some variation is nonetheless expected: one might hypothesize that creative and artistic centers such as Los Angeles and New York would attract a good deal of copyright litigation given the concentration of television, film, music and publishing in those cities; or that high-technology clusters such as the Northern District of California (Silicon Valley), might be expected to lean more towards patent litigation; or that large consumer markets such as the Northern District of Illinois (Chicago) might attract more trademark litigation.

This section begins by establishing some general trends in the distribution of IP litigation at the state level and then focuses in on geographic distribution at the district level. The state level data is not particularly surprising, it suggests that generally IP filings track state GDP and population. Table 4 (below) shows how each of the top 10 states for IP litigation ranked in terms of the number of IP cases filed in aggregate, and

[59] See *infra*, Part III-B.

[60] See *infra*, Part III-C.

for copyright, patent and trademark individually. It also shows how the states rank in terms of gross domestic product (GDP), population and GDP per person. With the exception of Delaware, the three components of federal IP litigation tend to move together and are tightly correlated with state GDP and population.

Table 4: Top 10 States for IP Litigation, with Subject Area and State GDP and Population Rankings

State	IP cases	Copyright	Patent	Trademark	GDP	Pop.	GDP PP
California	1	1	1	1	1	1	12
New York	2	2	4	2	3	3	7
Texas	3	3	2	4	2	2	16
Florida	4	4	6	3	4	4	39
Illinois	5	6	5	5	5	5	14
Pennsylvania	6	5	9	7	6	6	30
New Jersey	7	8	7	6	8	11	8
Delaware	8	42	3	33	42	45	2
Michigan	9	9	8	8	9	8	37
Ohio	10	7	12	11	7	7	32

Sources: Administrative Office of the U.S. Courts, PACER records, 1994—2014; Bureau of Economic Analysis, GDP by State 1997—2012 (http://www.bea.gov/regional/index.htm)

Federal litigation in the United States is organized at the district level. Parsing the litigation data at the district level shows that the geographic distribution of IP litigation has been quite dynamic over the past two decades. The time trend is quite different for each of copyright, patent and trademark. The geographic distribution of trademark cases is reasonably stable, whereas the distribution of copyright cases is somewhat chaotic. The distribution of patent cases reflects two opposing trends: generally the geographic distribution of patent cases would look stable but for the astonishing rise of the Eastern District of Texas and the District of Delaware. Admittedly, this is a bit like saying that when Wile E. Coyote runs off the cliff he would remain level but for the force of gravity.[61]

Figure 7 (below) illustrates how the copyright, patent and trademark litigation rankings of selected districts have varied from 1994 to 2014. Figure 7 conveys an enormous amount of information but the reader is encouraged not to squint too hard at any particular line, the reader should instead observe the extent of year-to-year variation in litigation rankings by focusing on the amount of white space in each sub-graph.[62]

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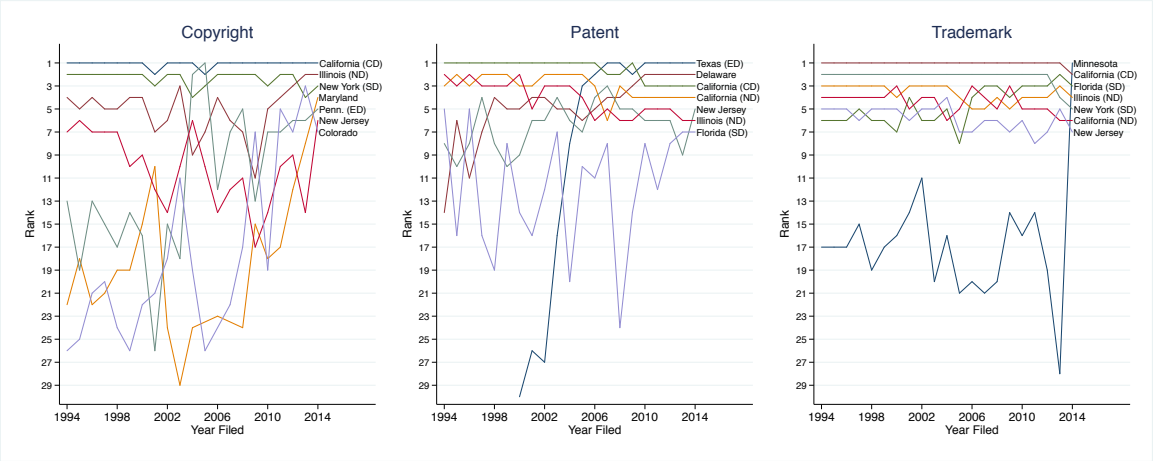
[61] On the effects of gravity on cartoon coyotes, see CHUCK JONES, CHUCK AMUCK: THE LIFE AND TIMES OF AN ANIMATED CARTOONIST. FARRAR, STRAUS AND GIROUX (1999).

[62] Online Appendix C provides the same data and actual case counts in tabular form.

Figure 7 Copyright, Patent and Trademark Litigation Rankings by District 1994—2014



Source: Administrative Office of the U.S. Courts, PACER records, 1994—2014. The data is presented in tabular from in online Appendix C-1 through C-4.

The rankings for copyright, patent and trademark follow quite different trends over time. The geographic distribution of trademark cases is reasonably stable, whereas the distribution of copyright cases is somewhat chaotic. With the exception of Minnesota, the rankings of the top seven districts for trademark litigation have been extraordinarily stable over the past 21 years. Turning to copyright, the Central District of California and the Southern District of New York are ranked first and second in the majority of years, beyond that, district copyright rankings are literally all over the place. The causes of some of this regional variation in copyright and trademark litigation will be taken up Part III-B.

The district rankings for patent litigation have been more stable than copyright over the past two decades, but less stable than trademark. As will be explained in more detail in Part III-C, the ranking of district courts in terms of patent litigation has been overturned by the aggressive "forum selling" policies of the Eastern District of Texas and, to a lesser extent, the District of Delaware.

B. Regional Variation in Copyright and Trademark Litigation

This section explores the causes of some of the more obvious quirks in the geographic distribution of copyright and trademark cases. This inquiry is motivated, in part, simply by a desire to understand the data, but its broader

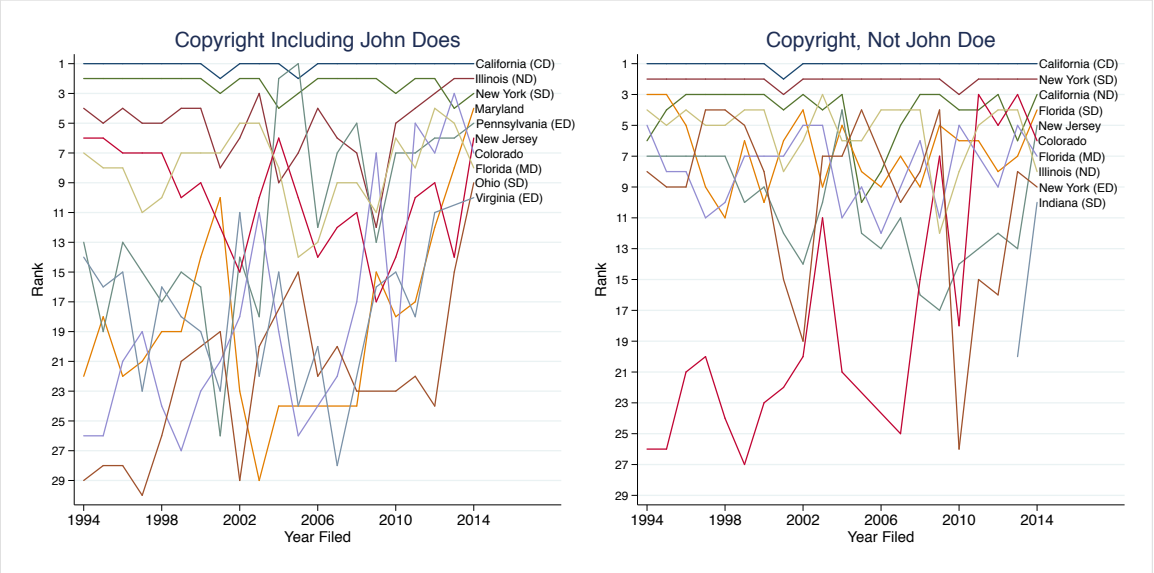
purpose is to illustrate the sensitivity of litigation count data to local and somewhat idiosyncratic events. Understanding how one off phenomena can change the distribution of litigation is important for the design of future research.

