



New Insights on the “Death” of Obviousness: An Empirical Study of District Court Obviousness Opinions

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I. INTRODUCTION

¶1 The Federal Circuit’s mandate was a lofty one: enhance uniformity and stability in patent law, thereby promoting the useful arts and sciences. Whether it has achieved that goal is one of the most enduring questions in patent law today.¹ Given the Federal Circuit’s unique jurisdictional grant—defined by subject matter rather than geography, as the other federal appellate courts’ jurisdictions are defined—the implications of this question extend far beyond patent law to the very structure of our federal court system. As one scholar has noted, the Federal Circuit is a unique “experiment” in specialized courts.² Because obviousness was at the forefront of the debates leading to the Federal Circuit’s creation, and because of the inherent ambiguity and complexity of the obviousness standard, evaluating the Federal Circuit’s record on obviousness offers useful insight into the court’s “success.”

¶2 Previous empirical studies have suggested that patents are less likely to be invalidated for obviousness—or, for that matter, invalidated on any grounds—since the Federal Circuit’s inception in 1982. Prevailing wisdom among patent scholars is that the Federal Circuit, driven by a strong pro-patent bias, has lowered the obviousness standard to the point of being meaningless.³ As one scholar noted, many attorneys in the patent field believe that the Federal Circuit has caused the “death of obviousness.”⁴

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¹ Indeed, much of the current scholarship in patent law focuses on this question in various ways. *See, e.g.*, Hon. Pauline Newman, *The Federal Circuit: Judicial Stability or Judicial Activism?*, 42 AM. U. L. REV. 683, 688 (1993) (discussing the early successes and challenges the Federal Circuit faced); R. Polk Wagner & Lee Petherbridge, *Is the Federal Circuit Succeeding? An Empirical Assessment of Judicial Performance*, 152 U. PA. L. REV. 1105 (2002) (discussing the Federal Circuit’s mixed success in bringing a coherent standard and method to claim construction).

² *See* Rochelle Cooper Dreyfuss, *The Federal Circuit: A Case Study in Specialized Courts*, 64 N.Y.U. L. REV. 1, 3 (1989).

³ *See* Glynn S. Lunney, Jr., *E-Obviousness*, 7 MICH. TELECOMM. & TECH. L. REV. 363, 380 (2001) (attributing the death of obviousness, in part, to the fact that “the Federal Circuit has taken its role as defender of the patent system seriously [and] [i]n pursuit of that perceived role, the Federal Circuit has at times shown a reckless indifference to its sworn duty to ‘uphold the law’”) (footnote omitted); *see also* Mark D. Janis, *Reforming Patent Validity Litigation: The “Dubious Preponderance”*, 19 BERKELEY TECH. L.J. 923, 928 (2004) (“[T]he generally received wisdom [is] that the Federal Circuit adopted a pro-patent bias early in its tenure.”); Robert P. Merges, *Commercial Success and Patent Standards: Economic Perspectives on Innovation*, 76 CAL. L. REV. 803, 822 (1988) (“Even with the[] safeguards, [Congress imposed when it created the Federal Circuit], the Federal Circuit appears to be a ‘pro-patent’ court.”).

⁴ Ronald B. Coolley noted in 1994 that “many patent attorneys believe that the obviousness defense is dead and that the cause of death lies in the decisions of the Court of Appeals for the Federal Circuit.” Ronald B. Coolley, *The Status of Obviousness and How to Assert It as a Defense*, 76 J. PAT. & TRADEMARK OFF. SOC’Y 625, 625 (1994). Mr. Coolley goes on to refute this perception by analyzing Federal Circuit decisions.

¶3 This Note begins to fill a gap in existing empirical studies of obviousness by comparing district court obviousness opinions from the pre-Federal Circuit era, when appeals from patent suits in district courts were heard by the geographically appropriate regional circuit courts, to those in the post-Federal Circuit era. In this way, this Note attempts to address the enduring question of the Federal Circuit's success.

¶4 This Note proceeds in four parts. Part I gives background information on the obviousness standard, the Federal Circuit and previous empirical studies of obviousness. Part II outlines the methods of my empirical study and the resulting data set. Part III sets forth the empirical results of my study. Part IV presents some interpretations of these results in light of both previous work on obviousness and new insights into the observations. Finally, this Note concludes by proposing several avenues for future research that might lend further insight into the death of obviousness, and thereby lend insight into the question of whether the Federal Circuit has been successful as a stabilizing influence for this complicated doctrine.

II. BACKGROUND: PREVIOUS STUDIES AND TREATMENTS OF OBVIOUSNESS

A. *A Growing Frustration with Obviousness*

¶5 Ever since the Supreme Court's first incarnation of the obviousness standard in 1851,⁵ courts and litigants have struggled to define the requisite level of "ingenuity and skill"⁶ for patentable invention.⁷ Prior to the 1970s, Congress and the Supreme Court tried in vain to bring some coherence to the obviousness standard. Three of the most significant of these attempts warrant some discussion. First, in 1941, the Supreme Court suggested the "flash of creative genius" test.⁸ Under this test, a patentee was apparently expected to show some "eureka" moment of invention.⁹ Along with the difficulty of proving such a eureka moment of invention, this test failed to account for the fact that many worthy inventions are not the result of such grand, momentary inspiration, but rather diligent, tedious research.

¶6 Recognizing these problems, Congress intervened in 1952 by codifying the standard of obviousness.¹⁰ Along with undoing the flash of creative genius test,¹¹ as the Supreme Court has noted, Congress noted that one purpose of codifying the obviousness standard was to "have some stabilizing effect" on the doctrine.¹² Yet, courts continued to struggle with the standard.

¶7 In 1966, equipped with the codified obviousness standard, the Supreme Court made another attempt at bringing coherence to the standard. In *Graham v. John Deere Co.* the Court announced a conceptual framework whereby courts should ascertain: (1) the scope and content of the prior art, (2) the differences between the prior art and the claims at issue, and (3) the level of ordinary skill in the pertinent art.¹³ Based on these three findings, a court should assess whether or not the claimed

⁵ *Hotchkiss v. Greenwood*, 52 U.S. (11 How.) 248 (1851).

⁶ *Id.* at 267.

⁷ *Republic Indus., Inc. v. Schlage Lock Co.*, 592 F.2d 963, 967 (7th Cir. 1979) ("The imprecision of the 'invention' standard resulted in an inconsistent and unpredictable body of law because it required that the decision of patentability be based ultimately upon the subjective whims of the reviewing court.").

⁸ *Cuno Eng'g Corp. v. Automatic Devices Corp.*, 314 U.S. 84, 91 (1941).

⁹ Catherine L. Fisk, *Removing the 'Fuel of Interest' from the 'Fire of Genius': Law and the Employee-Inventor, 1830-1930*, 65 U. CHI. L. REV. 1127, 1160 (1998) (describing how "the popular and even the academic vision of invention in the nineteenth century was that of the genius alone in his workshop, tinkering away until suddenly a bright idea came to him in a flash," and how this vision affected the evolution of patent law).

¹⁰ 35 U.S.C. § 103 (1984). For further discussion of the history behind § 103, see Tom Arnold, *The Way the Law of Section 103 Was Made*, in DONALD S. CHISUM ET AL., *PRINCIPLES OF PATENT LAW* 549 (2d ed. 2001), and Merges, *supra* note 3.

¹¹ See 35 U.S.C. § 103(a) (2000) ("Patentability shall not be negated by the manner in which the invention was made."); see also *Life Techs., Inc. v. Clontech Labs., Inc.*, 224 F.3d 1320, 1325 (Fed. Cir. 2000) ("[T]he path that leads an inventor to the invention is expressly made irrelevant to patentability by statute."); *In re Paquette*, 423 F.2d 1401, 1404 (C.C.P.A. 1970) ("[I]t is well known that [§ 103's language regarding manner of invention] refers to how the applicant attained his invention, as whether by a sudden inspiration or by long research.").

¹² *Graham v. John Deere Co.*, 383 U.S. 1, 16 (1966) (quoting 35 U.S.C.A. § 103 Revisers Note).

¹³ *Id.*

invention is obvious in light of the prior art. The Court in *Graham* also recognized the potential relevance of several “secondary considerations,” such as the commercial success of the invention, when assessing the obviousness of an invention.¹⁴ The *Graham* framework is, today, still the guiding precedent for obviousness analyses.¹⁵

¶8 Despite these efforts, obviousness remained, as Judge Hand once lamented, as “fugitive, impalpable, wayward, and vague a phantom as exists in the whole paraphernalia of legal concepts.”¹⁶ While the two other requirements for patentability of an invention have proven either impotent (in the case of the utility requirement)¹⁷ or relatively straightforward in application (in the case of the novelty requirement),¹⁸ obviousness is still feared by many as a formidable¹⁹ and ambiguous²⁰ specter in patent litigation.

¶9 In the years following *Graham*, district and regional circuit courts remained adrift with an ambiguous and complicated doctrine. As the Seventh Circuit Court of Appeals noted in 1979, defining the proper standard for obviousness was a “recurrent problem,” and district courts, “not without some confusion emanating from [the Seventh Circuit Court of Appeals]” were increasingly relying on an improper standard.²¹ This level of uncertainty and instability was undermining the United States patent system. As one commentator noted, “[w]hen decisions are being made [in the board room], the gambler’s spirit is low and any minor cold water on a request for research [such as instability in patent laws] is apt to militate against a favorable research decision.”²²

B. The Federal Circuit and Obviousness

¶10 In the 1970s, the common perception was that patentees should “scramble to get into the 5th, 6th and 7th circuits since the courts there [were] not inhospitable to patents whereas infringers

¹⁴ *Id.* at 17-18 (“Such . . . secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries may have relevancy.”). Some scholars have argued that the Federal Circuit has given increasing (and undue) weight to secondary considerations. *See, e.g.,* Lunney, *supra* note 3; *see also infra* note 31 and accompanying text.

¹⁵ *See, e.g.,* Merck & Co. v. Teva Pharm. USA, Inc., 395 F.3d 1364, 1372-77 (Fed. Cir. 2005) (discussing and applying the *Graham* framework).

¹⁶ Harries v. Air King Prods. Co., 183 F.2d 158, 162 (2d Cir. 1950).

