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"JUDICIAL HYPERACTIVITY" IN THE FEDERAL CIRCUIT: AN EMPIRICAL STUDY CONTRASTING THE FEDERAL CIRCUIT’S REVERSAL RATES WITH REVERSAL RATES OF OTHER CIRCUITS

BY TED L. FIELDa

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BY TED L. FIELD

ABSTRACT

This article presents an empirical study that supports the hypothesis that the United States Court of Appeals for the Federal Circuit—which has exclusive jurisdiction over patent appeals—engages in what William C. Rooklidge and Matthew F. Weil call “judicial hyperactivity.” According to Rooklidge and Weil, an appellate court engages in “judicial hyperactivity” when it “lose[s] track of the important distinction between trial and appellate roles and engages in . . . a form of decision-making at odds with traditional notions of appellate review.” They argue that the Federal Circuit engages in judicial hyperactivity by improperly acting as an advocate and as a fact-finder. Other commentators have criticized the Federal Circuit for engaging in judicial hyperactivity because of the court’s high reversal rate for claim-construction decisions.

This article presents empirical research that contrasts the Federal Circuit’s reversal rates with those of other circuits to help determine whether the Federal Circuit engages in judicial hyperactivity to a greater extent than other circuits. If the Federal Circuit’s reversal rates are significantly higher than those of other circuits, then this fact would tend to demonstrate empirically that the Federal Circuit is a more judicially hyperactive court than other circuits.

The results of this study tend to show that the Federal Circuit’s reversal rates are indeed higher than those of the other circuits studied, thus supporting the hypothesis that the Federal Circuit is more judicially hyperactive than other circuits. The Federal Circuit’s overall reversal rate was statistically significantly greater than the overall reversal rate of the representative regional circuits taken as an aggregate. Moreover, the Federal Circuit’s reversal rates for the individual standards of review exceeded those of the representative regional circuits. In particular, the difference between the Federal Circuit’s reversal rate for the de novo standard of review and that of the representative regional circuits treated as an aggregate was statistically significant. Additionally, for three procedural postures studied—summary judgment, judgment as a matter of law, and preliminary injunction—the Federal Circuit’s reversal rate was statistically significantly greater than that of the representative regional circuits. Thus, the results of this study indicate that the hypothesis that the Federal Circuit’s reversal rate is higher than that of the regional circuits should be accepted. Therefore, these results tend to empirically confirm that the Federal Circuit has engaged in a greater degree of judicial hyperactivity than the representative regional circuits studied.
INTRODUCTION

Commentators have accused the United States Court of Appeals for the Federal Circuit\(^1\) of “judicial hyperactivity.”\(^2\) William C. Rooklidge and Matthew F. Weil coined the term “judicial hyperactivity” when they observed that “the Federal Circuit from time to time appears to lose track of the important distinction between trial and appellate roles and engages in what might be termed ‘judicial hyperactivity’—a form of decision-making at odds with traditional notions of appellate review.”\(^3\) They argue that the Federal Circuit engages in judicial hyperactivity\(^4\) by improperly acting as an advocate\(^5\)

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3 *Id.*

4 See *infra* Part I.A for a discussion of Rooklidge and Weil’s charges that the Federal Circuit engages in judicial hyperactivity.

and as a fact-finder. Such judicial hyperactivity “dramatically reduces certainty and predictability in patent appeals.” Moreover, when the Federal Circuit engages in such judicial hyperactivity, litigants perceive the practice as unfair.

Other commentators have criticized the Federal Circuit for engaging in judicial hyperactivity because of the court’s high reversal rate for claim-construction decisions. Indeed, a number of empirical studies have shown that the Federal Circuit’s reversal rate for claim-construction decisions is high—ranging from 33% to as high as 44%. The court decided long ago to review claim-construction decisions with no deference to the district court’s decision or reasoning. Commentators have argued that this lack of deference is an important reason that the reversal rate is so high. Thus, these commentators argue that the Federal Circuit is guilty of judicial hyperactivity by applying a de novo standard of review to this issue and reversing claim-construction decisions at such a high rate. Indeed, the empirical studies revealing the Federal Circuit’s high reversal rate in claim-construction decisions supports this notion.

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6 Id. at 739-48.
7 Id. at 751.
8 Id. at 745.
9 See infra note 59. See also infra notes 56-58 for a brief explanation of what claim construction is.
10 See infra notes 71-75 and accompanying text and Table 1.
11 Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1456 (Fed. Cir. 1998) (en banc).
12 See infra note 59.
Although a number of researchers have done empirical studies of the Federal Circuit’s reversal rates in claim-construction decisions, this author is unaware of any previous empirical research that contrasts the Federal Circuit’s reversal rates with those of other circuits to help determine whether the Federal Circuit engages in judicial hyperactivity any more than other circuits. This article presents such a study. The goal of this study was to determine whether the Federal Circuit’s reversal rate is significantly higher than that of other circuits of the United States Court of Appeals. If the Federal Circuit’s reversal rates are significantly higher than those of other circuits, then this fact would tend to demonstrate empirically that the Federal Circuit is a more judicially hyperactive court than other circuits. The results of this study do tend to show that the Federal Circuit’s reversal rates are indeed higher than those of the other circuits studied, thus supporting the hypothesis that the Federal Circuit is more judicially hyperactive than other circuits.

This study had two parts. The first part of the study focused on contrasting overall reversal rates and reversal rates for particular standards of review between the Federal Circuit and the several representative regional circuits. The representative regional circuits studied were the Second, Fifth, Seventh, and Ninth Circuits. This part of the study involved examining 2,208 different issues in 1,881 different cases. Overall reversal rates and reversal rates for particular standards of review were calculated for the Federal Circuit as well as the representative regional circuits. Moreover, the Federal Circuit data were adjusted to take into account that court’s use of the summary

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13 See infra note 70.