(1) Copyright variation is not solely attributable to John Doe litigation.

Is the dramatic year-to-year variation in copyright litigation rankings attributable to the two waves of John Doe litigation described in Part II of this article? One way to consider this question is simply to redraw the copyright ranking figure with data that excludes the John Doe cases.

Figure 8 (below) charts the ranking of the 2014 top 10 districts for copyright litigation from 1994 to 2014. The left-hand side of the figure shows the rankings with John Doe cases included, the right-hand side shows them without the John Doe cases. Casual inspection of these two images reveals that there is slightly less geographic chaos in copyright litigation if we set the John Doe cases to one side, but the image is still notably more confused than the comparable graphs of trademark and patent litigation in Figure 7.

Figure 8 Copyright Litigation Rankings by District, with and without John Doe cases, 1994—2014



Source: Administrative Office of the U.S. Courts, PACER records, 1994—2014 The data is presented in tabular from in online Appendix C-1 through C-2.

(2) Righthaven—Nevada 2010

In 2010, the district of Nevada briefly became the second most popular district for copyright litigation in the US. Nevada's burst of copyright activity lasted only a year before it sunk into relative obscurity. Nevada has not traditionally been considered a major center for copyright litigation. Nonetheless, in 2010 more copyright suits were filed in Nevada than any other federal district, save for the Central District of California. This anomaly is almost exclusively attributable to the activities of the copyright troll Righthaven, LLC. From 2010 to 2011, Nevada-based RightHaven's business model was as follows:

> (1) Recruit content owners, principally newspapers;
> (2) Identify plausible cases of copyright infringement, such as the reposting of newspaper articles on blogs; and
> (3) Acquire a partial assignment of copyright tailored precisely to the infringement identified in step two.[63]

Between March 13, 2010 and July 13, 2011, Righthaven filed 275 copyright lawsuits, 217 in Nevada, 57 in Colorado and 1 in South Carolina. Righthaven achieved a string of quick settlements at first, but its infringement monetization model began to look vulnerable when a number of defendants were able to establish that their conduct fell within the scope of the fair use doctrine.[64] Moreover, once Righthaven's conduct came under the microscope, it transpired that the company's standing to sue was built on "nothing more than a fabrication."[65] Copyright has strict standing requirements: only the legal or beneficial owner of an exclusive right under copyright law is entitled to sue for infringement.[66] The limited exclusive rights that Righthaven had received from the original content owners *appeared* to satisfy the requirement for copyright standing. However, those assignments were essentially a sham—the rights that Righthaven claimed to

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[63] Shyamkrishna Balganesh, *The Uneasy Case Against Copyright Trolls*, 86 S. CAL. L. REV. 723 (2013).

[64] E.g., Righthaven, LLC v. Hoehn, 792 F. Supp. 2d 1138, 1147-51 (D. Nev. 2011); Righthaven LLC v. Realty One Grp., Inc., No. 2:10-cv-1036-LRH-PAL, 2010 U.S. Dist. LEXIS 111576, at 4-6 (D. Nev. Oct. 18, 2010); Righthaven LLC v. Klerks, No. 2:10-cv-00741-GMN-LRL, 2010 U.S. Dist. LEXIS 105307, at 6-10 (D. Nev. Sept. 17, 2010) (finding a sufficient meritorious fair use defense to set aside a default).

[65] Righthaven LLC v. Democratic Underground, LLC, 791 F. Supp. 2d 968, 973 (D. Nev. 2011).

[66] See Silvers v. Sony Pictures Entm't Inc., 402 F.3d 881, 884 (9th Cir. 2005) (en banc).

own were subject to a secret "Strategic Alliance Agreement" giving Righthaven the right to sue, but nothing more.[67] It is well established that an agreement transferring the right to sue without any of the copyright owner's exclusive rights is ineffectual.[68] Following these revelations, Righthaven's suits were dismissed and the firm quickly succumbed to the weight of legal fees and went into insolvency.[69] Nevada now sees very little copyright litigation.

(3) Dryer et al v. National Football League – Minnesota 2014

From 1994 to 2013, Minnesota averaged just over 60 trademark lawsuits a year. 2014 began as ordinary year: 35 trademark suits were filed in Minnesota from January to August. However, in September, 467 trademark cases were filed in Minnesota, followed by another 82 in October. On closer inspection, these cases almost all relate to claims by former NFL players that they are entitled to be paid for the use of their images by the National Football League ("NFL").[70] In 2009, Fred Dryer and five other former players sued the NFL in a class action on behalf of all retired players for alleged violations of their rights under federal trademark law and under state right of publicity laws.[71] The NFL reached as $42 million settlement with the players in March 2014, which was granted preliminary approval by the court in April and final approval in November.[72]

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[67] Righthaven LLC v. Democratic Underground, LLC, 791 F. Supp. 2d 968, 972 (D. Nev. 2011) (Section 7.2 of the Strategic Alliance Agreement between Righthaven and Stephens Media provided that "Despite any such Copyright Assignment, Stephens Media shall retain (and is hereby granted by Righthaven) an exclusive license to Exploit the Stephens Media Assigned Copyrights for any lawful purpose whatsoever and Righthaven shall have no right or license to Exploit or participate in the receipt of royalties from the Exploitation of the Stephens Media Assigned Copyrights other than the right to proceeds in association with a Recovery.")

[68] See Silvers v. Sony Pictures Entm't Inc., 402 F.3d 881, 884 (9th Cir. 2005) (en banc)

[69] Ian Polonsky, *You Can't Go Home Again: The Righthaven Cases And Copyright Trolling On The Internet*, 36 Colum. J.L. & ARTS 71 (2012).

[70] 533 of the 549 suits in September and October were against the National Football League.

[71] Dryer et al v. National Football League, Docket No. 0:09-cv-02182 (D. Minn. Aug 20, 2009) (Complaint August 20, 2009)

[72] Dryer et al v. National Football League, Docket No. 0:09-cv-02182 (D. Minn. Aug 20, 2009) (Memorandum and Order Granting Plaintiff's Motion for Preliminary Approval, April 5, 2013; Order granting 405 Motion for Approval of Settlement, November 4, 2013).

The settlement established a fund for retired players and a publicity rights licensing agency to act on their behalf. More than 2,100 players opted out of the settlement, including the original plaintiff, Dryer.[73] Over 500 former players who opted out of the settlement have since filed individual suits on the Federal District Court of Minnesota. These cases appear under the code for trademark in PACER because the state right of publicity claims were joined with federal claim for false endorsement under Section 43(a) of the Lanham Act. The Section 43(a) claim is more difficult to establish because the plaintiff must show a likelihood of confusion, but adding it gets the plaintiff into federal court and brings the state right of publicity claims within the court's supplemental jurisdiction. Those former players who opted out of the settlement may now regret their decision. On October 10, 2014, the district court in *Dryer v. NFL* dismissed the claims of three former players, including Dryer, relating to the NFL's use of their likenesses in historical films, on multiple grounds including that the NFL's use was not commercial speech and was thus protected by the First Amendment, the application of a "newsworthiness" defense, consent, laches, preemption by federal copyright law, and that the use was not confusing under Section 43(a) of the Lanham Act.[74]

(4) The Link Between Copyright and Trademark Litigation

The conjecture that the underlying rate of IP litigation is predominantly a function of macroeconomic variables such as population and GDP entails a further conjecture that any marked divergence in the rate of one type of IP litigation versus another demands explanation. Examining the filing data at a district level over the entire period from 1994 to 2014 shows that there is a very strong correlation between the number of copyright and trademark cases filed in a given district in a given year. Correlation is measured on a scale from 0 to 1, where zero means absolutely no correlation and one is perfect correlation. Measured in terms of the number of cases filed, the pairwise correlation between copyright and trademark is 0.82.[75] Measured

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[73] Michael Lipkin, *"NFL Bests Players Who Spurned $42M Publicity Rights Deal"*, LAW360.COM, October 10, 2014, available at http://www.law360.com/articles/586613/nfl-bests-players-who-spurned-42m-publicity-rights-deal.