¹⁷ “The threshold ‘beneficial use’ remains low, however, providing that a claimed invention need not perform functions more effectively than similar inventions or technologies. Courts generally allow the market to determine whether an invention actually benefits society” Timothy A. Worrall, *The 2001 PTO Utility Examination Guidelines and DNA Patents*, 16 BERKELEY TECH. L.J. 123, 129 (2001). Inventions have traditionally passed the utility requirement as a matter of course. *See* Lowell v. Lewis, 15 F.Cas. 1018, 1019 (C.C. Mass. 1817) (“All that the law requires is, that the invention should not be frivolous or injurious to the well-being, good policy, or sound morals of society.”). Today there are exceptions in only a few context or industry specific cases. *See* CHISUM ET AL., *supra* note 10, at 719-25 (discussing the potential importance of the utility requirement for biotechnology and “illegal” or “immoral” inventions).

¹⁸ Although patents are frequently invalidated under 35 U.S.C. § 102 for lack of novelty, the basic standard for novelty is relatively clear. As one article notes: “Novelty is straightforward: as long as an invention has not been created before, novelty is assured.” David S. Evans & Anne Layne-Farrar, *Software Patents and Open Source: The Battle Over Intellectual Property Rights*, 9 VA. J.L. & TECH. 10, 27 (2004).

¹⁹ Robert W. Harris, *Prospects for Supreme Court Review of the Federal Circuit Standards for Obviousness of Inventions Combining Old Elements*, 68 J. PAT. & TRADEMARK OFF. SOC’Y 66, 66 (1986) (“[O]bviousness is the most frequently dispositive patentability issue, since most inventions can meet the comparatively liberal requirements of utility and novelty.”)

²⁰ *See, e.g.,* Dann v. Johnston, 425 U.S. 219, 226 (1976) (“[R]ecognizing the inevitability of difficulty in making the determination [of obviousness] in some cases”); *see also* Robert Desmond, Comment, *Nothing Seems “Obvious” to the Court of Appeals for the Federal Circuit: The Federal Circuit, Unchecked by the Supreme Court Transforms the Standard of Obviousness Under the Patent Law*, 26 LOY. L.A. L. REV. 455 (1993) (discussing the evolution of obviousness from 1851 through the 1990s).

²¹ Republic Indus., Inc. v. Schlage Lock Co., 592 F.2d 963, 964 (7th Cir. 1979). Perhaps the most common and clear area of confusion was the question of whether patents that were merely a combination of known or existing elements required some surprisingly beneficial result—or “synergistic effect”—when combined. *Compare* Cont’l Oil Co. v. Cole, 634 F.2d 188, 197 (5th Cir. 1981) (“The linchpin is not whether the individual components of the . . . patent were obvious at the time of the invention, but whether the aggregation produced a new or different result or achieved a synergistic effect.”), *with* Republic Indus., 592 F.2d at 967 (holding that a requirement for “synergism” is neither a substitute nor addition to the statutory obviousness requirement).

²² *Federal Courts Improvement Act of 1979: Addendum to Hearings Before the Sen. Subcomm. on Improvements in Judicial Machinery of the Comm. on the Judiciary on S. 677 and S. 678*, 96th Cong. 56 (1979) [hereinafter *1979 Addendum to Hearings*] (statement of Donald R. Dunner, patent consultant to the Hruska Commission).

scramble[d] to get anywhere but in these circuits.”²³ In response to the perceived instability and lack of uniformity in obviousness and other patent doctrines, Congress created the United States Court of Appeals for the Federal Circuit (Federal Circuit) in 1982,²⁴ and granted the court exclusive nationwide jurisdiction over appeals from patent suits in any district court.²⁵ The primary motivation in creating the Federal Circuit was to provide a single appellate forum for patent cases to enhance uniformity and stability in patent law,²⁶ and thereby curb the “mad and undignified [forum shopping] races”²⁷ between patentees and alleged infringers. In the legislative history leading up to the court’s creation, the most often-cited example of instability and regional variation was the obviousness doctrine.²⁸ In fact, obviousness was the only example of regional variation cited in the patent law consultant’s report that was submitted to Congress,²⁹ on which Congress relied in creating the Federal Circuit.

¶11 Under the Federal Circuit’s reign, there are at least two notable doctrinal changes with respect to obviousness. First, the court has rejected the “synergism” (i.e., surprisingly beneficial result) requirement for patents that are combinations of known or existing elements.³⁰ Second, at least arguably, the court has increasingly emphasized the importance of “secondary considerations,” or “objective criteria” tending to show nonobviousness (e.g., commercial success of the invention, a long-felt but unfulfilled need for the invention, etc.).³¹

¶12 Some scholars have argued that these changes, along with other more subtle changes in the court’s approach to obviousness, have effectively lowered the hurdle of obviousness.³² However, it is somewhat unclear precisely whether or how the Federal Circuit’s jurisprudence lowers the standard of obviousness. First, with respect to synergism, in place of synergism the court has increasingly

²³ COMMISSION ON REVISION OF THE FEDERAL COURT APPELLATE SYSTEM STRUCTURE AND INTERNAL PROCEDURES: RECOMMENDATIONS FOR CHANGE (1975) [hereinafter HRUSKA COMMISSION REPORT], reprinted in 67 F.R.D. 195, 370.

²⁴ The Federal Circuit was created by the Federal Courts Improvement Act of 1982, Pub. L. No. 97-164, 96 Stat. 25 (codified in scattered sections of 28 U.S.C.), which went into effect on October 1, 1982. *Id.* at § 402. The court issued its first written opinion on a patent appeal from the Patent and Trademark Office on February 14, 1983, see *In re Heck*, 699 F.2d 1331 (Fed. Cir. 1983), and its first written opinion on a patent appeal from a district court on February 15, 1983, see *Veach v. Vinyl Improvement Prods. Co.*, 700 F.2d 1390 (Fed. Cir. 1983).

²⁵ See 28 U.S.C. § 1295(a)(1) (2000).

²⁶ See S. REP. NO. 97-275, at 2 (1981), reprinted in 1982 U.S.C.C.A.N. 11, 11 (noting that the purpose of the bill, which creates the Federal Circuit, is to “fill a void in the judicial system by creating an appellate forum capable of exercising nationwide jurisdiction over appeals in areas of the law where Congress determines there is a special need for nationwide uniformity,” including patent law); see also *Federal Courts Improvement Act of 1979: Hearings on S. 677 and S. 678 Before the Senate Subcomm. on Improvements in Judicial Mach. of the Comm. on the Judiciary*, 96th Cong. 33 (1979) [hereinafter *1979 Hearings*] (statement of Daniel J. Meador, Assistant Attorney General, Department of Justice) (“The validity of a patent should not turn upon the happenstance of who wins the race to the courthouse door.”); *id.* at 113 (statement of Howard T. Markey, Chief Judge, Court of Customs and Patent Appeals) (“[T]here is a] crying need for definitive, uniform, judicial interpretation of [the patent statute]”).

²⁷ HRUSKA COMMISSION REPORT, *supra* note 23, at 220 (quoting HENRY J. FRIENDLY, FEDERAL JURISDICTION: A GENERAL VIEW 155 (1973)).

²⁸ See, e.g., *Position Paper of Bar Association of the Seventh Federal Circuit on S-677 and S-678*, at ii, submitted under cover letter from Harold R. Woodward, President, Bar Association of the Seventh Federal Circuit, to Senator Dennis DeConcini (June 5, 1979), reprinted in *1979 Hearings*, *supra* note 26, at 659, 664 (“[I]t is only with respect to the 35 U.S.C. § 103 obviousness cases that it is claimed that there is a lack of uniformity”); Letter from Phillip H. Mayer, Leydig, Voit, Osann, Mayer & Holt (Apr. 26, 1979), reprinted in *1979 Hearings*, *supra* note 26, at 527, 531-33 (describing two examples of non-uniformity in regional circuit court decisions: the “test for synergism” and the appropriate date on which to base prior art determinations, both of which relate to validity of a patent); *1979 Addendum to Hearings*, *supra* note 22, at 56 (statement of Donald R. Dunner, patent consultant to the Hruska Commission) (“[T]here has been a wide variety of views among the circuits as to the nature of the test to be applied to determine whether patentable invention exists.”); see also *id.* at 67 (statement of Harry F. Manbeck, Jr., General Patent Counsel, General Electric Co.) (“The businessman wants to know if a patent is likely to be sustained or overturned and not that his chances are at one percentage level if the trial occurs in one circuit and at another percentage level if it occurs in another circuit.”); *id.* at 72 (statement of Richard C. Witte, Chief Patent Counsel, Proctor & Gamble Co.) (describing a survey of industry researchers showing that eighty-four percent of the respondents felt that variance in the court’s standards of patentability is eroding the value of the patent incentive).

²⁹ HRUSKA COMMISSION REPORT, *supra* note 23, at 371.

³⁰ See *Chore-Time Equip., Inc. v. Cumberland Corp.*, 713 F.2d 774, 781 (Fed. Cir. 1983) (suggesting, in dicta, that § 103 did not require a “synergistic” effect); *Medtronic, Inc. v. Cardiac Pacemakers, Inc.*, 721 F.2d 1563, 1566 (Fed. Cir. 1983) (suggesting that combination patents should be held to the same standard of obviousness as other patents).

³¹ *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538 (Fed. Cir. 1983) (noting that secondary considerations are often “the most probative and cogent evidence in the record”).

³² See *Lunney*, *supra* note 3; *Desmond*, *supra* note 20.

focused on whether prior art contains a “suggestion” to combine elements in a combination patent, which is not inherently a lower standard than the test for synergism.³³ Furthermore, two regional circuits had expressly repudiated the synergism requirement even before 1982, and momentum seemed to be moving other courts away from the requirement.³⁴ Thus, even if abandoning synergism did lower the obviousness standard, it was the regional circuit courts, not the Federal Circuit, that set this doctrinal shift in motion.

¶13 Second, with respect to the court’s rhetoric regarding secondary considerations, the Federal Circuit has consistently maintained that secondary considerations are “insufficient to overcome the conclusion of obviousness” when prior art teaches the claimed invention.³⁵ And, ultimately, the Federal Circuit’s obviousness analyses are governed by the same *Graham* framework that governed regional circuits between 1966 (the date of the *Graham* decision) and 1982 (the date of the Federal Circuit’s inception)—and the *Graham* framework has always recognized the potential relevance of secondary considerations.³⁶

¶14 However one characterizes the doctrinal changes in obviousness under the Federal Circuit’s reign, the court’s primary mandate is to provide uniformity and stability in patent law. Congress was ultimately concerned that “[t]he businessman wants to know if a patent is likely to be sustained or overturned and not that his chances are at one percentage level if the trial occurs in one circuit and at another percentage level if it occurs in another circuit.”³⁷ Of course, at least to the extent that the Federal Circuit is internally consistent, appellate consistency in obviousness was an inevitable consequence of centralizing patent appeals. And at the district court level, given the Federal Circuit’s exclusive nationwide jurisdiction, doctrinal consistency at the district court level was also, at least theoretically, an inevitable consequence of centralizing patent appeals. With only one voice announcing the standard of obviousness for the entire federal court system, there should no longer be variations in the standards and doctrines employed in the various district courts.³⁸

¶15 Of course, this leaves the possibility that district courts will continue interpreting and applying the obviousness standard differently. And, while getting a uniform answer on appeal may be an improvement over the pre-Federal Circuit era, ultimately the federal court system and parties have an interest in getting the right answer at the trial court level. Thus, one important metric for Federal Circuit “success” is whether the court’s reign has reduced the sort of regional variation in obviousness opinions that motivated the court’s creation. “Success” under this metric would mean that litigants get the same answer to an obviousness question no matter which district court hears the question.