14 See infra Part II.A for a detailed description of the methodology used in this part of the study.
affirmance—a procedural device by which the Federal Circuit affirms the lower court’s decision without any opinion or explanation.\textsuperscript{15}

The results of this part of the study indicate that the hypothesis that the Federal Circuit’s reversal rate is higher than that of the regional circuits should be accepted.\textsuperscript{16} Figure 1 below summarizes these results.

![Figure 1: Contrast of Reversal Rates of Non-Federal Circuits with Reversal Rate of Federal Circuit](image)

As Figure 1 shows, the Federal Circuit’s overall reversal rate (both unadjusted and adjusted for summary affirmances) was greater than the overall reversal rate of the representative regional circuits taken as an aggregate. Indeed, this difference was

\textsuperscript{15} See \textit{infra} Part III.A.2 for a detailed discussion of summary affirmances, as well as why and how the Federal Circuit data was adjusted to take summary affirmances into account.

\textsuperscript{16} See \textit{infra} Part III.A for a detailed description of the results of this part of the study.
statistically significant to a confidence level of 99% for the unadjusted Federal Circuit reversal rate, and 95% for the Federal Circuit reversal rate adjusted for summary affirmances. Moreover, the Federal Circuit’s reversal rates for the individual standards of review exceeded those of the representative regional circuits in each instance.\textsuperscript{17} In particular, the difference between the Federal Circuit’s reversal rate for the de novo standard of review and that of the representative regional circuits treated as an aggregate was statistically significant to a confidence level of 99% for the unadjusted Federal Circuit reversal rate, and 90% for the Federal Circuit reversal rate adjusted for summary affirmances. Thus, these results indicate that the hypothesis that the Federal Circuit’s reversal rate is higher than that of the regional circuits should be accepted.

The second part of the study focused on contrasting reversal rates of the Federal Circuit with reversal rates of the representative regional circuits, this time controlling for several example procedural postures.\textsuperscript{18} The procedural postures examined included grants and denials of (1) summary judgment, (2) judgments as a matter of law ("JMOL"),\textsuperscript{19} and (3) preliminary injunctions. These procedural postures were chosen because they involve both deferential and non-deferential standards of review,\textsuperscript{20} which

\begin{footnote}
\textsuperscript{17} This result does not include the reasonable juror standard of review because the Federal Circuit did not review any issues under this standard in the data sample studied.
\end{footnote}

\begin{footnote}
\textsuperscript{18} See \textit{infra} Part II.B for a detailed description of the methodology used in this part of the study.
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\begin{footnote}
\textsuperscript{19} The study included both pre-verdict motions for JMOL (i.e., directed verdicts) and post-verdict motions for JMOL (i.e., judgments notwithstanding the verdict).
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\begin{footnote}
\textsuperscript{20} Grants of summary-judgment motions and grants and denials of motions for judgment as a matter of law are reviewed de novo—i.e., with no deference to the lower court’s judgment. \textit{E.g.}, Conroy v. Reebok Int'l, 14 F.3d 1570, 1575 (Fed. Cir. 1994) (grant of summary judgment); Sundance, Inc. v. DeMonte Fabricating Ltd., 550 F.3d 1356, 1365 (Fed. Cir. 2008) (grant of JMOL); Lincoln Nat. Life Ins. Co. v. Transamerica
\end{footnote}
allowed the study to determine whether different procedural postures having both deferential and non-deferential standards of review have any effect on the Federal Circuit’s reversal rate compared to that of other circuits. This part of the study examined 395 summary-judgment cases from 2005, 321 JMOL cases from 2007-2009, and 392 preliminary-injunction cases from 2005-2009.

The results of this second part of the study also tend to indicate that the hypothesis that the Federal Circuit’s reversal rate is higher than that of the regional circuits should be accepted.\textsuperscript{21} For all three example procedural postures studied, the Federal Circuit’s reversal rate was statistically significantly greater than that of the representative regional circuits taken as an aggregate. For example, when reviewing summary-judgment decisions, the Federal Circuit reversed the decision of the district court, at least in part, in 42.5\% of the cases examined, whereas the regional circuits reversed, at least in part, in only 22.5\% of the cases examined. This difference is statistically significant to a 99\% confidence level.\textsuperscript{22} Similarly, for JMOL, the Federal Circuit reversed the district court’s decision, at least in part, in 52.3\% of the cases studied, whereas the regional circuits reversed, at least in part, an average of only 23.0\%.

\textsuperscript{21} See \textit{infra} Part III.B for a detailed description of the results of this second part of the study.

\textsuperscript{22} See \textit{infra} Part III.B.1 for a detailed discussion of the results of this study with respect to summary judgment.
of the time. This difference is also statistically significant to a 99% confidence level.\textsuperscript{23} Finally, for preliminary injunctions, although the difference is not as striking, the Federal Circuit’s reversal rate is nonetheless significantly higher than the mean rate of the regional circuits. Indeed, the Federal Circuit reversed, at least in part, the district court’s decision on preliminary injunctions in 48.7% of the cases studied. In contrast, the regional circuits reversed these decisions, at least in part, an average of 34.6% of the time. This difference is statistically significant to a 90% confidence level.\textsuperscript{24} Thus, the results from this part of the study also indicate that the hypothesis that the Federal Circuit’s reversal rate is higher than that of the regional circuits should be accepted. Therefore, these results tend to empirically confirm that the Federal Circuit has engaged in a greater degree of judicial hyperactivity than the representative regional circuits studied.

This article describes this empirical study in detail. Part I begins by discussing how commentators and others have charged the Federal Circuit with engaging in judicial hyperactivity. Next, Part II describes the methodology used in carrying out the empirical study. Finally, Part III details the results of the study.