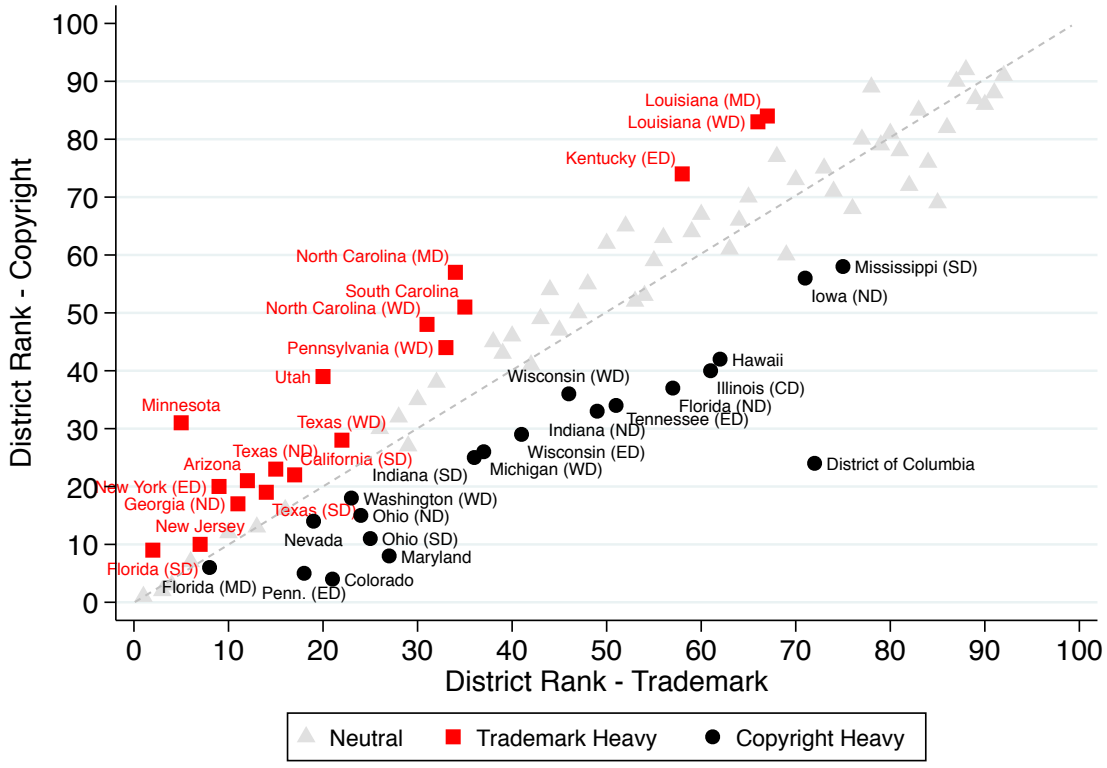
[74] Dryer v. NFL, 2014 WL 5106738 (D. Minn. Oct. 10, 2014)(" The NFL is entitled to use footage from NFL games to create expressive works telling the story of the NFL. Plaintiffs have failed to raise any genuine issues of fact as to any of their claims, and those claims must therefore be dismissed..

[75] Statistically significant at the .00 level.

in terms of district rank from year-to-year, the correlation between copyright and trademark litigation is 0.87.[76]

The finding that copyright and trademark filings are generally highly correlated is as expected. Policymakers, academics and lawyers may be more interested to know which districts defy this expectation. Figure 9 (below) encapsulates the relationship between copyright and trademark filings at the district level over the last five years (from 2010 to 2014) by identifying those districts whose copyright and trademark rankings significantly diverge. The figure is presented in terms of district rankings as opposed to the actual number of cases filed because using rankings instead of actual numbers of cases filed provides for a uniform basis of comparison between categories of litigation.

Figure 9 District Rankings, Copyright Compared to Trademark (2010-2014)



Source: Administrative Office of the U.S. Courts, PACER records, 2010—2014

[76] Statistically significant at the .00 level.

Consider the 45 degree line starting at 1:1 and going all the way up to 100:100 in Figure 9. If the copyright rank for each district was the same as its trademark rank, every district would be represented by a point along the 45 degree line. As Figure 9 illustrates, the vast majority of districts are in fact plotted very close to that line of equivalence. Any district above and to the left of the line equivalence ranks higher (and thus has a lower number – e.g. the highest ranked is 1) in terms of trademark than copyright. A district is labeled "heavy" in terms of trademark if its trademark rank divided by its copyright rank is greater than 1.25. Likewise, the district is labeled as "heavy" in terms of copyright if its copyright rank divided by its trademark rank is greater than 1.25. The remaining districts closer to the line of equivalence are categorized as "neutral".

Based on this analysis, the District of Colorado, the District of Maryland, and the District of Columbia stand out as significantly biased towards copyright (or against trademark). Colorado is ranked 4th in copyright but has trademark ranking of 21. The most significant copyright leaning district is the District of Columbia which, although it ranks 24th in terms of copyright, has a ranking of 72nd for trademark.

Likewise, the Southern District of Florida, the District of Minnesota and the Eastern District of New York stand out as particularly trademark heavy districts. The Southern District of Florida is ranked 2nd for trademark but only 9th for copyright, whereas Minnesota's trademark rank is 5 and its copyright rank is 20. The Eastern District of New York is ranked 9th in terms of trademark litigation but only 20th in terms of copyright.

Table 5 (below) shows the average copyright and trademark rankings for selected districts—those with a ratio 1:2 or more—between 2010 and 2014. The districts in the top half of the table are the more significant copyright heavy districts, whereas the districts in the lower half of the table are the more significant trademark heavy districts.

Table 5 Selected Districts Copyright and Trademark Rankings

District	Copyright Rank	Trademark Rank
Copyright Heavy		
Colorado	4	21
Pennsylvania (ED)	5	18
Florida (MD)	6	8
Maryland	8	27
Ohio (SD)	11	25
Nevada	14	19
Ohio (ND)	15	24
Washington (WD)	18	23
District of Columbia	24	72
Indiana (SD)	25	36
Trademark Heavy		
Florida (SD)	9	2
Minnesota	31	5
New Jersey	10	7
New York (ED)	20	9
Georgia (ND)	17	11
Arizona	21	12
Texas (SD)	19	14
Texas (ND)	23	15
California (SD)	22	17
Utah	39	20
Texas (WD)	28	22

Source: Administrative Office of the U.S. Courts, PACER records, 2010—2014

C. Regional Variation in Patent Litigation – Evidence of Forum Selling

The popularity of the Eastern District of Texas as a forum for patent litigation is a well-known phenomenon. However, the data and analysis presented in this study provides a new way of looking at the astonishing ascendancy of this district and the problem of form shopping in patent law more generally. The extent of forum shopping in patent law can be seen by comparing the geographic distribution of patent litigation to that of copyright and trademark. As already established in Part III-B, copyright and trademark litigation are fairly closely correlated. This fact suggests that the same economic fundamentals that drive litigation in both fields. The same conjecture extends to patent cases—in the period from 1994 to 2014 the correlation between district court rankings for patent litigation and those for