³³ See, e.g., *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577 (Fed. Cir. 1984) (“Obviousness cannot be established by combining the teachings of prior art to produce the claimed invention absent some . . . suggestion supporting the combination.”).

³⁴ See *Republic Indus., Inc. v. Schlage Lock Co.*, 592 F.2d 963, 967 (7th Cir. 1979) (holding that a requirement for “synergism” is neither a substitute nor addition to the statutory obviousness requirement); *Plastic Container Corp. v. Cont’l Plastics of Okla., Inc.*, 607 F.2d 885, (10th Cir. 1979) (noting that the guidelines established by *Graham* “do not require that, for a combination of known elements to be nonobvious, the result achieved by the combination must be synergistic”); cf. *Scully Signal Co. v. Elec. Corp. of Am.*, 570 F.2d 355, 360 n.5 (1st Cir. 1977) (noting that the district court “correctly cautioned against reading [the synergism] too literally”); *Brennan v. Mr. Hanger, Inc.*, 203 U.S.P.Q. 697, 706, (S.D.N.Y. 1979) (“Left with any choice, this Court would enthusiastically join the Courts of Appeals for the Seventh and Tenth Circuits in expressly repudiating the synergism requirement.”).

³⁵ *SIBIA Neurosciences, Inc. v. Cadus Pharm. Corp.*, 225 F.3d 1349, 1358 (Fed. Cir. 2000).

³⁶ *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966).

³⁷ 1979 *Addendum to Hearings*, *supra* note 22, at 67 (statement of Harry F. Manbeck, Jr., General Patent Counsel, General Electric Co.). Of course, stability and uniformity are but one measure of the Federal Circuit’s success. Ultimately, subject to power vested in the court by Congress, Congress has entrusted to the Federal Circuit the lofty goal set forth by the Founders—“To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.” U.S. CONST. art. I, § 8, cl. 8.

³⁸ For instance, once the Federal Circuit rejected the synergy requirement, there could be no doubt that this was the law in any district court. See, e.g., *Nordberg Inc. v. Telsmith, Inc.*, 881 F. Supp. 1252, 1293 (E.D. Wis. 1995) (“The Federal Circuit appears to have overruled [the line of cases requiring synergism], finding there is no requirement of a synergistic effect and that there is no basis for treating combinations of old elements differently in determining patentability.”)

C. Studying the “Success” of the Federal Circuit with Empirical Analyses of Invalidation Opinions

¶16 Although addressed in various contexts and by many scholars,³⁹ perhaps the most important and enduring question in patent law is this: Has the Federal Circuit succeeded? Because the Federal Circuit is a unique “experiment”⁴⁰ in specialized courts for our judicial system, the implications of this enduring question reach far beyond the realm of patent law. And, given the historical importance of obviousness in creating the Federal Circuit,⁴¹ obviousness is perhaps the best metric for assessing the Federal Circuit’s success.

¶17 A few scholars have undertaken empirical studies of case law to assess the success of the Federal Circuit.⁴² Most relevant for the purposes of this Note are Kimberly Moore’s work with validity decisions in district courts, and Glynn Lunney’s work with appellate decisions.

¶18 In a series of papers, Professor Moore analyzed district courts’ validity decisions between 1983 and 1999.⁴³ She concludes that choice of forum matters (i.e., that patents are more likely to be invalidated in some district courts compared to others)⁴⁴ and that the rate at which district courts invalidated patents during the period of study was 33% (i.e., in 33% of the cases reaching the question of validity, the court invalidated the patent at issue).⁴⁵

¶19 Professor Lunney compared invalidity and obviousness decisions from eight, two-year periods spanning from 1944 to 1995.⁴⁶ With respect to invalidity, Professor Lunney’s study shows that the rate of invalidity has steadily decreased since 1975.⁴⁷ With respect to obviousness in particular, his study shows that, among invalidated patents, the percentage of patents invalidated under the nonobviousness requirement—rather than under some other patent validity requirement such as novelty—has steadily decreased since 1966, and sharply dropped since 1982.⁴⁸ This, Professor Lunney concludes, shows that the Federal Circuit has stripped obviousness of its teeth, and demoted it from “starring role” to “bit player” in patent litigation.⁴⁹

¶20 These studies leave unanswered the question of what has happened to obviousness at the district court level. As Professor Lunney noted in his study of obviousness in appellate courts, “we must be careful in drawing inferences from an examination of appellate case results alone.”⁵⁰ And Professor Moore’s analysis, while highly illuminating with respect to validity in general, does not consider obviousness in particular, nor does it include data from the pre-Federal Circuit era that could serve as a reference point for changes caused by the Federal Circuit.

¶21 Given the central role that obviousness played in the decision to unify patent appeals, and the ultimate goal of getting the right answer to obviousness questions at the district court level, has the Federal Circuit successfully fulfilled its ultimate promise? Have district courts followed the Federal Circuit’s lead on any doctrinal shifts in obviousness? And, has the Federal Circuit affected litigation

³⁹ See, e.g., Newman, *supra* note 1; Wagner & Petherbridge, *supra* note 1.

⁴⁰ See Dreyfuss, *supra* note 2.

⁴¹ See *supra* notes 23-29 and accompanying text.

⁴² See, e.g., John R. Allison & Mark A. Lemley, *The Growing Complexity of the United States Patent System*, 82 B.U. L. REV. 77 (2002) [hereinafter Allison & Lemley, *Growing Complexity*]; Ronald B. Cooley, *What the Federal Circuit Has Done and How Often: Statistical Study of the C.A.F.C. Patent Decisions—1982-1988*, 71 J. PAT. & TRADEMARK OFF. SOC’Y 385 (1989); John R. Allison & Mark A. Lemley, *Empirical Evidence on the Validity of Litigated Patents* (unpublished manuscript at 4 n.18), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=118149 (last visited Feb. 13, 2006) [hereinafter Allison & Lemley, *Empirical Evidence*].

⁴³ Kimberly A. Moore, *Forum Shopping in Patent Cases: Does Geographic Choice Affect Innovation?*, 79 N.C. L. REV. 889 (2001) [hereinafter Moore, *Forum Shopping*]; Kimberly A. Moore, *Judges, Juries, and Patent Cases—An Empirical Peek Inside the Black Box*, 99 MICH. L. REV. 365 (2000) [hereinafter Moore, *Judges, Juries, and Patent Cases*].

⁴⁴ Moore, *Forum Shopping*, *supra* note 43, at 919.

⁴⁵ Moore, *Judges, Juries, and Patent Cases*, *supra* note 43, at 390 tbl.4.

⁴⁶ Lunney, *supra* note 3, at 370-75.

⁴⁷ *Id.* at 371 fig.1.

⁴⁸ *Id.* at 373 fig.2.

⁴⁹ *Id.* at 370.

⁵⁰ *Id.* at 374.

strategies and choices with respect to obviousness? With these questions in mind, I now turn to my own empirical study of obviousness opinions in district courts.

III. DESCRIPTION OF EMPIRICAL STUDY

¶22 This Note relies on an empirical study of 321 published district court opinions⁵¹ that reached the question of obviousness on 407 different utility patents⁵² and ultimately held those patents either obvious—and therefore invalid—or nonobvious under 35 U.S.C. § 103. This study includes all such district court opinions for two different time periods: one time period (1970 through 1975) is before the Federal Circuit was created; the other time period (1995 through 2000) is well after the Federal Circuit began hearing patent appeals. By defining the second time period to begin thirteen years after the Federal Circuit’s inception,⁵³ I have tried to avoid at least the brunt of the adjustment period immediately following the Federal Circuit’s creation.⁵⁴

¶23 The cases included in this study were found by searching Westlaw with an overly broad search criterion.⁵⁵ I then reviewed each case to determine whether the case reached the question of obviousness, whether the question arose in a proper procedural context, and the district court’s ultimate disposition on the question of obviousness.

¶24 The question of obviousness can arise in what I consider its “pure” form in three procedural contexts: summary judgment, judgment as a matter of law, and ordinary final judgment at the conclusion of a trial. This study includes cases from each of these three procedural contexts. However, summary judgment rulings are included only when a district court finds that there is no issue of material fact, and therefore reaches the question of whether the parties are entitled to judgment as a matter of law—in other words, denials of summary judgment based on the existence of a genuine issue of material fact are not included in this study. Treating obviousness holdings from each of these three procedural contexts is appropriate because obviousness is, at least ultimately, a legal question.⁵⁶ Thus, no matter which of these three procedural contexts, the court is ruling on the same legal question, no matter the state of the factual record at that point in the case.⁵⁷

¶25 Many of the district court cases included in this study considered multiple patents in light of the obviousness standard. Generally, this study includes the holding on each patent as a unique data

⁵¹ For the purposes of this Note, I use the term “published” to refer to any opinion available on Westlaw, whether or not the opinion is reported in an official reporter. Although some commentators have found systematic differences in published and unpublished opinions, see Peter Siegelman & John J. Donohue III, *Studying the Iceberg from Its Tip: A Comparison of Published and Unpublished Employment Discrimination Cases*, 24 LAW & SOC’Y REV. 1133, 1135 (1990) (“We begin in section II by confirming what most readers probably know already—the potential unrepresentativeness of cases with published opinions is likely to be significant because only a few cases ever leave a published record.”), most of the discrepancies found relate specifically to the grounds on which types of legal claims lead to published opinions—more complex legal questions are more likely to result in published opinions. *Id.* at 1156. Since my study focuses on a single doctrine—obviousness—there is no risk of a systematic difference in the grounds for decision (i.e., all opinions included in this study were decided on the grounds of obviousness). However, higher stakes cases are also more likely to result in published opinions, which, according to my analysis of patent case selection, see *infra* text accompanying notes 117-122, might imply higher rates of obviousness in published opinions compared to unpublished opinions.

⁵² Design patents are not included in the study.

⁵³ For details on the Federal Circuit’s creation and its earliest cases, see *supra* note 24.