I. ACCUSATIONS THAT THE FEDERAL CIRCUIT HAS ENGAGED IN JUDICIAL HYPERACTIVITY

This Part describes how a number of commentators have criticized the Federal Circuit for engaging in judicial hyperactivity. First, Part I.A discusses the arguments of

\textsuperscript{23} See \textit{infra} Part III.B.2 for a detailed discussion of the results of this study with respect to JMOL.

\textsuperscript{24} See \textit{infra} Part III.B.3 for a detailed discussion of the results of this study with respect to preliminary injunctions.
William C. Rooklidge and Matthew F. Weil that the Federal Circuit engages in judicial hyperactivity by improperly acting as an advocate and as a fact finder. Second, Part I.B describes how commentators have accused the Federal Circuit of engaging in judicial hyperactivity because of the court’s high reversal rate in claim-construction decisions.

A. ROOKLIDGE AND WEIL: THE FEDERAL CIRCUIT AS ADVOCATE AND FACT FINDER

In an essay from 2000, two practitioners, William C. Rooklidge and Matthew F. Weil, persuasively argue that the Federal Circuit engages in what they call “judicial hyperactivity.” They define judicial hyperactivity as where an appellate court steps out of its proper role as an appellate court and instead makes decisions that a lower court should properly make. They contrast judicial hyperactivity with the traditional concept of judicial activism, which they say “refers to a tribunal going beyond the substantive statutory or common law to reach ideologically-motivated outcomes.”

Rooklidge and Weil note that judicial hyperactivity is unlike traditional judicial activism because

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26 Rooklidge & Weil, supra note 2, at 726-27.

27 Id. at 726.
traditional judicial activism normally “is drenched in political overtones.” Although they do not argue that the Federal Circuit has engaged in ideologically or politically motivated judicial activism, the authors point to several ways in which the Federal Circuit has engaged in judicial hyperactivity. These ways include the Federal Circuit acting as both an advocate and as a fact-finder. Rooklidge and Weil point out that

[a]lmost since its inception, the Federal Circuit has been dogged with criticism for straying from the path carefully delineated for appellate tribunals. Disappointed litigants and commentators alike have criticized the court for fact-finding and other forms of hyperactive judging. Increasingly, the bar is expressing concern over the court's decision-making procedures and its apparent willingness to take over the roles of patent examiner, advocate and trier of fact.

This Part describes Rooklidge’s and Weil’s conclusion that the Federal Circuit engages in judicial hyperactivity. First, Part I.A.1 discusses Rooklidge’s and Weil’s arguments that the Federal Circuit has engaged in judicial hyperactivity by acting as an advocate. Second, Part I.A.2 discusses their arguments that the Federal Circuit has improperly acted as a fact-finder.

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28 Id. As an example of traditional judicial activism, Rooklidge and Weil point to when the conservative majority of the U.S. Supreme Court struck down “liberal New Deal legislation in the 1930s.” Id.

29 See id. at 735-48.

30 See id. at 735-39.

31 See id. at 739-48.

32 Id. at 729-30 (footnotes omitted).
1. The Federal Circuit As Advocate

Rooklidge and Weil argue that the Federal Circuit has engaged in judicial hyperactivity by improperly acting as an advocate in two ways: (1) by ignoring the general rule that appellate courts should not normally consider arguments the parties raise for the first time on appeal; and (2) by deciding issues that the parties failed to properly preserve in the district court. They cite as an example a case involving a claim limitation written in means-plus-function format. In that case, the district court and

33 See id. at 735-36. Rooklidge and Weil quote the Federal Circuit’s articulation of the reasons for the rule that appellate courts should not consider arguments raised for the first time on appeal:

A party’s argument should not be a moving target. The argument at the trial and appellate level should be consistent, thereby ensuring a clear presentation of the issue to be resolved, an adequate opportunity for response and evidentiary development by the opposing party, and a record reviewable by the appellate court that is properly crystallized around and responsive to the asserted argument.

Id. at 735 (quoting Finnigan Corp. v. United States Int’l Trade Comm’n, 180 F.3d 1354, 1363 (Fed. Cir. 1999)).

Similarly, Rooklidge and Weil quote the Federal Circuit’s articulation of the reasons for the rule that appellate courts should normally not consider arguments that the parties have failed to preserve in the district court: “Application of this rule ‘frees trial courts to focus on the factual and legal issues the parties identify as being in dispute, without having to worry that a misstep on an issue not disputed or objected to by the parties will result in a reversal.’” Id. at 735-36 (quoting Seal-Flex, Inc. v. Athletic Track & Court Constr., 172 F.3d 836, 852 (Fed. Cir. 1999) (Bryson & Newman, JJ., concurring)).

34 Id. at 736-37 (citing Rodime PLC v. Seagate Tech., Inc., 174 F.3d 1294 (Fed. Cir. 1999)). A means-plus-function limitation is a claim limitation (authorized under 35 U.S.C. § 112, paragraph 6) that recites a function that an element of the invention performs rather than the structure of the element of the invention. JANICE M. MUELLER, PATENT LAW 87 (3d ed. 2009). Determining whether an accused device infringes a means-plus-function limitation involves different rules than for an ordinary structural
both parties all agreed that the limitation was in means-plus-function format.\textsuperscript{35} However, the Federal Circuit sua sponte reversed the district court’s grant of summary judgment on the grounds that the district court erred in construing the limitation as a means-plus-function limitation.\textsuperscript{36} Thus, Rooklidge and Weil argue that the Federal Circuit acted as an advocate by “revers[ing] the district court on an issue that no one raised on appeal.”\textsuperscript{37} The Federal Circuit based its decision to treat the limitation in question as a means-plus-function limitation on “its responsibility to interpret the claims as a matter of law.”\textsuperscript{38} But, in contrast, Rooklidge and Weil point out that in similar cases, the Federal Circuit declined to construe claims sua sponte whose interpretations the parties did not dispute.\textsuperscript{39} They conclude that this sort of judicial hyperactivity produces uncertainty among practitioners: “Now the bar is left to wonder why and when the court will consider arguments raised for the first time on appeal and arguments not made by either party but concocted by the court itself.”\textsuperscript{40}