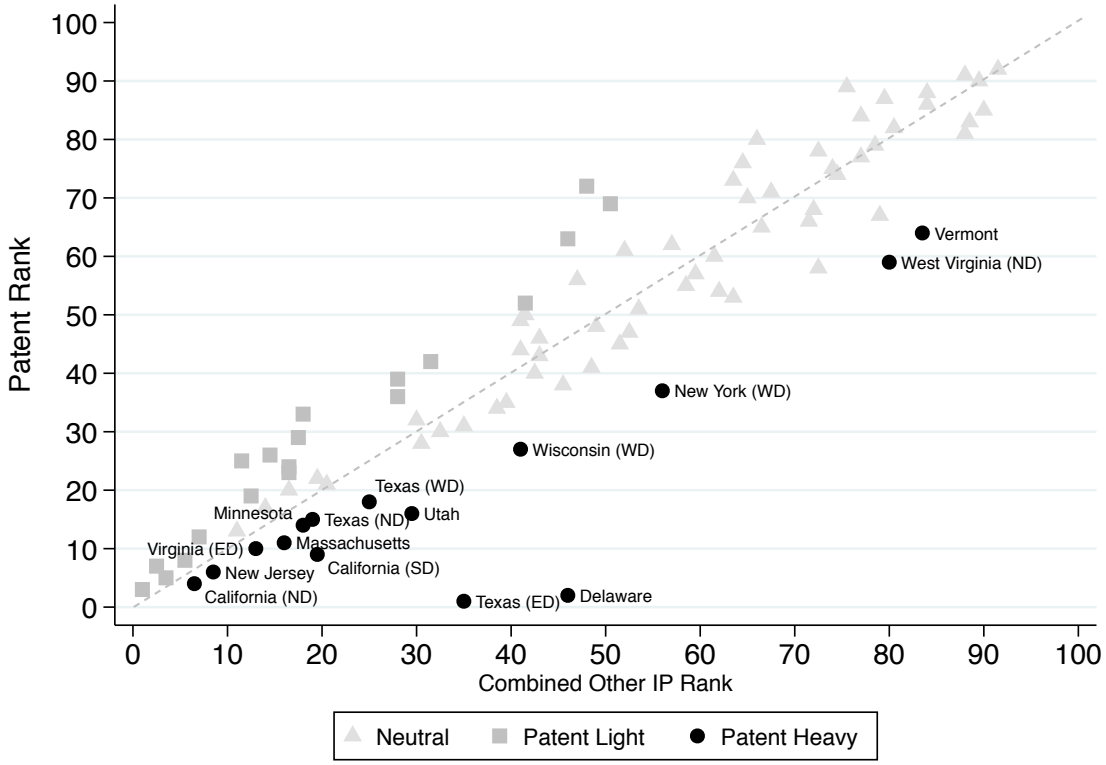
copyright litigation was .79 on a scale from 0 to 1; the correlation between patent and trademark was .89 over the same period.[77] However, as the analysis below makes clear, this general relationship is subject to some notable exceptions.

Figure 10 (below) illustrates how IP litigation varies on a district level across the US; in particular, the figure highlights the difference between patent litigation rankings and the composite copyright/trademark ranking of each federal district. Similar to Figure 9 in the previous section, if the patent litigation ranking for each district were equal to the average of its rankings for copyright and trademark litigation, every district would be plotted along a 45 degree line originating at 1:1 (the highest ranking) and ending at 100:100 (the lowest ranking). Districts below and to the right of this line of equivalence are ranked higher in patent litigation than their composite copyright/trademark ranking. These districts are labeled "patent heavy" if that ratio exceeds 1.25.[78]

[77] Both correlations are significant at the .01 level.

[78] "Patent light" districts are defined in a similar manner, but as these are not the focus of discussion figure 10 is drawn to emphasize patent heavy districts.

Figure 10 District Rank in terms of Patent versus Copyright and Trademark Combined (2010-2014)



Source: Administrative Office of the U.S. Courts, PACER records, 2010—2014

The most extreme outliers in the figure above are the Eastern District of Texas, which is ranked first in terms of patent litigation but only 35th in the copyright-trademark composite, the District of Delaware which is ranked 2nd in patent and 46th for an average of copyright and trademark, and the Southern District of California where the divergence is between a rank of 9th for patent and a combined ranking of 19.5 for copyright-trademark. Table 6 (below) shows the average rank and the corresponding composite copyright-trademark rank of these districts and others that fit the definition of 'patent heavy' for the period 2010 to 2014.

Table 6: Patent Heavy Districts 2010—2014

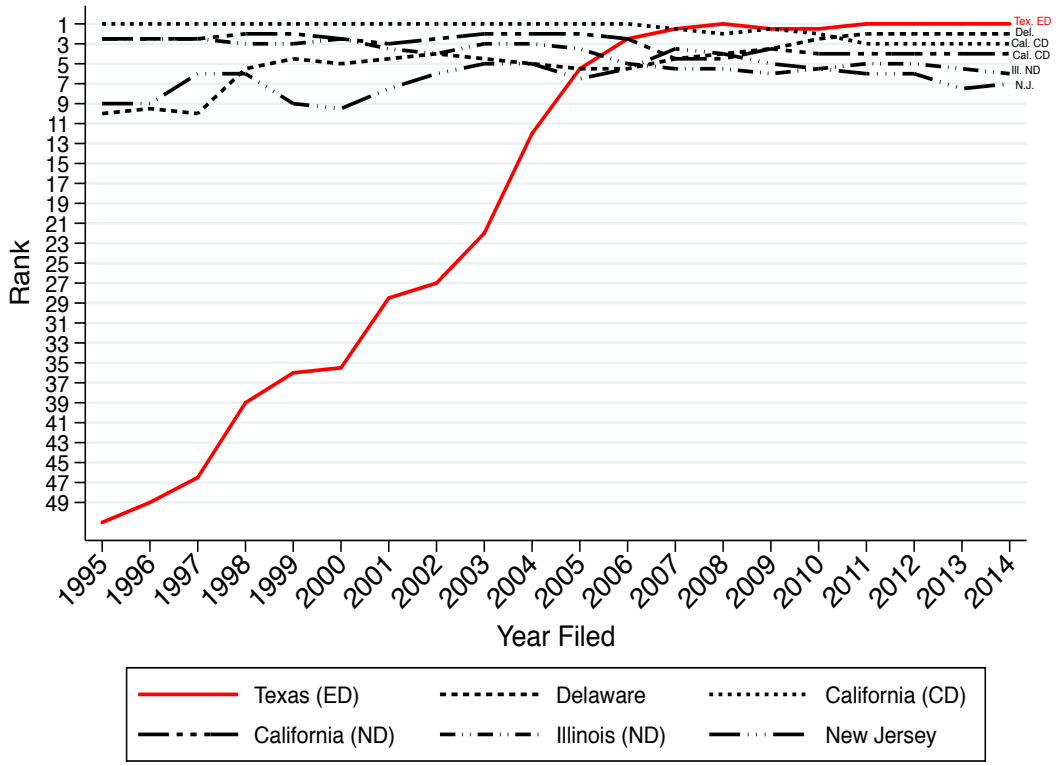
District	Rank Patent	Combined Rank Copyright-Trademark
Texas (ED)	1	35.0
Delaware	2	46.0
California (ND)	4	6.5
New Jersey	6	8.5
California (SD)	9	19.5
Virginia (ED)	10	13.0
Massachusetts	11	16.0
Minnesota	14	18.0
Texas (ND)	15	19.0
Utah	16	29.5
Texas (WD)	18	25.0

Source: Administrative Office of the U.S. Courts, PACER records, 2010—2014

The data shown in Table 6 and Figure 10 above is based on the last five years of filing data, but to appreciate the incongruity of the fact that the towns like Beaumont, Texas now see more patent litigation than cities like San Francisco, the reader also needs to understand how the standing of Eastern District of Texas and the District of Delaware have changed over time. Figure 11 (below) displays the district patent litigation rankings ranking from 1994 to 2014.[79]

[79] The figure shows a two-year rolling average to make the time-trend clearer. Appendix C-3 shows the same data and the number of cases filed on an annual basis.

Figure 11 District Court Ranks for Patent Litigation 1994-2014



Source: Administrative Office of the U.S. Courts, PACER records, 1994—2014
Note: Figure 11 shows two-year moving average of district rankings

The first thing to note about Figure 11 is that, but for the Eastern District of Texas and Delaware, the geographic distribution of patent litigation over the past two decades would look remarkably stable. For most of this period, the Central District of California was the most important venue for patent litigation over the last 21 years, followed by the Northern District of California. The Northern District of Illinois has also ranked consistently somewhere between second and sixth over the same period. This relative stability contrasts markedly with the steady gains made by Delaware and the remarkable ascendancy of the Eastern District of Texas between 1994 and 2014. Notice that, were it not for the Eastern District of Texas, the scale on Figure 11 would range from 10 to 1, rather than 50 to 1. Framed accordingly, the steady ascent of Delaware from 9th in 1994 to 2nd from 2011 to the present day would be more noteworthy. However, the rise of the Eastern District of Texas from literal obscurity—it only saw 8 patent cases in 1994—to preeminence over the same period dwarfs all other changes.