⁵⁴ For a thorough discussion and empirical analysis of the Federal Circuit’s early years, see Dreyfuss, *supra* note 2. Professor Dreyfuss concludes that at least some of the problems identified in his article may be “transitional.” *Id.* at 52.

⁵⁵ This study considered all cases resulting from a Westlaw search of the “DCI” database (which covers all federal district courts) with the following search strings: “patent /p obvious! & da(aft 01/01/1970 & bef 12/31/1975)” and “patent /p obvious! & da(aft 01/01/1995 & bef 12/31/2000).” Thus, any opinion that uses the word “patent” in the same paragraph as any variation of the term “obvious” (e.g., obviousness) was considered in this study. Although this search string proved to be highly over-inclusive, narrower search strings proved to be under-inclusive. For instance, many district court opinions fail to cite 35 U.S.C. § 103 when ruling on the question of obviousness, so any search string that limited its results to cases including a term like “103” would miss many district court opinions that reached the question of obviousness.

⁵⁶ See *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966) (“[The] ultimate question of patent validity is one of law.”)

⁵⁷ Although courts consider obviousness in several other procedural (e.g., motions for preliminary injunction) and substantive contexts (e.g., doctrine of equivalents, on-sale bar), the question of obviousness is not raised in its “pure” form in these other contexts. For example, when a court considers the question of obviousness as part of a motion for preliminary injunction, the precise question before the court is whether one party is “likely” to succeed on the question of obviousness, rather than the ultimate question of whether the patent *is* obvious as a matter of law. See, e.g., *Decade Indus. v. Wood Tech., Inc.*, 100 F. Supp. 2d 979 (D. Minn. 2000).

point. In a few instances, however, this Note focuses on the number of cases, rather than the number of patents. Where appropriate, this Note uses the term “cases” to refer to the number of unique cases included in the study, and “patents” to refer to the number of unique patents in the study.

¶26 The ultimate empirical data point for each unique case/patent combination is recorded as either “holding patent obvious” or “holding patent nonobvious.”⁵⁸ Throughout this Note I use the phrase “rate of obviousness” to refer to the fraction of patents reaching the question of obviousness that are invalidated as obvious.⁵⁹

¶27 In addition to studying the rates of obviousness among the district courts, I was also interested in analyzing the effect of a patent’s relative technological complexity on a district court’s obviousness conclusion.⁶⁰ To assess this effect, I analyzed each patent included in the study⁶¹ and assigned it a “complexity number” ranging from 1 to 4.

¶28 In assigning complexity numbers, I tried to focus on the level of scientific knowledge required to understand the inner-workings of the patented invention.⁶² Patents assigned a complexity number of 1 are inventions that can be understood without any scientific or technical explanation. This category includes inventions like “stackable plastic cups”⁶³ and “a paper bag.”⁶⁴ Complexity category 2 corresponds to inventions that require some mechanical explanation, but whose workings are easily accessible to a layperson after a basic technical explanation.⁶⁵ Category 3 corresponds to inventions that require some scientific explanation, but fall short of requiring an in-depth and high-level scientific explanation. For example, inventions such as condensers and simple electrical circuits require some scientific knowledge, but the science behind the invention and the ultimate inventions

⁵⁸ The following additional information is also recorded for each case/patent combination: case name; date; citation; court; circuit; judge; patent number.

⁵⁹ In other words, if ten patents reach the question of obviousness in a given time period, and one is found invalid as obvious while nine are found valid, the “rate of obviousness” is 10%.

⁶⁰ Previous studies considering the effects of technology on validity findings have focused on potential differences between industries or patent classification groups. For instance, Allison and Lemley categorized patents into several industry classifications, including “chemical,” “electrical,” “software,” “pharmaceutical,” and “general.” Allison & Lemley, *Empirical Evidence*, *supra* note 42 (unpublished manuscript at 29 & n.69). Based on these categories, they found no statistically significant difference in the rates of invalidity between industries. *See also* Dan L. Burk & Mark A. Lemley, *Is Patent Law Technology-Specific?*, 17 BERKELEY TECH. L.J. 1155 (2002) (discussing potential differences in the application of patent law to different technologies, focusing particularly on software and biotechnology).

⁶¹ I reviewed each patent (or, at a minimum, each patent’s abstract) to assess the patent’s complexity level. All patents included in this study are available through the Patent and Trademark Office’s website at <http://www.uspto.gov>. In a few instances, the patent number listed in a district court’s opinion was incorrect (4 cases covering 4 patents) or was not included (4 cases covering 5 patents), and therefore could not be found through the PTO’s website. When these opinions gave an adequate description of the patented technology, I used the opinion to assign the patent a complexity number. *See, e.g.*, *Rawlings v. Nat’l Molasses Co.*, 328 F. Supp. 913 (C.D. Cal. 1971). In a few of these cases, however, I was unable to assign a complexity number based on the court’s description of the patent. *See, e.g.*, *Fromson v. Anitec Printing Plates Inc.*, Civ. A. No. 91-30139-MAP, 1996 WL 544348 (D. Mass. Mar. 15, 1999). Accordingly, these cases (3 cases covering 3 patents) are omitted from my analysis of complexity.

⁶² I also considered a second, somewhat more subtle factor for patents that seemed to fall in the gray areas between two complexity categories: whether the patented invention is a product or process that is common and familiar to a layperson. For instance, a chemical patent for a dental rinse seems more within the grasp of a layman than a chemical patent for a chemical composition used in reducing sulfur oxides. Even though the fundamental chemical reaction mechanisms in these two patents may be similar, the layman can intuitively sense the mechanism and goal of a dental rinse, whereas the layman has no practical sense of what it means to reduce sulfur oxides in a more abstract sense. Accordingly, under this scheme, a chemical patent for dental rinse is assigned a complexity number of 3, while a chemical patent for reducing sulfur oxides was assigned a complexity number of 4. *Compare* *Pfizer, Inc. v. Perrigo Co.*, 988 F. Supp. 686 (S.D.N.Y. 1997) (considering U.S. Patent No. 5,338,538, which relates to dental rinse formula), *with* *W.R. Grace & Co.-Conn. v. Intercat, Inc.*, 7 F. Supp. 2d 425 (D. Del. 1997) (considering U.S. Patent No. 4,469,589, which relates to a chemical composition for reducing sulfur oxides). Generally, though, I could categorize a patent based solely on the level of scientific knowledge required to understand the inner-workings of the patent, and therefore did not resort to this tiebreaking factor.

⁶³ *See, e.g.*, *Ill. Tool Works Inc. v. Solo Cup Co.*, 317 F. Supp. 1169 (N.D. Ill. 1970) (holding U.S. Patent No. 3,139,213, which covers stackable plastic cups, nonobvious).

⁶⁴ *See, e.g.*, *St. Regis Paper Co. v. Bemis Co., Inc.*, 403 F. Supp. 776 (S.D. Ill. 1975) (holding U.S. Patent No. 3,650,460, which covers a paper bag, nonobvious).

⁶⁵ *See, e.g.*, *Nordberg Inc. v. Telsmith Inc.*, 881 F. Supp. 1252 (E.D. Wis. 1995) (holding U.S. Patent No. 4,478,373, which covers an industrial rock crusher, obvious).

themselves are relatively accessible to a layperson after detailed scientific or technical explanation.⁶⁶ Patents assigned a complexity number of 4 require significant and complex scientific explanation for a layperson to comprehend; for instance, many biotechnology⁶⁷ and chemical patents.⁶⁸ These are inventions whose inner working can only be understood fully by someone with rigorous (often doctorate-level) scientific training.⁶⁹

IV. STUDY RESULTS

A. Regional Variation in Obviousness Rates

¶29

This study confirms, at least to some extent, Congress's perception that obviousness varied significantly among circuits in the 1970s. Between 1970 and 1975 I found a statistically significant variation in the rates at which the various circuits invalidated patents as obvious.⁷⁰ Table 1 shows the results for this time period. The results in Table 1, and the results in many subsequent tables and figures, are broken down by geographic circuit; in other words, results from all district courts in a particular regional circuit are reported together. This categorization is appropriate since it was variation among the regional circuits, rather than among individual district courts, that was the focus of Congress's attention in creating the Federal Circuit.⁷¹ I include some discussion of individual district courts later in this Note.⁷²

⁶⁶ See, e.g., *Erie Tech. Prods., Inc. v. Die Craft Metal Prods., Inc.*, 318 F. Supp. 933 (N.D. Ill. 1970) (holding U.S. Patent No. 2,766,510, which covers a method and apparatus of making a condenser, nonobvious).

⁶⁷ See, e.g., *Sibia Neurosciences, Inc. v. Cadus Pharm. Corp.*, 1999 WL 33554682 (S.D. Cal. Feb. 26, 1999) (holding U.S. Patent No. 5,401,629, which covers a biotech assay method, nonobvious).

⁶⁸ See, e.g., *Eli Lilly & Co. v. Generix Drug Sales, Inc.*, 324 F. Supp. 715 (S.D. Fla. 1971) (holding U.S. Patent No. 2,728,779, which covers propoxyphene hydrochloride, nonobvious).

⁶⁹ Of course, attorneys spend a great deal of time "teaching" judges and juries the relevant science behind these types of inventions when they are at issue in a patent suit. But we can safely assume that judges and juries in these suits are left only with the attorneys' explicit teachings in these cases. The judge or juror is not able to apply his own intuitive sense to an invention assigned to complexity category 4, only the attorneys' explicit teachings.

⁷⁰ Throughout this analysis, statistical significance means that a particular null hypothesis can be rejected at a 95% confidence level. Here for instance, the null hypothesis is that there is no difference between the rates of obviousness among the circuits. A p value of less than 0.05 shows that this null hypothesis can be rejected at a 95% confidence level.

⁷¹ See, e.g., HRUSKA COMMISSION REPORT, *supra* note 23, at 370 (noting that in the 1970s, patentees "scramble[d] to get into the 5th, 6th and 7th circuits since the courts there [were] not inhospitable to patents whereas infringers scramble[d] to get anywhere but in these circuits."); see also *supra* notes 23 - 29.

⁷² See *infra* notes 89-92 and accompanying text.