\begin{footnotesize}
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  \item Both parties all agreed that the limitation was in means-plus-function format.\textsuperscript{35}
  \item However, the Federal Circuit sua sponte reversed the district court’s grant of summary judgment on the grounds that the district court erred in construing the limitation as a means-plus-function limitation.\textsuperscript{36}
  \item Thus, Rooklidge and Weil argue that the Federal Circuit acted as an advocate by “revers[ing] the district court on an issue that no one raised on appeal.”\textsuperscript{37}
  \item The Federal Circuit based its decision to treat the limitation in question as a means-plus-function limitation on “its responsibility to interpret the claims as a matter of law.”\textsuperscript{38}
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  \item They conclude that this sort of judicial hyperactivity produces uncertainty among practitioners: “Now the bar is left to wonder why and when the court will consider arguments raised for the first time on appeal and arguments not made by either party but concocted by the court itself.”\textsuperscript{40}
\end{itemize}
\end{footnotesize}
2. *The Federal Circuit as Fact-Finder*

Moreover, Rooklidge and Weil argue that the Federal Circuit has overstepped its proper appellate role and engaged in judicial hyperactivity by acting as a fact-finder.\(^{41}\) They point out the potential problems with this type of judicial hyperactivity:

As an appellate court, the Federal Circuit’s role is not to hear evidence de novo. Fairness to the litigants weighs against reconsideration of the facts at the appellate level. Appellate fact-finding would undermine the lower tribunal’s legitimacy, increase the number of appeals by encouraging litigants to retry cases at the appellate level, and needlessly reallocate judicial authority.\(^{42}\)

Two ways in which Rooklidge and Weil identify that the Federal Circuit has acted as a fact-finder are by (1) finding facts instead of remanding after reversing a district court’s judgment and (2) after reversing a grant of summary judgment in favor of one party, granting summary judgment in favor of the other party, even in the absence of a cross-motion for summary judgment.\(^{43}\)

With respect to fact-finding instead of remanding, Rooklidge and Weil note that the Federal Circuit justifies this practice by reasoning that in a particular case, “the court could only make one finding of fact or decide the fact in only one way.”\(^{44}\) But they point out that the Federal Circuit sometimes finds facts instead of remands even in cases where “the evidence is disputed.”\(^{45}\) They further caution that even in cases where the facts seem

\(^{41}\) *See id.* at 739-48.

\(^{42}\) *Id.* at 739 (footnotes omitted).

\(^{43}\) *Id.* at 740.

\(^{44}\) *Id.* at 742 (quoting SmithKline Diagnostics, Inc. v. Helena Lab. Corp., 859 F.2d 878, 886 n.4 (Fed. Cir. 1988)).

\(^{45}\) *Id.* at 741-42 (citing SmithKline, 859 F.2d at 886 n.4).
simple and easy to resolve, such appellate fact finding is inappropriate because a fact-finder could nonetheless decide such facts in more than one way.\textsuperscript{46}

With respect to granting summary judgment to one party after reversing a grant of summary judgment in favor of the other party even in the absence of cross-motions for summary judgment, Rooklidge and Weil give an example of a case where the Federal Circuit reviewed a district court’s grant of summary judgment of literal infringement in favor of the patentee.\textsuperscript{47} The Federal Circuit held that there was no literal infringement and then went on to consider infringement under the doctrine of equivalents, even though the district court had not reached this issue.\textsuperscript{48} The court determined that the record evidence did not support infringement under the doctrine of equivalents as a matter of law.\textsuperscript{49} But instead of merely reversing the grant of summary judgment in favor of the patentee, the Federal Circuit ordered the district court to enter summary judgment of noninfringement in favor of the accused infringer—even though “the accused infringer

\textsuperscript{46} Id. at 742.

\textsuperscript{47} Id. at 743-45 (citing Chiuminatta Concrete Concepts, Inc. v. Cardinal Indus., Inc., 145 F.3d 1303 (Fed. Cir. 1998)).

\textsuperscript{48} Id. at 743 (citing Chiuminatta, 145 F.3d at 1310-11). Literal infringement occurs “where the accused subject matter falls precisely within the boundaries of the claim.” Mueller, supra note 34, at 349. Even where an accused invention does not literally infringe a patent claim, infringement under the doctrine of equivalents may nonetheless exist. Id. at 351. The doctrine of equivalents allows “a patent [to] protect[] its holder against efforts of copyists to evade liability for infringement by making only insubstantial changes to a patented invention.” Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 535 U.S. 722, 727 (2002).

\textsuperscript{49} Rooklidge & Weil, supra note 2, at 743-44 (citing Chiuminatta, 145 F.3d at 1310-11).
had never even moved for summary judgment of noninfringement.”

Rooklidge and Weil warn that parties will perceive this practice “as at least unfair and possibly as a
denial of due process.” They also caution that this practice “will spur disappointed
nonmovants to appeal, seeking the grant of a summary judgment for which they never
asked.” Finally, they predict that “[a]s a result, appeals will increase while confidence
in the court decreases.”