The preeminence of the Eastern District of Texas and Delaware as venues for patent litigation makes no sense according to most economic indicators; it cannot be explained in terms of fundamentals, such as economic activity, economic growth or the size of the local population. If the newfound popularity of these districts were a consequence of the ordinary economic factors that drive most IP litigation, we would expect to see similar increases in copyright and trademark litigation in those districts. The marked divergence between the rate of patent litigation in Eastern Texas and Delaware other forms of IP litigation in Eastern Texas and Delaware suggests the opposite. Nor do these districts host the kind of thriving technology sectors, universities, research laboratories or startups that might explain such divergence.[80]

(1) The Advantages of Filing in the Eastern District of Texas and Delaware

The Eastern District of Texas has gone to great lengths to bend almost every procedural aspect of patent litigation in favor of plaintiffs.[81] The District of Delaware has gone down the same path, but not quite as far. In the Eastern District of Texas, patent plaintiffs will find that local rules and procedural orders tilt in their favor with respect to: the pace of litigation; the scope of discovery; the availability of summary judgment; the availability of stays pending re-examination; and joinder and/or consolidation of tenuously related defendants. Moreover, because so many crucial decisions depend on the habits and inclinations of the presiding judge, plaintiffs will also find that understanding the local rules allows them to choose their judge with a high degree of confidence. These advantages are briefly summarized below and are explored in great detail in two recent articles, one by Jonas Anderson, *Court Competition for Patent Cases*,[82] and another by Daniel Klerman and Greg Reilly in *Forum Selling.*[83]

The Pace of Litigation and Scope of Discovery

[80] See Daniel Klerman & Greg Reilly, *Forum Selling* (working paper dated February 19, 2015, on file with the author).

[81] See Jonas Anderson, *Court Competition for Patent Cases*, 163 PENN. L. REV. ___, (Forthcoming 2015, on file with the author); Klerman & Reilly, *supra* note 80.

[82] Anderson, *supra* note 81.

[83] Klerman & Reilly, *supra* note 80

Judges in Eastern District of Texas deliberately schedule patent cases on an aggressive and unyielding schedule.[84] The accelerated pace of litigation benefits plaintiffs because they initiate litigation at a time of their choosing and can prepare their case before filing. The most significant scheduling decisions in patent litigation relate to discovery. The Eastern District of Texas requires a broader scope of document production in discovery under much more stringent timelines than most other districts.[85] The burden of these rules falls on defendants in most cases, and always in patent troll cases because discovery imposes almost no cost on a plaintiff that is merely a patent holding entity.[86]

Hostility to Summary Judgment

Both the District of Delaware and the Eastern district of Texas are renowned for their hostility to summary judgment in patent cases.[87] The Eastern district has gone so far as to craft a special rule for patent cases whereby advance permission is required to file a motion for summary judgment. Summary judgment of invalidity or non-infringement is a vital tool for patent defendants unwilling to roll the dice on a jury verdict. Taking this tool away from the defendant gives the plaintiff a significant advantage.

Hostility to Staying Litigation Pending Reexamination

Re-examination of the validity of the patent by the USPTO is another important weapon for defendants who believe that the patent they are accused of infringing never should have been granted in the first place. Predictably, the Eastern District of Texas is also far more reluctant than most other districts to stay patent litigation pending re-examination.[88]

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[84] *Id.*

[85] See Anderson, *supra* note 81; See Klerman & Reilly, *supra* note 80, explaining the significance of the Eastern District of Texas' departures from the Federal Circuit Advisory Committee "E-Discovery Model Order".

[86] Defendants shoulder the costs of discovery because "the bulk of the relevant evidence usually comes from the accused infringer." In re Genentech, Inc., 566 F.3d 1338, 1345 (Fed. Cir. 2009) (quotations omitted). See also, Klerman & Reilly, *supra* note 80.

[87] Anderson, *supra* note 81.

[88] See Klerman & Reilly, *supra* note 80 (citing Greg H. Gardella & Emily A. Berger, *United States Reexamination Procedures: Recent Trends, Strategies and Impact on Patent Practice*, 8 J. MARSHALL REV. INTELL. PROP. L. 381, 398 (2009); Matthew Smith, *Stays Pending Reexamination*, PATENTLYO (Nov. 1, 2009).

Joining and Consolidating Unrelated Defendants

As discussed in Part II-C, in 2010 the averaged estimated defendants per patent lawsuit in the Eastern District of Texas was 12.37, compared to an average of 3.38 in the rest of the nation. According to the Federal Rules of Civil Procedure, a plaintiff may join multiple defendants in the same suit only if the claims are "arising out of the same transaction, occurrence, or series of transactions or occurrences; and any question of law or fact common to all defendants will arise in the action."[89] The Eastern District of Texas has allowed joinder based on overlapping questions of law and fact with respect to the asserted patent and similarities between separate accused products belonging to multiple defendants.[90] But as the Federal Circuit points out, separate products accused of infringing the same patent will almost always have features in common.[91] The Federal Circuit's position is that "the sameness of the accused products or processes is not sufficient."[92] In contrast to the Eastern District of Texas, the Federal Circuit requires that the facts underlying the claims of infringement must "share an aggregate of operative facts" which is established by "actual link[s] between the facts underlying each claim of infringement".[93] Such links can be established by looking to the time period of infringement, licensing and other relationships among defendants, the use of identically sourced components, and various other factors.[94]

Permissive joinder places a substantial burden on defendants in patent cases in a number of different ways.[95] Rival defendants may have different and incompatible strategies and commercial interests. In addition, defendants with no connection to the forum of litigation may be anchored to that venue by the connections of their co-defendants. Compounding these difficulties, judges in Eastern District of Texas routinely require unrelated defendants to file single briefs and present unified oral arguments on particular issues.[96]

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[89] Federal Rule of Civil Procedure 20(a)(2)(A) & (B).

[90] See e.g., MyMail, Ltd. v. Am. Online, Inc., 223 F.R.D. 455, 4457 (E.D. Tex. 2004)

[91] In re EMC Corp., 677 F.3d 1351, 1359 (Fed. Cir. 2012).

[92] *Id.*

[93] *Id.*

[94] *Id.*

[95] Anderson, *supra* note 81; Klerman & Reilly, *supra* note 80.

[96] Klerman & Reilly, *supra* note 80.

Or, almost as disadvantageously, they may restrict the time and number of pages of the defendants in aggregate to match that of the plaintiff.[97]

In 2011 Congress responded to the abuse of joinder described above and amended the Patent Act to make joinder more difficult.[98] Under the AIA, accused infringers may be joined in a single action if the allegations of infringement are "arising out of the same transaction, occurrence, or series of transactions or occurrences relating to the making, using, importing into the United States, offering for sale, or selling of the same accused product or process."[99] Not to be outmaneuvered, judges in the Eastern District of Texas responded by severing improperly joined defendants but then consolidating the cases for all pre-trial purposes, thus blunting the practical effect of the reform.[100]

Facilitating Judge Shopping

Contrary to the norm of random assignment, the Eastern District of Texas further encourages patent plaintiffs through its system of case assignment which effectively allows judge-shopping within this prized forum.[101] Plaintiffs can choose their judge with a high degree of confidence by choosing which courthouse to file (albeit electronically) their compliant.[102] In contrast, the Eastern District of Virginia which had at one time sought to attract patent litigation now repels it by randomly assigning patent cases filed in the Alexandria division among the judges of the entire district.[103] As Anderson explains, the Eastern District of Virginia sought to discourage

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[97] *Id.*

[98] Leahy-Smith America Invents Act, Pub.L. No. 112-29, sec. 19(d), § 299, 125 Stat. 284, 332-33 (2011) (codified at 35 U.S.C. § 299).

[99] *Id.*

[100] See Klerman & Reilly, *supra* note 80. See also Jan Wolfe, East Texas Judges Test Joinder Limits in Patent Reform's Wake, Corporate Counsel (Aug. 22, 2012), available at http://www.lalaw.com/news-events/news/upload/EAST- TEXAS-JUDGES-TEST-JOINDER-LIMITS-IN-PATENT-REFORMS-WAKE.pdf, and David Taylor, *Patent Misjoinder*, 88 N.Y.U. L. REV. 652 (2013).

[101] Anderson, *supra* note 81.

[102] See Gugliuzza, *supra note* 102 at 377 (noting that "the court's system for assigning cases to its judges permits plaintiffs to predict with a great deal of certainty which judge will hear their case.") See also Anderson, *supra* note 81 (same)*;* Klerman & Reilly, *supra* note 80 (same).

[103] *Id.*

patent suits because these complex and technical cases undermined the district's carefully cultivated broader reputation for speedy civil litigation.