TABLE 1. RATES OF OBVIOUSNESS DETERMINATIONS IN DISTRICT COURT OPINIONS, 1970 THROUGH 1975⁷³

Circuit	Patents Held Nonobvious	Patents Held Obvious	Total	p	Rate of Obviousness
1st	4	11	15	0.143	73%
2nd	9	21	30	0.079	70%
3rd	14	23	37	0.348	62%
4th	6	8	14	0.876	57%
5th	5	7	12	0.819	58%
6th	10	10	20	0.630	50%
7th	33	18	51	0.001	35%
8th	2	5	7	0.379	71%
9th	11	19	30	0.333	63%
10th	6	0	6	0.006	0%
11th	5	6	11	0.968	55%
DC	0	1	1	0.366	100%
Totals	105	129	234		55%

¶30 Although a chi-squared test on the overall results suggests that there was a statistically significant difference in the rates of obviousness among the circuits, a chi-squared test comparing each circuit's individual rate of obviousness with the total rate of obviousness in all other circuit's shows that only the Seventh and Tenth Circuits deviated with statistical significance from the other circuits as a group.⁷⁴ These results support the perception that the Seventh Circuit was a particularly attractive circuit for patentees, invalidating patents just 35% of the time it reached the question of obviousness, compared to rates above 70% in the First, Second, and Eighth Circuits. So it seems there may have been reason for ardent forum shopping in the 1970s, and therefore good cause for Congress's concern.

¶31 If the Federal Circuit has fulfilled its ultimate charge—making it so that a party gets the same answer to obviousness no matter where they bring their suit—then the variation seen among district courts in Table 1 should be less now than it was before the Federal Circuit's inception. Unfortunately, as shown in Table 2, there seems little improvement in the variation seen at the district court level.

⁷³ The p values reported in Table 1 are those for a chi-squared test, with the null hypothesis being that there is no difference between the given circuit's rate of obviousness and the total rate of obviousness of all other circuits. The "rate of obviousness" is the fraction of patents reaching obviousness that are held invalid for obviousness. A chi-squared test was performed on the data from each circuit, and a p value was computed for each.

⁷⁴ Statistical significance here is defined as the ability to reject the null hypothesis—the null hypothesis being that a particular circuit's rate of finding patents nonobvious is no different than the rate of nonobviousness in all other circuits—at the 95% confidence level ($p < 0.05$) using the chi-squared test. It should be noted that the fact that the null hypothesis is not rejected for other circuits does not necessarily imply that those circuits were uniform, it simply shows that statistically speaking we cannot draw any strong conclusions from the data with respect to regional variation within the two time periods. To illustrate, a chi-squared test analyzing each circuit's rate of obviousness *against each other* indicated a statistically significant difference ($p < 0.015$), but a chi-squared test analyzing each circuit's rate of obviousness *against the total rate of obviousness for all other circuits* showed non-significant deviations from the group rate for all circuits but the Seventh and Tenth. The Seventh Circuit showed significant deviation ($p < 0.002$), as did the Tenth Circuit ($p < 0.006$).

¶32

A chi-squared test on the overall results from the 1995-2000 period suggests that there is still a statistically significant difference in rates of obviousness among the circuits;⁷⁵ district courts in some circuits are simply more likely to invalidate a patent when they reach the question of obviousness. And, one circuit still shows a statistically significant deviation from the other circuits as a group—now the Sixth Circuit.⁷⁶ There, patents are invalidated as obvious more than 65% of the time when a district court reaches the question of obviousness, compared to less than 25% in the First, Third, Seventh, and Ninth Circuits.

TABLE 2. RATES OF OBVIOUSNESS DETERMINATIONS IN DISTRICT COURT OPINIONS, 1995 THROUGH 2000⁷⁷

Circuit	Patents Held Nonobvious	Patents Held Obvious	Total	p	Rate of Obviousness
1st	6	2	8	0.723	25%
2nd	12	8	20	0.334	40%
3rd	42	13	55	0.173	24%
4th	2	0	2	0.344	0%
5th	3	3	6	0.295	50%
6th	4	10	14	0.001	71%
7th	26	6	32	0.106	19%
8th	2	1	3	0.919	33%
9th	17	4	21	0.219	19%
10th	2	4	6	0.051	67%
11th	2	0	2	0.344	0%
DC	2	2	4	0.395	50%
Totals	120	53	173		31%

¶33

Furthermore, comparing the standard deviation of the rates of obviousness among the circuits for the two time periods shows that variation among the circuits may have increased, or at best shows a barely discernible decrease.⁷⁸ And, although complexity is not randomly distributed among the circuits in the 1990s,⁷⁹ complexity fails to explain the observed regional variation in the 1990s;

⁷⁵ $p < 0.001$.

⁷⁶ $p < 0.001$.

⁷⁷ The p values reported in Table 2 are those for a chi-squared test, with the null hypothesis being that there is no difference between the given circuit's rate of obviousness and the total rate of obviousness of all other circuits. The "rate of obviousness" is the fraction of patents reaching obviousness that are held invalid for obviousness.

⁷⁸ The standard deviation in the rate of obviousness is 0.240 in the 1970s and 0.233 in the 1990s (less than a 3% decrease). However, this result is skewed by those circuits that have only a few opinions in the study. Focusing only on the circuits with more than ten data points in both time periods (2nd, 3rd, 6th, 7th, and 9th Circuits) shows that the standard deviation for those Circuits increased from 0.137 to 0.224 over the same time period—a change of more than 60%.

⁷⁹ A chi-squared test shows that there is a statistically significant difference in the number of cases each region hears from the various complexity categories in the 1990s ($p < 0.048$). In other words, some regions are more likely to see patents of high complexity. In the Third Circuit, 53% of the patents reaching obviousness had a complexity number of 4; compared to only 7% in the Sixth Circuit. Not surprisingly, there is also a difference in the complexity of the patents reaching obviousness in the 1990s compared to the 1970s. In the 1990s, 33% of the patents reaching obviousness had a complexity number of 4; compared to only 13% in the 1970s.

even when comparisons of obviousness rates are limited to patents of similar complexity, regional variation among the circuits is still statistically significant.⁸⁰

¶34 In other words, when it comes to obviousness, the choice of forum still matters. This result confirms for obviousness—a subset of all validity decisions—what Professor Moore found for invalidity rates in general.⁸¹ Whatever the Federal Circuit’s successes in bringing coherence to patent appeals and the general body of obviousness doctrines, it appears the court has fallen somewhat short of its ultimate promise.

B. Decrease in the Rates of Obviousness Over Time

¶35 Although there still seems to be regional variation in the rates at which district courts invalidate patents as obvious, the rates have substantially decreased in nearly every circuit. As Tables 1 and 2 show, district courts invalidated as obvious only 31% of the patents on which they reached the question of obviousness during the late 1990s, compared to 55% in the early 1970s.⁸² In other words, district courts now invalidate fewer of the patents on which they reach the question of obviousness. In fact, as shown in Figure 1, the general trend over both time periods was a decreasing rate of obviousness. As shown in Figure 2, only the Sixth and Tenth Circuits showed increases in their rates of obviousness. Not surprisingly, the Sixth Circuit is also the circuit that shows a statistically significant deviation in its obviousness rates compared to the other circuits as a group.⁸³ Finally, Figure 3 shows that, from the 1970s to the 1990s, the rate of obviousness decreased for each complexity category.

¶36 So it seems by any view that the incidence of obviousness determinations was lower in the 1990s than in the 1970s. When district courts reached the question of obviousness in the 1990s, the statistical chance that the patent would be invalidated was significantly lower than in the 1970s.

⁸⁰ Comparing the rates of obviousness among regional circuits for patents with similar complexity numbers (1 and 2, 2 and 3, or 3 and 4) shows that there is a statistically significant difference in the rates of obviousness among the regions in the 1990s ($p < 0.04$ for chi-squared test). *But cf.* Allison & Lemley, Empirical Evidence, *supra* note 42 (unpublished manuscript at 29) (finding that there is no statistically significant difference in the likelihood that patents in different *industries* will be held invalid).

⁸¹ Based on her empirical study of litigated patents between 1982 and 1999, Professor Moore similarly found that certain district courts were more likely than others to hold a patent invalid. *See* Moore, *Forum Shopping*, *supra* note 43.

⁸² A chi-squared test on this increase shows that it is statistically significant ($p < 0.001$).

⁸³ *See supra* text accompanying note 76-78.

FIGURE 1. TREND IN THE RATE OF OBVIOUSNESS DETERMINATIONS, 1970-1975 AND 1995-2000

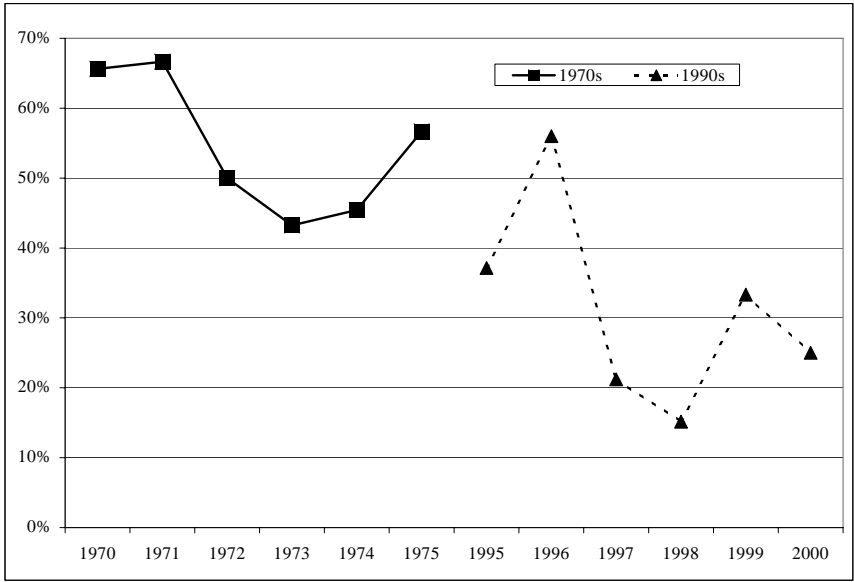


FIGURE 2. PERCENTAGE OF RELEVANT OPINIONS RESULTING IN OBVIOUSNESS DETERMINATIONS IN EACH JUDICIAL CIRCUIT, 1970-1975 AND 1995-2000