Ultimately, Rooklidge and Weil reason that this judicial hyperactivity
dramatically reduces certainty and predictability in patent appeals. This in turn will cause the number of appeals to continue to increase as disappointed litigants are encouraged to roll the dice in hope that the Federal Circuit will . . . think up some new arguments that had not occurred to counsel, or find facts not found by the lower tribunal.

50 Id. at 744. Rooklidge and Weil note that the Federal Circuit supported its sua
sponte grant of summary judgment with a Ninth Circuit case. Id. (citing Cool Fuel, Inc.
v. Connert, 685 F.2d 309, 311 (9th Cir. 1982)). But they note that the Federal Circuit
misapplied this authority and “grossly mischaracterized Ninth Circuit law” in two ways.
Id. First, this Ninth Circuit case did not hold that an appellate court may sua sponte grant
summary judgment—instead, it held that a trial court may do so. Id. Second, Ninth
Circuit law requires that the nonmoving party against which the court might sua sponte grant summary judgment be given “reasonable notice that the sufficiency of his or her claim will be in issue” before the court may sua sponte grant summary judgment. Id. (citing O’Keefe v. Van Boening, 82 F.3d 322, 324 (9th Cir. 1996); Buckingham v. United
States, 998 F.2d 735, 742 (9th Cir. 1982)). Thus, the Federal Circuit exceeded its
authority because as an appellate court, the Federal Circuit is not in position to give the
party such notice. Id. at 744-45.

51 Id. at 745.

52 Id.

53 Id.

54 Id. at 751-52 (footnotes omitted).
They conclude that “the Federal Circuit, like any other appellate court, should strive to confine its decision-making procedures to those traditionally associated with an appellate court, and leave . . . innovative advocacy and fact-finding to others.”

B. CLAIM CONSTRUCTION

In particular, commentators have accused the Federal Circuit of engaging in judicial hyperactivity because of the high reversal rate in its decisions involving claim construction. Claim construction is the necessary first step in any determination of patent infringement. When construing patent claims, a judge “interpret[s] the specific terms or phrases used by the patentee to define the technology covered by the patent.” Commentators have accused the Federal Circuit of overstepping its proper appellate role by reviewing claim-construction decisions de novo instead of giving deference to the claim-construction decisions of the district courts. District court judges have also

55 Id. at 752.

56 E.g., Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1454 (Fed. Cir. 1998) (en banc) (“An infringement analysis involves two steps. First the court determines the scope and meaning of the patent claims asserted, and then the properly construed claims are compared to the allegedly infringing device.” (citations omitted)).

57 A patent claim is “arguably the most important part of a patent.” MUELLER, supra note 34, at 65. “A patent claim is a precision-drafted, single-sentence definition of the patent owner’s right to exclude others.” Id. The Patent Act requires that the specification of every patent must “conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.” 35 U.S.C. § 112 (2006).


criticized the Federal Circuit’s high reversal rate on claim-construction decisions.⁶⁰ Even certain judges of the Federal Circuit themselves have similarly criticized the court’s application of the de novo standard to claim construction decisions.⁶¹

⁶⁰ See, e.g., Kimberley Moore, Are District Court Judges Equipped to Resolve Patent Cases?, 15 HARV. J.L. & TECH. 1, 11 (2001) [hereinafter Moore, District Court Judges] (“[The Federal Circuit has] reversed everything I’ve ever done, so I expect fully they’ll reverse this too.” (quoting District Judge Samuel B. Kent in O.I. Corp. v. Tekmar Co., No. 95-CV-113 (S.D. Tex. June 17, 1996)); William G. Young, High Technology Law in the Twenty-First Century, 21 SUFFOLK TRANSNAT’L L. REV. 13, 19 (1997) (“I have had nine of my cases appealed to the Federal Circuit. I have been affirmed in one. I have been affirmed in part in one. And I have been reversed in seven.”).

⁶¹ See, e.g., Amgen Inc. v. Hoechst Marion Roussel, Inc., 469 F.3d 1039, 1040 (Fed. Cir. 2006) (Michel, C.J., dissenting from the denial of the petition for rehearing en banc) (“Rehearing this case en banc would have enabled us to reconsider [the] rule of de novo review for claim construction in light of our eight years of experience with its application. I have come to believe that reconsideration is appropriate and revision may be advisable.”); id. at 1044 (Rader, J., dissenting from denial of the petition for rehearing
Although the Supreme Court has characterized claim construction as a “mongrel practice” combining both issues of law and fact,\(^{62}\) in the en banc decision of *Cybor Corp. v. FAS Technologies, Inc.*\(^{63}\) the Federal Circuit decided that it would treat claim-construction decisions as pure questions of law subject to review without deference to the district court.\(^{64}\) Relying on its earlier decision in *Markman v. Westview Instruments, Inc.*,\(^{65}\) the court reasoned that claim construction is a pure question of law because it truly involves “construction of [a] written document.”\(^{66}\) This construction must be “based upon the patent and prosecution history.”\(^{67}\) Although the district court may consider

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\(^{63}\) 138 F.3d 1448 (Fed. Cir. 1998) (en banc).

\(^{64}\) *Id.* at 1456.

\(^{65}\) 52 F.3d 967, 981 (Fed. Cir 1995) (en banc), *aff’d* 517 U.S. 370.

\(^{66}\) *Id.* at 1454 (quoting *Markman*, 52 F.3d at 981).

\(^{67}\) *Id.* (quoting *Markman*, 52 F.3d at 981). “The prosecution history . . . consists of the complete record of the proceedings [for a particular patent application] before the
extrinsic evidence in helping it construe the claims, the Federal Circuit in *Cybor Corp.* reasoned that “the [district] court is not crediting certain evidence over other evidence or making factual evidentiary findings.”68 Thus, the Federal Circuit held that claim construction is a pure question of law subject to de novo review on appeal.69

Since *Markman* and *Cybor Corp.*, several researchers have undertaken empirical studies of the Federal Circuit’s reversal rate in its claim-construction decisions.70 These commentators have found that the reversal rate in such decisions is seemingly quite high. Table 1 below summarizes the results of these previous studies.