(2) Why Patent Plaintiffs Can Choose Their Districts

All the advantages discussed above would be worthless to most plaintiffs were not for the fact that the Constitutional and legislative safeguards relating to personal jurisdiction and convenience of venue are seemingly of little practical consequence in patent litigation. However, as other scholars have observed, "with borderless commerce the norm and with lax jurisdiction and venue requirements, plaintiffs in patent cases have an unfettered choice of where to bring suit."[104]

Personal jurisdiction is a function of state "Long Arm" statutes, but those statutes are applied in light of the law of the Federal Circuit in patent cases.[105] State long arm statutes that confer personal jurisdiction over non-residents are almost inevitably coextensive with the limits of the Due Process Clause of the Fifth Amendment to the U.S. Constitution.[106] The Due Process Clause requires the plaintiff to demonstrate that the defendant has "purposely established minimum contacts with the forum State,"[107] "such that the maintenance of the suit does not offend traditional notions of fair play and substantial justice."[108] In patent cases, although isolated shipments to the jurisdiction at the request of third parties are not enough to establish personal jurisdiction,[109] any pattern of ongoing and continuous shipments of the accused product into the jurisdiction, even indirectly, will be sufficient to establish jurisdiction over the defendant.[110] Most businesses

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[104] Jeanne C. Fromer, *Patentography*, 85 N.Y.U. L. REV. 1444, 1451 (2010). See also Kimberly A. Moore, *Forum Shopping in Patent Cases: Does Geographic Choice Affect Innovation?,* 79 N.C. L. REV. 889 (2001).

[105] Beverly Hills Fan Co. v. Royal Sovereign Corp., 21 F.3d 1558, 1564-65 (Fed.Cir.1994).

[106] Red Wing Shoe Co. v. Hockerson-Halberstadt, Inc., 148 F.3d 1355, 1358 (Fed. Cir. 1998).

[107] Burger King Corp. v. Rudzewicz, 471 U.S. 462, 476 (1985).

[108] Int'l Shoe Co. v. Washington, 326 U.S. 310, 316 (1945) (internal quotation marks and citation omitted).

[109] AFTG-TG, LLC v. Nuvoton Technology Corp., 689 F. 3d 1358, 1365 (2012).

[110] Beverly Hills Fan Co. v. Royal Sovereign Corp., 21 F.3d 1558, 1563 – 1565. (Fed.Cir.1994). The Federal Circuit has announced that *Beverly Hills Fan Co. v. Royal Sovereign Corp.* remains the controlling precedent in this area, even after the Supreme Court's apparent questioning of the stream of commerce theory of personal jurisdiction in *J.*

of any scale operate in an integrated national market place, and given that Texas is the second most populous state in the Union, defendants usually find it hard to avoid being subject to personal jurisdiction there.

Once defendants are sued for patent infringement in Eastern District of Texas, the courts their display some reluctance to allow them to leave. In theory, change of venue should be available on the basis of *forum non conveniens* in patent cases, like other civil cases, under 28 U.S.C. § 1404(a). This provision provides that "[f]or the convenience of parties and witnesses, in the interest of justice, a district court may transfer any civil action to another district court or division where it might have been brought."[111] Judges in the Eastern District have a reputation for resisting motions to transfer,[112] although in absolute terms, a substantial number of cases are indeed transferred out of the Eastern District of Texas every year. However, as a percentage of motions to transfer, applicants are notably less successful there than in other major patent districts.[113] The best evidence of a no transfer culture at the Eastern District of Texas may be the fact that, although it had never done so previously for any district, the Federal Circuit has granted petitions for mandamus ordering the transfer of patent cases out of the Eastern District of Texas 10 times since December 2008.[114]

(3) Advantage + Choice = Forum Shopping

In theory, so long as plaintiffs have the freedom to choose their venue, even the slightest perceived advantage should be enough to tilt the tables in favor

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McIntyre Mach., Ltd. v. Nicastro, 131 S. Ct. 2780 (2011), see AFTG-TG v Nvoton Technology, 689 F. 3d 1358, 1363 (Fed. Cir. 2012) ("the law remains the same after *McIntyre*")

[111] 28 U.S.C. § 1404(a).

[112] See Gugliuzza, *supra note* 102 at 378 (discussing the popular impression that "the judges of the Eastern District were unduly reluctant to transfer patent cases to more convenient fora under § 1404(a).")

[113] See, Klerman & Reilly, *supra* note 80 (noting that "the most comprehensive study of transfer motions, covering 1991-2010, found that transfer motions were successful only 34.5% of the time in the Eastern District of Texas, compared to over 50% of the time in other major patent districts." Citing 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, 315 (2011).

[114] See e.g. In re TS Tech USA Corp., 551 F.3d 1315, 1319 (Fed. Cir. 2008). See generally, Gugliuzza, *supra note* 102 at 381 (2012).

of a particular district in high-stakes litigation.[115] However, as this section has shown, the advantages that the Eastern District of Texas, and to a lessor extent Delaware, bestows on plaintiffs are anything but slight. Forum shopping is simply rational litigant behavior; the astonishing thing is the degree to which judges in the Eastern District of Texas and Delaware have undertaken a deliberate policy of selling their forums by stacking the deck in favor of patent plaintiffs. The forum shopping demonstrated in this section is not simply a result of litigants discovering and exploiting accidental regional differences that confer some perceived advantage; the Eastern District of Texas and the District of Delaware have consciously adopted norms, practices and procedures to confer these advantages in order to attract a disproportionate share of the nation's patent litigation.

A benign explanation for the concentration of patent lawsuits in the Eastern District of Texas and Delaware might be that these courts handle patent cases with more efficiency and/or expertise. Litigant behavior, however, strongly suggests that this hypothesis is unduly optimistic. The reality is that these courts are not better in any value-neutral sense; they are simply better for patent plaintiffs and worse for patent defendants.

The foregoing discussion of the advantages of litigating in forum selling districts suggests that procedure may be more important than substance. The creation of the Federal Circuit in 1982, with its exclusive appellate jurisdiction for patent cases, was intended to put a stop to forum shopping by harmonizing patent law across the nation.[116] Nonetheless, not only has forum shopping continued in the Federal Circuit era, it appears to be dramatically accelerating.[117] The Federal Circuit's monopoly over patent appeals over the past three decades has indeed reduced regional variation on substantive legal issues of patent law. Such variation, when it exists, should be short-lived because the parties have strong incentives to appeal departures from federal circuit precedent on substantive legal issues. However, most of the advantages that the Eastern District of Texas confers on patent plaintiffs are procedural precisely because procedural decisions

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[115] See generally, Daniel Klerman, *Jurisdictional Competition and the Evolution of the Common Law*, 74 CHI. L. REV. 1179 (2007).

[116] Rochelle C. Dreyfuss, *The Federal Circuit: A Case Study in Specialized Courts*, 64 N.Y.U. L. REV. 1, 2-4 (1989) (summarizing Congress' motivation for creating the court).

[117] Compare Kimberly A. Moore, *Forum Shopping in Patent Cases: Does Geographic Choice Affect Innovation?*, 79 N.C. L. REV. 889 (2001) with Mark Lemley, *Where to File Your Patent Case*, 38 AIPLA QUARTERLY J.1 (2010).

are much harder to review on appeal. Defendants are usually precluded from appealing interim procedural decisions by the final judgment rule and even if a case is appealed once a final judgment is entered it is difficult to show that any one procedural advantage would have prejudiced the outcome of the trial. Defendants can suffer the death of a thousand procedural cuts, as Paul Gugliuzza observes, "a district judge makes scores of discretionary decisions that are effectively unreviewable on appeal but that, when considered as a whole, significantly impact the outcome of the case."[118]

The evidence of forum shopping in patent cases is a striking illustration of the importance of procedural rules over substantive ones. The persistence and acceleration of forum shopping in the Federal Circuit era undermines the *raison d'être* for that court's exclusive appellate jurisdiction in patent cases in the first place. The more the Federal Circuit succeeds at substantive patent law harmonization, the more significant procedural disharmony becomes. The leveling out of regional differences with respect to novelty, non-obviousness, patentable subject matter an the like has simply created an unimpeded field for federal district courts to "race to the bottom" by selling their courts as plaintiff friendly environments for patent litigation.[119] Currently, the Eastern District of Texas is winning this "race to the bottom" at the expense of our national innovation policy.