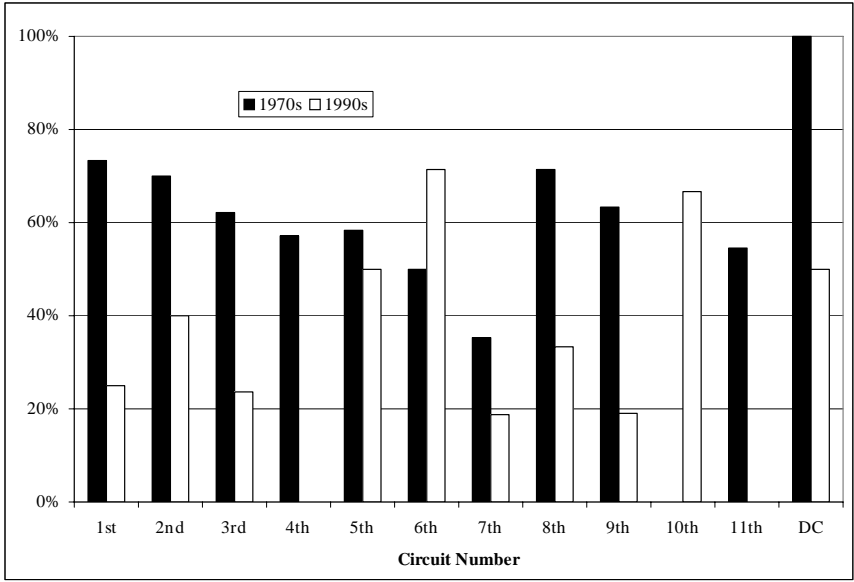
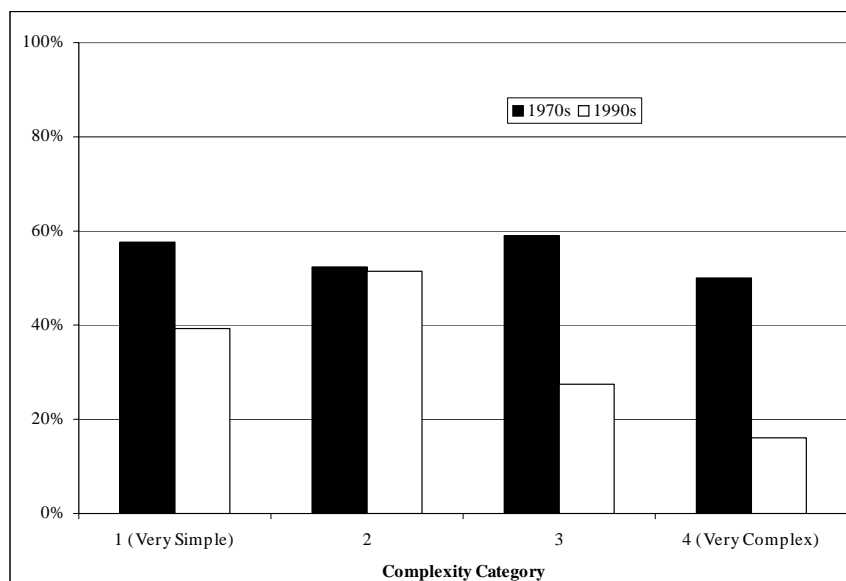


FIGURE 3. PERCENTAGE OF RELEVANT OPINIONS RESULTING IN OBVIOUSNESS DETERMINATIONS IN EACH COMPLEXITY CATEGORY, 1970-1975 AND 1995-2000



C. Decline in the Number of Obviousness Opinions

¶37 To anyone familiar with the explosion of patents and patent litigation in the late 1990s,⁸⁴ the trend in the number of patents for which a district court reached the question of obviousness should be surprising. As Table 3 shows, while district courts reached the question of obviousness for 64 patents in 1970, only 20 patents reached the question in 2000. Over the same time period, the number of patent suits filed annually increased from approximately 1000 to nearly 2500 and the number of patents issued annually increased from approximately 68,000 to more than 175,000.⁸⁵ In other words, fewer patents—both in absolute terms and as a percent of patent suits initiated in a given year—were subjected to the question of obviousness in the 1990s. Given the attention obviousness receives in academic and policy debates,⁸⁶ the relative infrequency in which district courts reach obviousness seems astonishing.

¶38 It should be noted, however, that this part of the empirical analysis is most susceptible to the problems that might arise from relying solely on published opinions.⁸⁷ While the rates of obviousness, which are the subject of other empirical conclusions in this paper, avoid some of the potential systematic differences between published and unpublished opinions, there is a greater chance of systematic differences affecting conclusions drawn from the raw number of cases that reach a particular question. In other words, it may be that district courts, for myriad possible reasons, are simply choosing to publish fewer obviousness analyses, even as the overall frequency of such analyses remains unchanged. However, because there is no practical way to include all unpublished

⁸⁴ See, e.g., Jon F. Merz & Nicholas M. Pace, *Trends in Patent Litigation: The Apparent Influence of Strengthened Patents Attributable to the Court of Appeals for the Federal Circuit*, 76 J. PAT. & TRADEMARK OFF. SOC'Y 579, 582-85 (1994) (discussing the increase in the rate of patent litigation from 1971 to 1991).

⁸⁵ See U.S. Patent and Trademark Office, U.S. Patent Statistics Chart: Calendar Years 1963-2004, http://www.uspto.gov/web/offices/ac/ido/oep/taf/us_stat.htm (last viewed Feb. 10, 2006).

⁸⁶ See, e.g., Rochelle Cooper Dreyfuss, *The Federal Circuit: A Continuing Experiment in Specialization*, 54 CASE W. RES. L. REV. 769, 771 (2004) ("[T]he [Federal Circuit] has very clearly used its special position to focus considerable thought on key patent law issues, such as standards of obviousness . . ."); Lunney, *supra* note 3; Desmond, *supra* note 20, at 473; see also *supra* notes 23-29 and accompanying text (discussing the key role that obviousness played in the decision to create a single appellate forum for patent suits).

⁸⁷ See *supra* note 51 (discussing potential problems with empirical studies that are based solely on published opinions).

opinions—especially those from the pre-Federal Circuit era—in this sort of study, the conclusions here are perhaps the best we can do empirically.

TABLE 3. NUMBER OF PATENT SUITS FILED AND NUMBER OF SUITS REACHING OBVIOUSNESS, 1970-1975 AND 1995-2000⁸⁸

Year	Total Patent Suits Filed	Patents Reaching Obviousness	% of Patents Reaching Obviousness	Suits Reaching Obviousness	% of Suits Reaching Obviousness
1970	1020	64	6.3%	50	4.9%
1971	920	27	2.9%	25	2.7%
1972	900	32	3.6%	24	2.7%
1973	800	37	4.6%	28	3.5%
1974	930	44	4.7%	34	3.7%
1975	900	30	3.3%	27	3.0%
1970s Totals	5470	234	4.3%	188	3.4%
1995	1600	35	2.2%	28	1.8%
1996	1840	25	1.4%	20	1.1%
1997	2112	33	1.6%	22	1.0%
1998	2218	33	1.5%	25	1.1%
1999	2318	27	1.2%	21	0.9%
2000	2484	20	0.8%	17	0.7%
1990s Totals	12572	173	1.4%	133	1.1%

D. Distribution of Obviousness Opinions Among District Courts

¶39 One interesting result for individual district courts is a substantial change in the distribution of obviousness analyses among individual district courts. Of the 234 obviousness analyses from the early 1970s,⁸⁹ only 83 came from the top six district courts (i.e., from the six district courts who issued the most obviousness opinions during the early 1970s).⁹⁰ In the late 1990s, however, 106⁹¹ of the 173⁹² total obviousness analyses came from the top six district courts.

¶40 In other words, in the 1970s there were substantially more individual district courts reaching the question of obviousness than there were in the 1990s. In the 1990s, it seems, only those district courts who are most active in patent litigation seem to reach the question of obviousness with any regularity. Surprisingly, however, while the District of Delaware, the Southern District of New York, and the Northern District of Illinois published fairly substantial numbers of obviousness opinions

⁸⁸ The number of patents suits filed each year between 1970 and 1975 are estimated from Adam Jaffe & Josh Lerner, *Our Broken Patent System* 17 fig. 2, http://faculty.fuqua.duke.edu/centers/innovation/Duke_article.pdf (last visited Feb. 10, 2006). The number of patent suits filed each year between 1995 and 2000 are taken from ADMIN. OFFICE OF THE U.S. COURT SYS., JUDICIAL BUSINESS OF THE UNITED STATES COURTS 2003 (2003) app. tab. C-2A, available at <http://www.uscourts.gov/judbus2003/appendices/c2a.pdf>. The fraction of suits reaching obviousness is calculated as the number of suits reaching obviousness in a given year divided by the number of suits filed in that same year. Of course, there is a time lag problem inherent in this calculation because suits do not actually reach the question of obviousness in the same year they are filed. The comparisons made in this Note rely on changes in this fraction over the course of time. Accordingly, given the steady increase in suits filed, and the steady decrease in suits reaching obviousness, the time lag problem inherent in my calculation should not affect the conclusions presented here.

⁸⁹ See *supra* Table 1.

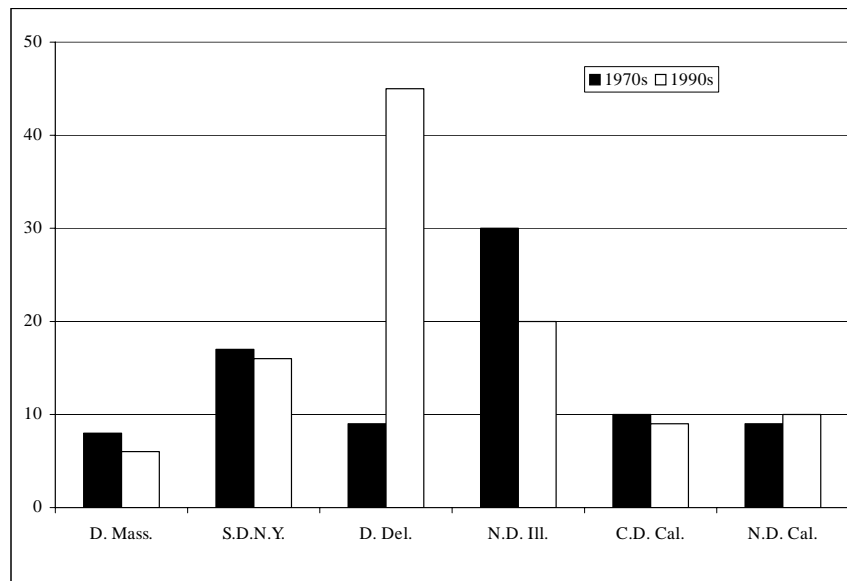
⁹⁰ See Master Spreadsheet (on file with author). The top six district courts are the District of Massachusetts (8 obviousness analyses between 1970 and 1975), the Southern District of New York (17), the District of Delaware (9), the Northern District of Illinois (30), the Central District of California (10), and the Northern District of California (9).

⁹¹ See Master Spreadsheet (on file with author). The top six district courts for the late 1990s are the same as for the early 1970s: the District of Massachusetts (6 obviousness analyses between 1995 and 2000), the Southern District of New York (16), the District of Delaware (45), the Northern District of Illinois (20), the Central District of California (9), and the Northern District of California (10).