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68 *Cybor Corp.*, 138 F.3d at 1454.

69 *Id.* at 1456.

Table 1: Claim-Construction Reversal Rates from Previous Empirical Studies

<table>
<thead>
<tr>
<th>Author</th>
<th>Year of Study</th>
<th>Reversal Rate</th>
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<tbody>
<tr>
<td>Chu</td>
<td>2001</td>
<td>44% (^{71})</td>
</tr>
<tr>
<td>Bender</td>
<td>2001</td>
<td>40% (^{72})</td>
</tr>
<tr>
<td>Moore</td>
<td>2001</td>
<td>33% (^{73})</td>
</tr>
<tr>
<td>Zidel</td>
<td>2003</td>
<td>41.5% (^{74})</td>
</tr>
<tr>
<td>Moore</td>
<td>2004</td>
<td>37.5% (^{75})</td>
</tr>
</tbody>
</table>

In 2001, in a comprehensive study of claim-construction reversal rates, Christian A. Chu “conducted an empirical study that systematically examined [then-]recent Federal Circuit decisions and applied statistical methods to analyze trends in the [Federal Circuit’s] claim construction jurisprudence.”\(^{76}\) He studied all patent decisions of the Federal Circuit from January 1, 1998, through April 30, 2000.\(^{77}\) In his study, Mr. Chu found that the Federal Circuit modified claim construction in 44% of the cases he

\(^{71}\) Chu, supra note 59, at 1104.

\(^{72}\) Bender, supra note 70, at 207.

\(^{73}\) Moore, District Court Judges, supra note 60, at 11-12.

\(^{74}\) Zidel, supra note 70, at 747.

\(^{75}\) Moore, Markman Eight Years Later, supra note 70, at 239.

\(^{76}\) Chu, supra note 59, at 1075. At the time he wrote his article, Christian A. Chu was a law clerk for a district court judge. Id. at 1075 n.†. He currently “is a Principal in the Washington, D.C. office of Fish & Richardson P.C.” Fish & Richardson—Attorneys—Christian Chu, http://www.fr.com/christian-chu/ (last visited Sept. 7, 2010).

\(^{77}\) Chu, supra note 59, at 1092.
examined that expressly involved a review of claim construction.\textsuperscript{78} He concluded that the Federal Circuit’s de novo standard of review of claim construction is largely to blame for this high reversal rate.\textsuperscript{79}

Also in 2001, Gretchen Ann Bender examined the Federal Circuit’s reversal rate in claim-construction decisions.\textsuperscript{80} She considered all of the court’s cases in which it reviewed claim construction from the time of the Supreme Court’s decision in \textit{Markman} in 1996 through 2000.\textsuperscript{81} She found that the Federal Circuit altered the district court’s claim construction in around 40\% of the cases she examined.\textsuperscript{82} Ms. Bender argued that this high reversal rate was a result of several factors, including the inherent ambiguity in claim language and flaws with the Federal Circuit’s claim-construction methodology.\textsuperscript{83}

Also in 2001, then-Professor Kimberly A. Moore did an empirical study of the Federal Circuit’s reversal rate with respect to claim construction.\textsuperscript{84} Similar to Ms. Bender’s study, in Professor Moore’s study, she examined all cases beginning just after

\begin{itemize}
  \item \textsuperscript{78} \textit{Id.} at 1104.
  \item \textsuperscript{79} \textit{Id.} at 1143.
  \item \textsuperscript{80} Bender, \textit{supra} note 70, at 202-07. At the time she wrote her article, Gretchen Ann Bender was a partner at Morris, James, Hitchens & Williams, LLP, in Wilmington, Delaware. \textit{Id.} at 175 n.*.
  \item \textsuperscript{81} \textit{Id.} at 203.
  \item \textsuperscript{82} \textit{Id.} at 207.
  \item \textsuperscript{83} \textit{Id.} at 209-17.
  \item \textsuperscript{84} Moore, \textit{District Court Judges, supra} note 60, at 11-14. At the time she wrote this article, Kimberley A. Moore was an Associate Professor of Law at George Mason University School of Law. \textit{Id.} at 1 n.*. In 2006, she became a judge on the Federal Circuit. \textit{KIMBERLY A. MOORE, Circuit Judge}, http://www.cafc.uscourts.gov/index.php?option=com_content&view=article&id=139:kimberly-a-moore-circuit-judge&catid=1:judges&Itemid=24 (last visited Sept. 17, 2010).
\end{itemize}
the Supreme Court’s decision in *Markman* in 1996 through 2000. But unlike the studies of Mr. Chu and Ms. Bender, Professor Moore’s study included cases that were summarily affirmed without opinion under Federal Circuit Rule 36. According to Professor Moore, by omitting Rule 36 summary affirmances, Mr. Chu’s and Ms. Bender’s reversal rates were artificially high. Thus, Professor Moore’s study revealed that the reversal rate in claim-construction decisions from 1996 to 2000 was only 33%. Although this result is substantially lower than the results obtained by Mr. Chu (44%) and Ms. Bender (40%), a reversal rate of 33% is nonetheless quite high.

In 2003, Andrew T. Zidel also considered the Federal Circuit’s claim-construction reversal rate. He examined all Federal Circuit cases in 2001 that expressly involved claim construction. But like Mr. Chu and Ms. Bender, Mr. Zidel did not include Rule

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85 Moore, *District Court Judges*, supra note 60, at 8-9.