CONCLUSION

Intellectual property is one of the most dynamic fields in America law. The substantive doctrines of copyright, patent and trademark law are continually evolving in response to technological and social change. The same forces that drive change in the substantive doctrines of copyright, patent and trademark law also have a profound influence on the way IP cases are

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[118] Gugliuzza, *supra note* 102 at 376.

[119] William L. Cary, *Federalism and Corporate Law: Reflections upon Delaware*, 83 YALE L.J. 663, 666 (1974) (coining the term 'race to the bottom' and arguing that "Judicial decisions in Delaware … can best be reconciled on the basis of a desire to foster incorporation in Delaware.") The term 'race to the bottom' clearly paraphrases Justice Brandeis' memorable dissent in *Losis K. Liggett Co. v. Lee*, 288 U.S. 517 (1933): "Companies were early formed to provide charters for corporations in states where the cost was lowest and the law least restrictive. The states joind in advertising their wares. The race was not one of diligence but of laxity." Id. at 558-59 (Brandeis, J., dissenting).

litigated. This article has undertaken a broad-based empirical perspective to understand these dynamics.

Many of the insights and conclusions in this article are derived from analyzing copyright, patent and trademark litigation together, and in contrast to each other, as well as separately. As well as systematically collecting the publicly available data, this article has added several original layers of analysis. It has contributed new data on the extent of John Doe litigation in copyright law. It has also pioneered new forms of analysis. In particular, the intra-IP rank comparison of district courts provides a new measure of the extent of forum shopping in patent law. Taken together, these findings substantially enrich our understanding of the landscape of federal intellectual property litigation.

This article analyzes changes in the distribution of the IP litigation over time and their regional distribution. The key findings of this article stem from an attempt to understand the causes of long term patterns in the filing data as well as short-term discrepancies. This data-driven approach has yielded insights in relation to the Internet filesharing litigation, the true impact of patent trolls on the level of patent litigation, and the extent of forum shopping and forum selling patent litigation. Just as importantly, the trends identified in this article lay the foundation for planning and evaluating future empirical studies of IP litigation with a narrower focus. Many of the results and conclusions herein demonstrate the dangers of basing empirical conclusions on narrow slices of data from selected regions or selected time periods.

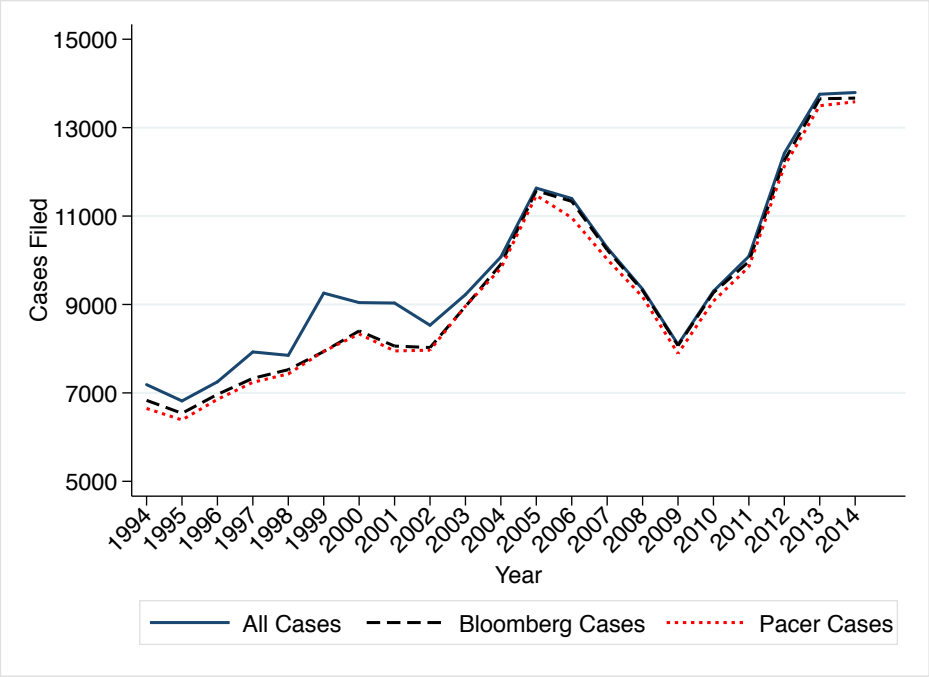
APPENDIX A

A Comparison of Data Sources

Bloomberg relies on PACER for its source material but has coded additional fields not available on PACER. The Bloomberg records also correct certain errors in the PACER data, although they may well introduce others.

Figure 12 (below) shows the number of copyright, patent and trademark cases filed in each year from 1994 to 2014 as recorded in the Pacer and Bloomberg databases. The figure also shows the total number of cases in each year. PACER and Bloomberg records matched about 95% of the time over the entire period. In years such as 1999, when the level of agreement between the databases is at its lowest (71.5%), both sources still report about the same number of cases, 7935 for Bloomberg and 7942 for Pacer. On average, Bloomberg recorded just over 1.2% more cases than Pacer in each year. This suggests that the datasets are in fact quite similar but that for some reason the way the cases are recorded does not exactly match.

Figure 12 Comparison of PACER and Bloomberg Data Sources



Sources: Administrative Office of the U.S. Courts, PACER records 1994 – 2014; Bloomberg Law 1994 – 2014.

APPENDIX B

Top 10 States for IP Litigation, with Subject Area and State GDP and Population

State	IP Cases	Copyright Cases	Patent Cases	Trademark Cases	Real GDP ($M)	GDP Per Person
California	38581	13014	10965	14602	1574125	44234
New York	19999	7694	3711	8594	928501	48480
Texas	18131	4442	9601	4088	977214	42684
Florida	11838	3625	2664	5549	617018	35330
Illinois	9762	2717	3401	3644	554508	44008
Pennsylvania	6830	3104	1503	2223	473176	37936
New Jersey	6386	1347	2425	2614	414286	48158
Delaware	6084	108	5710	266	51050	60829
Michigan	4932	1392	1568	1972	356897	35864
Ohio	4351	1330	1402	1619	425939	37221

Source: Administrative Office of the U.S. Courts, PACER records 1994 – 2014.

APPENDIX C-1 COPYRIGHT

Copyright Cases Filed in US District Courts, 2014 to 1994 – Rank

District	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994
California (CD)	1	1	1	1	1	1	1	1	1	2	1	1	1	2	1	1	1	1	1	1	1
Illinois (ND)	2	2	3	4	5	11	7	6	4	7	9	3	6	8	4	4	5	5	4	5	4
New York (SD)	3	4	2	2	3	2	2	2	2	3	4	2	2	3	2	2	2	2	2	2	2
Maryland	4	8	12	17	18	15	24	33	24	36	24	29	24	10	14	19	19	21	22	17	22
Penn. (ED)	5	6	6	7	7	13	5	7	12	1	2	18	15	27	16	15	16	15	13	19	13
New Jersey	6	15	9	9	14	17	11	12	14	10	6	10	14	12	9	10	7	7	7	6	5
Colorado	7	3	7	5	21	7	17	22	39	26	19	11	19	23	22	26	22	20	21	26	26
Florida (MD)	8	5	4	8	6	12	9	9	13	14	8	5	5	7	7	7	10	11	9	8	7
Ohio (SD)	9	14	24	22	23	32	23	20	23	15	39	20	30	19	20	21	27	29	30	27	27
Virginia (ED)	10	38	11	19	15	16	32	29	20	24	15	22	11	21	19	18	17	23	15	15	14

Copyright Cases Filed in US District Courts, 2014 to 1994 – Number of Cases

District	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994
California (CD)	636	516	619	398	415	351	555	670	605	586	460	435	375	304	357	391	366	407	359	347	393
Illinois (ND)	376	376	180	115	50	39	89	129	204	164	91	128	62	55	77	86	83	75	99	80	94
New York (SD)	291	256	266	209	177	253	269	308	336	413	302	289	233	231	271	235	306	323	285	325	357
Maryland	241	136	73	37	26	33	37	30	53	34	34	21	26	48	32	30	24	23	21	33	29
Penn. (ED)	240	177	119	94	47	38	110	124	103	978	314	34	36	19	31	35	28	32	43	31	49
New Jersey	228	69	89	51	30	31	54	89	94	111	114	64	36	39	44	41	57	67	85	71	90
Colorado	222	321	115	99	25	46	49	46	33	44	46	57	31	21	25	18	19	24	22	21	25
Florida (MD)	206	183	140	71	47	39	69	97	97	89	93	114	68	55	46	50	42	44	61	53	90
Ohio (SD)	200	69	37	29	23	15	38	48	53	83	22	31	18	23	27	24	16	13	16	19	24
Virginia (ED)	168	19	81	34	29	32	26	37	56	49	59	28	39	21	28	32	28	20	33	34	45

Source: Administrative Office of the U.S. Courts, PACER records 1994 to 2014.