⁹² See *supra* Table 2.

during the late 1990s, the Northern District of California—which is commonly perceived as having a patent-heavy docket—published only ten obviousness analyses between 1995 and 2000. While technology boomed in the Silicon Valley, only ten patent suits in the Northern District of California reached the question of obviousness in a published opinion. Figure 4 shows these results for the top six district courts.

FIGURE 4. NUMBER OF PUBLISHED OBVIOUSNESS ANALYSES FROM THE TOP SIX DISTRICT COURTS, 1970-1975 AND 1995-2000⁹³



E. Effect of Technological Complexity on Rates of Obviousness

¶41

Finally, my study shows an interesting result with respect to complexity. In the 1970s, there was no statistically significant difference between the rates of obviousness for different complexity categories; but in the 1990s, there is a statistically significant difference. In other words, in the 1990s, complexity of the patent matters when it comes to obviousness;⁹⁴ simple patents are more likely than complex patents to be invalidated as obvious in the 1990s.

⁹³ Data for Figure 4 are taken from the Master Spreadsheet (on file with author). The “top six” district courts are the six district courts that published the most obviousness opinions during both of the time periods considered in this study.

⁹⁴ I should clarify the empirical conclusions with respect to complexity. This study shows that: (1) complex patents have lower rates of obviousness in the 1990s; and (2) some circuits see more complex patents than other circuits, *see supra* note 79. It might seem that this would explain the significant regional variation seen in the 1990s, discussed *supra* text accompanying note 75. However, to test this syllogism I also looked at circuit variation in the rate of obviousness within similar complexity categories, and found that the variation among circuits is still statistically significant, *see supra* note 80 and accompanying text. So, although circuits with more complex patents are expected to have lower rates of obviousness than circuits with simple patents, the variation between the circuits is still significant when that complexity difference is subtracted from the comparison.

TABLE 4. EFFECT OF COMPLEXITY ON OBVIOUSNESS⁹⁵

Complexity Category	Rate of Obviousness	
	1970s	1990s
1 (Very Simple)	58%	39%
2 (Simple)	52%	51%
3 (Complex)	59%	27%
4 (Very Complex)	50%	16%

V. INTERPRETING THE RESULTS: THE DEATH OF OBVIOUSNESS?

A. Further Support for the Death of Obviousness

¶42 In light of this study, and those by Professors Moore and Lunney,⁹⁶ the overwhelming conclusion is that, under the Federal Circuit’s reign, courts are less likely to invalidate patents as obvious when faced with the issue. Professor Lunney has interpreted this result to show that the Federal Circuit has demoted obviousness from a “starring role” to a “bit part” in patent litigation.⁹⁷ Lunney traces this demise of obviousness to: (1) doctrinal changes initiated by the Federal Circuit, including an increased reliance on secondary considerations and a move away from “synergism” requirements;⁹⁸ (2) the Federal Circuit perceiving itself as “defender of the patent system”;⁹⁹ and (3) the Federal Circuit’s view of patents as “simply a form of property, not monopoly.”¹⁰⁰ Others, too, have interpreted these sorts of empirical decreases in invalidity rates as proof of the Federal Circuit’s pro-patent bias and an ever-lowering hurdle for patent validity.¹⁰¹

¶43 There is at least anecdotal evidence in my study that may support the notion that doctrinal shifts have effectively lowered the hurdle of obviousness. District courts in the Seventh Circuit showed one of the lowest rates of obviousness in the 1970s (35%).¹⁰² Moreover, the Seventh Circuit Court of Appeals seems to have rejected the synergism requirement long before the Federal Circuit came onto the scene.¹⁰³ Thus, if rejecting synergism leads to lowering rates of obviousness, as some commentators suspect, then this might explain the low rate in the Seventh Circuit in the 1970s.

¶44 If these interpretations are correct, then my study simply shows that the Federal Circuit’s pro-patent bias has seeped into the district courts. Given the frequent skepticism of district courts’ ability to comprehend patent law and patent suits,¹⁰⁴ this result, by itself, is significant. If the Federal Circuit has lowered the obviousness hurdle, it seems that district courts have understood this cue and responded accordingly.

⁹⁵ For a discussion of the complexity categories used in this Note, see *supra* text accompanying notes 60-69.

⁹⁶ Lunney, *supra* note 3; Moore, *Forum Shopping*, *supra* note 43; Moore, *Judges, Juries, and Patent Cases*, *supra* note 43; see also *supra* Part II.C.

⁹⁷ Lunney, *supra* note 3, at 370.

⁹⁸ *Id.* at 375-80.

⁹⁹ *Id.* at 380-88.

¹⁰⁰ *Id.* at 389-94.

¹⁰² See *supra* Table 1.

¹⁰³ See *Republic Indus., Inc. v. Schlage Lock Co.*, 592 F.2d 963, 967 (7th Cir. 1979) (holding that a requirement for “synergism” is neither a substitute for nor addition to the statutory obviousness requirement).

¹⁰⁴ See, e.g., Kimberly A. Moore, *Are District Court Judges Equipped to Resolve Patent Cases?*, 12 FED. CIR. B.J. 1 (2002); Gregory J. Wallace, Note, *Toward Certainty and Uniformity in Patent Infringement Cases After Festo and Markman: A Proposal for a Specialized Patent Trial Court with a Rule of Greater Deference*, 77 S. CAL. L. REV. 1383 (2004).

¶45 Again, anecdotal evidence in my study may support this conclusion. In the late 1990s, the Federal Circuit intensified its fight against impermissible reliance on hindsight to find a patent invalid. This fight against hindsight was most active in the case of very simple inventions¹⁰⁵ and culminated in opinions like *In re Dembiczak*. In *Dembiczak*, the Federal Circuit held that the Patent and Trademark Office Board of Patent Appeals and Interferences erred in rejecting an application for a patent that claimed a plastic trash bag imprinted with the face of a pumpkin.¹⁰⁶ The Board, the court believed, “fell into the hindsight trap.”¹⁰⁷ My study shows that the rate of obviousness for very simple inventions (i.e., complexity category 1) has dropped from 58% to 39%. This result could be interpreted to suggest that the Federal Circuit has spoken—by effectively lowering the patentability standard for simple inventions—and the district courts have listened.

¶46 But to the extent that the death of obviousness might be due to the Federal Circuit’s attempts to objectify obviousness (for example, by increasingly looking to objective indicia of obviousness found in secondary considerations),¹⁰⁸ my study suggests that obviousness has not been effectively objectified: there is still significant regional variation in rates of obviousness,¹⁰⁹ suggesting that district courts may be interpreting and applying obviousness standards differently.

B. Explaining the Death of Obviousness

¶47 The conclusion that decreasing rates of obviousness prove the existence of a pro-patent bias in the Federal Circuit hinges on the implicit assumption that the same types of cases are reaching the question of obviousness in the post-Federal Circuit era as were reaching the question in the pre-Federal Circuit era. If the characteristics of the cases reaching obviousness have changed in some systematic way, there may be another explanation for the observed decreases in obviousness rates. For example, if the average obviousness defense that reached the question of obviousness was weaker in the 1990s than in the 1970s, we should expect to see lower rates of obviousness in the 1990s.

¶48 As Table 4 shows—counter to assumptions made by some scholars¹¹⁰—the number of opinions reaching the question of obviousness appears to have decreased since 1970, both as a percentage of patent suits filed and in absolute terms. Simply stated, fewer cases are reaching the question of obviousness today. So the question is this: Which cases are reaching the question of obviousness today compared to the 1970s?

¶49 Below, I propose a few insights that may shed light on this important question.

1. Changes in Patent Litigation Procedures and Practices

¶50 First, the decrease in the number of suits reaching the question of obviousness may be partially attributed to changes in patent litigation procedures and practices. For instance, the increasing prevalence of pretrial claim construction hearings (i.e., *Markman* hearings)¹¹¹ may be disposing of cases before they reach the question of validity.¹¹² The fact that a *Markman* hearing disposes of an infringement claim, though, tells us little about the strength of any obviousness defenses in the suit. So it is difficult to conclude from this anything about the *strength* of cases reaching obviousness in the

¹⁰⁵ See, e.g., *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1351 (Fed. Cir. 2001) (“When the art in question is relatively simple, as is the case here, the opportunity to judge by hindsight is particularly tempting. Consequently, the tests of whether to combine references need to be applied rigorously.”).

¹⁰⁶ *In re Dembiczak*, 175 F.3d 994 (Fed. Cir. 1999).

¹⁰⁷ *Id.* at 999.

¹⁰⁸ See *supra* note 31 and accompanying text.

¹⁰⁹ See *supra* notes 75-81 and accompanying text.

¹¹⁰ See Allison & Lemley, *supra* note 42, at 9 (“[V]alidity should be an issue in practically every litigated patent, and we would expect to see more final decisions on validity [after 1993].”).

¹¹¹ *Markman* hearings are pretrial hearings where courts construe key terms in a patent. See *Markman v. Westview Instruments, Inc.*, 52 F.3d 967 (Fed. Cir. 1995).

¹¹² As Judge Newman has noted: “Deciding the meaning of words used in the patent is often dispositive of the question of infringement.” *Markman*, 52 F.3d at 999 (Newman, J., dissenting).

1990s. The increasing prevalence of *Markman* hearings only suggests that, proportionally, fewer suits will reach the question of validity because some suits will be terminated after a *Markman* hearing.

¶51 Furthermore, even by the mid-1990s—when *Markman* was decided—the percentage of cases reaching the question of obviousness had fallen well below the 1970s level.¹¹³ So there must be more to the observed decrease in the number of cases reaching the question of obviousness.

¶52 Another possibility is that district courts in the 1970s reached the question of obviousness as an alternative holding more often than courts in the 1990s—in other words, that district courts were more likely to answer the obviousness question even when there was an alternative holding that disposed of the case. Based on my review of the opinions included in this study, district court opinions in the 1970s—at least anecdotally—seemed to reach obviousness even when the court could have disposed of the suit solely on other holdings (e.g., by finding the patent non-novel, or not infringed).¹¹⁴ Tracking such alternative holdings is beyond the scope of this study, but anecdotal observations at least recommend further consideration to determine whether there has been a trend away from obviousness conclusions when the conclusion is merely an alternative holding.

2. Insights from Case Selection Theory

¶53 Insights from case selection theory may provide some important clues about which cases are reaching obviousness in the 1990s. Priest-Klein selection theory predicts that plaintiffs and defendants will only go to trial in “close” cases; other cases will settle because the parties will agree on the likely outcome.¹¹⁵ As a result, assuming these close cases are evenly distributed on either side of the win/loss line, the rate of winning will approach 50%.¹¹⁶ This theory is predicated on several assumptions; deviations from these assumptions as well as contextual factors may skew actual win rates away from 50%.

a. Unequal-Stakes Selection Theory

¶54 Priest-Klein selection theory assumes that parties have equal stakes in the outcome of the litigation.¹¹⁷ If one party has higher stakes than the other party, the high-stakes party will be more cautious in taking close cases to trial, and will err in favor of settling close cases.¹¹⁸ In other words, when a party faces higher stakes than her opponent, her case must be considerably stronger for her to risk a trial compared to the case of her lower-stakes opponent. As a result, higher-stakes parties should have higher win rates at trial.