86 *Id.* at 8. Federal Circuit Rule 36 allows the court to “summarily affirm without opinion a district court judgment.” *Id.* at 8 n.36. See infra Part III.A.2 for a detailed discussion of this rule and summary affirmances.

87 Moore, *Markman Eight Years Later*, supra note 70, at 235-36 & n.15.

88 Moore, *District Court Judges*, supra note 60, at 11-12.

89 Chu, *supra* note 59, at 1104.

90 Bender, *supra* note 70, at 207.

91 See Moore, *District Court Judges*, supra note 60, at 16-17.

92 Zidel, *supra* note 70, at 744-48. At the time he wrote his comment, Andrew T. Zidel was a student at Seton Hall University and a registered patent agent. *Id.* at 711 n.*. He currently is an associate at Lerner David Littenberg Krumholz & Mentlik, LLP, in Westfield, N.J. *Lerner, David, Littenberg, Krumholz & Mentlik, LLP—Intellectual Property Counsel*, http://www.ldlkm.com/attorneys/index.asp?page=staff_assoc_andrew_zidel (last visited Sept. 7, 2010).

93 Zidel, *supra* note 70, at 744-45.
36 summary affirmances in his study. Thus, Mr. Zidel’s results were similarly artificially high. He found that the Federal Circuit reversed the district court’s claim construction in 41.5% of the cases he examined, which is in line with the results of Mr. Chu’s (44%) and Ms. Bender’s (40%) similar studies. Mr. Zidel concluded that this high reversal rate was a result of a number of specific errors that district courts made in applying the Federal Circuit’s articulated claim-construction methodology.

In 2004, then-Professor Moore did a second empirical study of the Federal Circuit’s reversal rates in claim-construction decisions. In this second study, Professor Moore updated her 2001 study by including cases from 1996 through 2003. As with her 2001 study, she included cases that were summarily affirmed without opinion under Federal Circuit Rule 36. This study showed that the Federal Circuit held that the

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94 Moore, Markman Eight Years Later, supra note 70, at 235-36 & n.15. See infra Part III.A.2 for a detailed discussion of Rule 36 and summary affirmances.

95 Id.

96 Zidel, supra note 70, at 747.

97 Chu, supra note 59, at 1104.

98 Bender, supra note 70, at 207.

99 See Zidel, supra note 70, at 748-53. The specific errors that Mr. Zidel identified include improperly importing claim limitations from the patent specification into the claims, improperly construing claims without considering how one of ordinary skill in the art would interpret the claim language, relying on inappropriate dictionary definitions, and improperly construing complex means-plus-function limitations. Id.

100 Moore, Markman Eight Years Later, supra note 70, at 239-43.

101 Id. at 239.

102 Id. See infra Part III.A.2 for a detailed discussion of this rule and summary affirmances.
district court incorrectly construed at least one claim term in 37.5% of all cases. This rate showed that “the reversal rate [was] getting worse not better.” Professor Moore reasoned that this high reversal rate, trending upward, could be a result of several things, including (1) the Federal Circuit’s de novo standard of review for claim construction decisions, (2) the lack of technical training possessed by district-court judges, and (3) the lack of “repeat exposure to claim construction” by district-court judges.

Regardless of the precise cause, all these empirical studies show that the Federal Circuit’s reversal rate in claim-construction decisions is quite high. Thus, these studies tend to support the idea that the Federal Circuit has engaged in judicial hyperactivity.

II. METHODOLOGY OF THE EMPIRICAL STUDY

This empirical study involved comparing the reversal rates of the Federal Circuit with corresponding reversal rates of other circuit courts of appeal. The goal of this study was to determine whether the Federal Circuit’s reversal rate is significantly higher than that of the other circuits studied. If the Federal Circuit’s reversal rate is significantly higher than other circuits, then this fact would tend to demonstrate empirically that the Federal Circuit is a more judicially hyperactive court than other circuits.

The study contrasted reversal rates of the Federal Circuit with reversal rates of several representative regional circuit courts of appeal. The regional circuits studied

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103 Moore, Markman Eight Years Later, supra note 70, at 239.

104 Id. at 245.

105 Id. at 245-46. But an empirical study by Professor David L. Schwartz refutes the notion that the lack of experience that district court judges have at construing claims is responsible for the Federal Circuit’s high reversal rate of claim construction decisions. Schwartz, supra note 58, at 267 (“[T]he reversal rate may be essentially constant, regardless of the prior claim construction experience of the district court judge.”).
were the Second, Fifth, Seventh, and Ninth Circuits. These circuits were chosen because they are among the largest circuits in terms of caseload, and they include some of the most populous states.

This study had two parts. The first part of the study focused on contrasting overall reversal rates and reversal rates for particular standards of review between the Federal Circuit and the several representative regional circuits. The second part of the study focused on contrasting reversal rates of the Federal Circuit with reversal rates of the representative regional circuits, this time controlling for several example procedural postures. The remainder of this Part describes the methodology used in the two parts of this empirical study. Part II.A discusses the methodology used in the first part of the study, and Part II.B discusses the methodology used in the second part of the study.

A. METHODOLOGY—OVERALL REVERSAL RATES AND REVERSAL RATES FOR PARTICULAR STANDARDS OF REVIEW

The first part of the study examined differences between the overall reversal rates of the Federal Circuit and the Second, Fifth, Seventh, and Ninth Circuits, as well as the reversal rates for particular standards of review. This part of the study contrasted reversal rates for discrete issues, rather than on a case-by-case basis.