APPENDIX C-2 COPYRIGHT (EXCLUDING JOHN DOE CASES)

Copyright Cases Filed in US District Courts, 2014 to 1994 – Rank

District	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994
California (CD)	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1
New York (SD)	2	2	2	2	3	2	2	2	2	2	2	2	2	3	2	2	2	2	2	2	2
California (ND)	3	6	3	4	4	3	3	5	8	10	3	4	3	4	3	3	3	3	3	4	5
Florida (SD)	4	7	8	6	6	5	9	7	9	8	5	9	4	6	10	6	11	9	5	3	3
New Jersey	5	13	12	12	14	17	16	11	13	12	4	10	14	13	9	10	7	7	7	7	7
Colorado	6	3	5	3	20	7	15	25	39	41	21	11	19	22	22	28	24	19	21	26	26
Florida (MD)	7	5	10	7	5	11	6	9	12	9	11	5	5	7	7	7	10	11	8	8	6
Illinois (ND)	8	4	4	5	8	12	4	4	4	6	6	3	6	8	4	4	5	5	4	5	4
New York (ED)	9	8	16	15	27	4	8	10	7	4	7	7	18	15	8	5	4	4	9	9	8
Indiana (SD)	10	20	32	41	49	42	34	50	45	42	49	67	54	87	92	88	88	86	91	84	93

Copyright Cases Filed in US District Courts, 2014 to 1994 – Number of Cases

District	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994
California (CD)	630	511	517	384	409	346	449	582	605	575	457	432	374	304	343	391	365	405	358	347	392
New York (SD)	230	253	178	181	176	244	250	294	331	379	272	286	231	227	270	235	303	322	283	324	356
California (ND)	80	85	90	72	94	99	137	115	150	81	114	119	90	106	111	95	105	125	108	96	90
Florida (SD)	78	65	54	68	46	48	50	96	114	92	96	67	70	58	41	54	41	60	95	138	130
New Jersey	65	35	42	39	29	31	47	81	89	73	100	64	36	39	44	41	57	65	69	64	85
Colorado	64	138	58	85	25	46	48	38	31	29	36	57	31	21	25	18	18	24	22	21	25
Florida (MD)	60	89	47	60	47	39	69	91	96	82	65	114	66	55	46	50	42	44	61	53	90
Illinois (ND)	48	108	74	70	43	39	85	120	203	160	85	127	62	55	76	86	81	75	99	80	93
New York (ED)	47	46	35	34	20	50	58	86	172	176	83	83	31	36	45	58	90	87	60	51	81
Indiana (SD)	44	29	13	10	7	10	21	14	26	28	15	5	6								

Source: Administrative Office of the U.S. Courts, PACER records 1994 to 2014.

APPENDIX C-3 PATENT

Patent Cases Filed in US District Courts, 2014 to 1994 – Rank

District	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994
Texas (ED)	1	1	1	1	1	2	1	1	2	3	8	16	28	26	30	40	32	46	48	52	45
Delaware	2	2	2	2	2	3	3	4	5	6	5	5	4	4	5	5	4	7	13	6	14
California (CD)	3	3	3	3	3	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1
California (ND)	4	4	4	4	4	4	4	6	3	2	2	2	2	3	3	2	2	2	3	2	3
New Jersey	5	9	6	6	6	5	5	3	4	7	6	4	6	6	9	10	8	4	9	10	8
Illinois (ND)	6	6	5	5	5	6	6	5	6	4	3	3	3	5	2	3	3	3	2	3	2
Florida (SD)	7	7	8	12	8	14	22	8	11	10	21	7	12	16	14	8	19	16	5	16	5
New York (SD)	8	10	10	7	7	7	7	7	7	5	4	6	5	2	4	4	7	5	4	4	6
Virginia (ED)	9	8	7	11	10	10	9	18	27	19	16	27	20	17	15	15	6	6	8	15	15
Florida (MD)	10	16	12	10	11	13	15	10	13	15	12	15	22	11	17	18	22	17	14	19	13

Patent Cases Filed in US District Courts, 2014 to 1994 – Number of Cases

District	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994
Texas (ED)	1450	1518	1262	601	301	248	307	358	254	156	105	54	32	34	23	14	20	9	8	5	6
Delaware	963	1336	994	482	255	231	170	159	134	119	145	138	118	142	98	83	98	61	51	60	37
California (CD)	340	434	515	338	231	276	205	327	267	244	298	413	251	254	275	228	199	163	165	137	144
California (ND)	301	264	264	241	184	164	170	135	150	184	174	166	194	147	152	149	159	153	115	106	82
New Jersey	292	159	162	190	156	148	162	195	137	96	109	139	96	105	68	60	67	81	56	49	49
Illinois (ND)	147	215	235	231	178	139	155	141	126	138	169	149	184	128	153	131	115	116	128	94	87
Florida (SD)	132	204	152	81	76	44	36	72	63	67	45	76	57	47	47	62	39	43	69	41	61
New York (SD)	122	135	144	161	105	114	113	105	112	132	149	128	97	148	111	91	69	79	80	69	58
Virginia (ED)	97	172	162	81	66	60	68	47	33	47	52	31	41	46	47	52	78	70	56	43	32
Florida (MD)	89	61	77	82	66	46	47	61	52	53	62	55	39	57	43	44	35	40	41	31	38

Source: Administrative Office of the U.S. Courts, PACER records 1994 to 2014.

APPENDIX C-4 TRADEMARK

Trademark Cases Filed in US District Courts, 2014 to 1994 – Rank

District	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994
Minnesota	1	28	19	14	16	14	21	21	20	21	16	20	11	14	16	16	19	15	17	17	17
California (CD)	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Florida (SD)	3	2	3	3	3	4	3	3	4	8	5	6	6	3	7	6	6	5	6	6	6
Illinois (ND)	4	3	4	4	4	5	4	5	5	4	3	3	3	4	4	3	3	3	3	3	3
New York (SD)	5	4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
California (ND)	6	6	5	5	5	3	5	4	3	5	6	4	4	5	3	4	4	4	4	4	4
New Jersey	7	5	7	8	6	7	6	6	7	7	4	5	5	6	5	5	5	6	5	5	5
New York (ED)	8	8	16	10	13	10	12	10	9	12	9	10	9	8	17	8	7	7	10	7	8
Florida (MD)	9	7	6	6	7	8	7	7	6	6	7	7	7	13	11	7	8	10	13	13	9
Georgia (ND)	10	11	8	11	12	9	13	11	14	15	14	9	8	11	12	13	13	9	7	10	18

Trademark Cases Filed in US District Courts, 2014 to 1994 – Number of Cases

District	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994
Minnesota	594	31	53	71	69	74	53	47	58	58	67	61	74	71	82	77	60	61	51	42	43
California (CD)	568	524	510	522	514	499	537	518	537	484	478	566	418	400	485	566	452	348	378	302	336
Florida (SD)	269	275	243	251	230	155	161	170	152	119	128	120	125	144	149	143	118	136	125	90	96
Illinois (ND)	259	217	137	168	143	136	136	139	151	145	144	195	146	144	186	231	189	188	164	146	118
New York (SD)	239	209	253	283	271	271	288	275	302	317	297	321	329	313	381	354	351	334	278	297	282
California (ND)	135	128	131	134	134	173	135	157	162	135	120	143	137	137	190	213	180	152	161	113	112
New Jersey	108	132	96	92	125	95	108	123	139	121	134	139	134	130	174	178	153	127	133	94	107
New York (ED)	101	84	67	82	77	83	78	84	94	87	87	83	95	86	78	100	91	98	79	84	75
Florida (MD)	92	95	121	117	113	94	103	113	149	130	109	101	114	74	99	104	85	74	73	59	67
Georgia (ND)	76	71	88	78	81	89	77	78	80	75	73	85	102	79	97	84	72	74	86	66	43

Source: Administrative Office of the U.S. Courts, PACER records 1994 to 2014.