¶55 With respect to validity rulings, when a patentee values her patent, she faces higher stakes than alleged infringers.¹¹⁹ Whereas the alleged infringer is fighting for the *right not to be excluded*, the patentee is fighting for the *right to exclude*. Indeed, the very premise of the patent system is that the right to exclude all others from using, making, or selling an invention, through limited monopolistic patent grants, is more valuable than the right to simply use, make, or sell an invention.¹²⁰

¹¹³ See *supra* Table 3 (showing that the rate of reaching obviousness was 3.4% during the early 1970s, but had fallen to 1.8% in 1995).

¹¹⁴ See, e.g., *Roller Bearing Co. of Am. v. Bearings, Inc.*, 328 F. Supp. 923, 939-40 (E.D. Pa. 1971) (finding a patent invalid for lack of novelty and, in the alternative, for obviousness).

¹¹⁵ George L. Priest & Benjamin Klein, *The Selection of Disputes for Litigation*, 13 J. LEGAL STUD. 1 (1984).

¹¹⁶ *Id.* at 4-5.

¹¹⁷ *Id.*

¹¹⁸ Bruce H. Kobayashi, *Case Selection, External Effects, and the Trial/Settlement Decision*, in *DISPUTE RESOLUTION: BRIDGING THE SETTLEMENT GAP* 17, 35, 37 (David A. Anderson ed., 1996) (noting that win rates will favor repeat litigants—the parties with higher stakes due to the external effects that precedent resulting from current litigation will have on future, similar litigation).

¹¹⁹ Moore, *Judges, Juries, and Patent Cases*, *supra* note 43, at 377-78 (“A limiting claim construction for the patent holder could insulate many non-parties from future infringement or, if the infringer succeeds on its defenses of invalidity or unenforceability, the patent will no longer be enforceable against anyone. This loss is significantly greater than the monetary damages the infringer would have paid.”).

¹²⁰ *Cf. Monsanto Co. v. Ralph*, 382 F.3d 1374, 1383 (Fed. Cir. 2004) (“One of the most fundamental tenets of patent law is that a patent gives its owner the right to exclude others from making, using, selling, offering to sell, or importing the patented subject matter.”).

¶56 If a patentee risks trial and loses on validity, her patent is forever lost. Not only does she face the stakes of the alleged infringement, but also the possibility of losing any future value that might be derived from the patent (e.g., future infringement suits, future licensing arrangements, future defensive value inherent in the patent, the value of complementary patents tied to the patent at issue, the risk of inviting litigation against other similar patents in the patentee’s portfolio, etc.).¹²¹ On the other hand, once an alleged infringer enters litigation, the incremental cost of asserting invalidity defenses is relatively low; especially, for instance, when an alleged infringer can add an obviousness defense on top of a non-novelty defense where much of the research and litigation cost and effort (e.g., prior art searches) on the one defense will carry over to the other defense. For alleged infringers, the gambler’s spirit with respect to any single defense may be rational—whereas patentees must defeat each defense asserted in a suit (i.e., non-infringement, invalidity, unenforceability), alleged infringers need only prevail on a single defense.

¶57 Accordingly, unequal stakes selection theory predicts that win rates for patentees on the question of validity should be higher than 50% (in other words, that the rate of obviousness should be lower than 50%). And this is precisely the observation of this study for the post-Federal Circuit time period; the observed rate of obviousness from 1995-2000 is 31%.¹²²

¶58 This study also shows some evidence that patentees who perceive greater value in their patents reach lower rates of obviousness. This study concludes that, especially from 1995 to 2000, obviousness rates are lower for very complex patents than for very simple patents.¹²³ Firms with very complex patents are more likely to be driven by research and development and their patent portfolios (e.g., biotechnology firms, computer hardware firms). Firms with very simple patents are less likely to be driven by their patent rights (e.g., firms manufacturing plastic cups or paper bags). Presumably then, firms with complex patents may perceive higher patent values than firms with simple patents. Firms with complex patents, then, should be less willing to take close cases to a validity decision, and therefore should show lower rates of obviousness. And this is precisely the observation of this study. Very simple patents show a 39% rate of obviousness, compared to just 16% for very complex patents.

¶59 This explanation is promising for its insight into the relatively low rate of obviousness in the 1990s. Under this theory, if the Federal Circuit has been successful in stabilizing patent law thereby increasing perceived patent value, we should expect to see a relatively low rate of obviousness under the Federal Circuit’s reign. Patentees, perceiving high patent values, should be reluctant to test their patent’s validity in “close” cases.

¶60 Unfortunately, however, this insight fails to explain the dramatic decrease in the rates of obviousness between the 1970s and 1990s. Even in the 1970s, under this line of reasoning, patent litigation should have involved unequal stakes. Patentees were still fighting for the right to exclude all competitors while alleged infringers were only fighting for the right not to be excluded. And although it is commonly accepted that perceived patent values have increased since the 1970s, there is no reason to believe that the increase affected patentees disproportionately compared to alleged infringers. If the right to exclude became more valuable, so too did the right not to be excluded. Thus, while unequal stakes selection theory provides some interesting insights into the empirical results, it fails to fully explain the death of obviousness.

b. Misperceptions Will Skew Results

¶61 Prior to the Federal Circuit’s inception, patent law was the subject of much practitioner speculation and searches for “patent-friendly” forums.¹²⁴ These sorts of perceptions can skew case

¹²¹ For a general discussion of patent values, see Clarisa Long, *Patent Signals*, 69 U. CHI. L. REV. 625 (2002).

¹²² See *supra* Tables 1 & 2.

¹²³ See *supra* Table 4.

¹²⁴ See, e.g., HRUSKA COMMISSION REPORT, *supra* note 23, at 370 (noting that patentees in the 1970s “scramble[d] to get into the 5th, 6th and 7th circuits since the courts there are not inhospitable to patents whereas infringers scramble[d] to get anywhere but in these circuits.”); HENRY J. FRIENDLY, *FEDERAL JURISDICTION: A GENERAL VIEW* 155 (1973) (referring to the “mad and

selection theory predictions.¹²⁵ For instance, in the 1970s people believed that the Fifth and Sixth Circuits were particularly patent friendly.¹²⁶ But if these circuits were not, in fact, as patent friendly as they were perceived to be, then the cases that parties thought were “close” cases in the Fifth and Sixth Circuits turned out to be losers thereby increasing the obviousness rates in those circuits. In other words, patentees might have been willing to bring weaker cases in the Fifth and Sixth Circuits because they perceived a pro-patent bias in these circuits; if their perceptions were inaccurate, the result would be higher rates of obviousness in the Fifth and Sixth Circuits than would be expected in the absence of these misperceptions. The point here is that with rampant instability and forum shopping, litigants’ ability to reach rational estimates of success is impaired which may skew case selection theory predictions.

¶62 And perceived uncertainty—as opposed to perceived patent biases—may also affect win rates in litigation. As one commentator has noted:

At the same time that uncertainty tends to decrease the likelihood of settlement, it also probably tends to bias the likelihood of victory toward 50 percent. The reason for this effect is that as the outcome of the litigation becomes more uncertain, the event becomes closer to a coin flip in terms of the probabilistic outcomes. Therefore, one would imagine that the win rates would be closer to 50 percent in the more uncertain, . . . published cases[.]¹²⁷

While these insights suggest that the rates of obviousness in the 1970s may have been skewed, we cannot conclude with certainty which direction or to what extent they should be skewed.

VI. CONCLUSION

¶63 This study shows five basic empirical conclusions. As compared with the 1970s:

1. Fewer district court opinions reached the question of obviousness in the 1990s;
2. A smaller number of individual district courts issued a greater proportion of the obviousness opinions published in the 1990s;
3. When district court cases reached the question of obviousness, they were less likely to invalidate a patent as obvious in the 1990s;
4. When district court cases reached the question of obviousness in the 1990s, they were less likely to invalidate complex patents than simple patents; and
5. Regional variation among the circuits in the rates of obviousness did not decrease between the 1970s and 1990s.

¶64 On the surface, these results seem to support the notion that the Federal Circuit has effectively gutted the standard of obviousness. Previous scholars would likely interpret these results as such. But I believe there may be more to the story. First, the Federal Circuit’s doctrinal shifts in obviousness seem more subtle and less damning than some have asserted. Second, if the Federal Circuit has effectively objectified obviousness, we should see less regional variation in the 1990s than we see in the 1970s; district courts should be able to apply an objective obviousness standard more consistently if the previous standard was more subjective and ambiguous. Finally, given that the number of cases reaching obviousness has decreased since the 1970s, there may be something important and systematic happening to the types of cases reaching obviousness.

¶65 Case selection theory may offer insights for this last observation. However, all that can be said at this point is that, with unequal stakes in patent litigation, we should expect to see rates of

undignified [forum shopping] races” that were common in 1970s patent litigation).

¹²⁵ Kevin M. Clermont & Theodore Eisenberg, *Litigation Realities*, 88 CORNELL L. REV. 119, 139 (2002) (“If the parties perceive the adjudicator to be favorable to the plaintiff, but the adjudicator turns out not to be, then the supposedly close cases would turn out to be losers and the win rate would drop.”).

¹²⁶ See HRUSKA COMMISSION REPORT, *supra* note 23.

¹²⁷ See Siegelman & Donohue, *supra* note 51, at 1155.

obviousness below 50%; and rates of invalidity in the 1970s may have been skewed by rampant speculation and unpredictability.

¶66 These results suggest several interesting avenues for future research. First, given that previous work attributes the death of obviousness to doctrinal shifts (most notably related to synergism and secondary considerations), it would be illuminating to code the district court opinions in this study to empirically track doctrinal shifts. Second, because this Note relies on published opinions, further consideration of whether there might be systematic differences between published and unpublished obviousness opinions would strengthen the conclusions reached here.

¶67 Third, further consideration of the procedural and structural changes in patent litigation (i.e., mechanisms like *Markman* hearings) might provide some insight into the observation that fewer cases are reaching the question of obviousness. Finally, further research on case selection theory and the relative stakes of patentees and alleged infringers in patent litigation might provide useful insights into the types of cases reaching the question of obviousness in the 1990s compared to the 1970s.