The first step was gathering the necessary data. The data gathered included 2,208 different issues in 1,881 different cases. For each of these issues, it was determined

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107 The Second Circuit includes New York; the Fifth Circuit includes Texas; the Seventh Circuit includes Illinois; and the Ninth Circuit includes California.
whether the court of appeals affirmed, reversed, vacated, or affirmed in-part and reversed in-part the lower court on that particular issue. Each major issue was examined separately. Where a case discussed multiple “minor” issues, these minor issues were grouped together as one major issue. For example, in a case involving multiple related evidentiary rulings, these rulings were not treated as individual issues reviewed under the abuse-of-discretion standard; instead, they were grouped together as one issue reviewed under this standard. If the court affirmed or reversed all the rulings, then the issue was recorded as “affirmed” or “reversed,” respectively; if the court affirmed some and reversed some of the rulings, then the issue was recorded as “affirmed in part-reversed in part.” This information was entered into a Microsoft Access database and later transferred to a Microsoft Excel spreadsheet to analyze the data.

Certain types of dispositions were excluded from the data. For example, the database does not include decisions granting or denying motions made to the court of appeals. Other types of decisions excluded include decisions on petitions to appeal.

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108 The cases included in this part of the study are the first 1,881 cases of 2010 for the circuits studied, the time period of which ran from January 2010 to February 2010. These cases were retrieved using either Westlaw or Lexis.

109 The database included the following fields: citation; circuit; year; and fields for tracking up to nine discrete issues per case. The fields for tracking the discrete issues included a pair of fields for each issue—(1) standard of review and (2) corresponding disposition. The standard of review fields were relationally linked to a lookup table comprising the different standards of review studied, and the disposition fields were relationally linked to a lookup table comprising possible dispositions.

110 For example, Young v. Shinseki, 364 Fed. Appx. 634 (Fed. Cir. 2010), was not included.

111 For example, Harrison v. Shinseki, 364 Fed. Appx. 630 (Fed. Cir. 2010), was not included.
and petitions for writs of mandamus.\textsuperscript{112} Also excluded were any issues for which the court did not articulate a standard of review.\textsuperscript{113}

Data were tabulated for the reversal rates for each standard of review for each of the circuits studied. The data from the representative regional circuits were combined into “overall non-Federal Circuit” totals to allow for the easy contrast of Federal Circuit reversal rates with the reversal rates from the representative regional circuits taken as a whole. Additionally, the Federal Circuit data were adjusted for the Federal Circuit’s use of summary affirmances.\textsuperscript{114} Appendix A contains data tables that show the raw data obtained for this part of the study.

\textbf{B. METHODOLOGY—REVERSAL RATES FOR SEVERAL EXAMPLE PROCEDURAL POSTURES}

The second part of the study focused on contrasting reversal rates of the Federal Circuit with reversal rates of the representative regional circuits, this time controlling for several example procedural postures. The procedural postures examined included grants and denials of (1) summary judgment, (2) judgments as a matter of law (“JMOL”),\textsuperscript{115} and (3) preliminary injunctions. These procedural postures involve both deferential and non-

\textsuperscript{112} For example, \textit{In re Pfizer, Inc.}, 364 Fed. Appx. 620 (Fed. Cir. 2010), was not included.

\textsuperscript{113} For example, if a court said that the appellant’s additional arguments were without merit, then no issue was recorded.

\textsuperscript{114} See \textit{infra} Part III.A.2 for a discussion of how the data were adjusted to take summary affirmances into account.

\textsuperscript{115} The study included both pre-verdict motions for JMOL (i.e., directed verdicts) and post-verdict motions for JMOL (i.e., judgments notwithstanding the verdict).
deferential standards of review, which allowed the study to determine whether different procedural postures having both deferential and non-deferential standards of review have any effect on the Federal Circuit’s reversal rate compared to that of other circuits.

First, relevant cases were obtained for the Federal Circuit and each representative regional circuit for each of the procedural postures studied. Appropriate search terms were entered using the database on Westlaw or Lexis for the circuit in question for the last several years. Next, the cases were examined to eliminate false positives.

After that, the cases were coded. Each case was studied, and it was determined whether the court in that case reversed, vacated, or affirmed-in-part and reversed-in-part

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116 Grants of summary-judgment motions and grants and denials of motions for judgment as a matter of law are reviewed de novo—i.e., with no deference to the lower court’s judgment. E.g., Conroy v. Reebok Int'l, 14 F.3d 1570, 1575 (Fed. Cir. 1994) (grant of summary judgment); Sundance, Inc. v. DeMonte Fabricating Ltd., 550 F.3d 1356, 1365 (Fed. Cir. 2008) (grant of JMOL); Lincoln Nat. Life Ins. Co. v. Transamerica Life Ins. Co., 609 F.3d 1364, 1368 (Fed. Cir. 2010) (denial of JMOL). Denials of summary-judgment motions and grants and denials of preliminary-injunction motions are reviewed for abuse of discretion—i.e., with great deference to the lower court’s judgment. E.g., Conroy, 14 F.3d at 1575 (denial of summary judgment); Am. Signature, Inc. v. United States, 598 F.3d 816, 823 (Fed. Cir. 2010); Abbott Labs. v. Sandoz, Inc., 566 F.3d 1282,1298 (Fed. Cir. 2009) (preliminary injunction).


118 For example, false positives occurred when searching for JMOL cases using the phrase “judgment as a matter of law” as a search term. Such a search term was necessary to identify JMOL cases, but it generated false positives wherever this term was mentioned in summary judgment cases, as it often was. See, e.g., United States v. Robinson, 434 F.3d 357, 361 (5th Cir. 2005) (“Summary judgment is proper ‘if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law.’” (emphasis added)).
the district court’s decision for the particular procedural posture in question.\textsuperscript{119} This information was entered into Microsoft Access databases.\textsuperscript{120} Appendix B contains data tables that show the raw data obtained for this part of the study.

C. METHODOLOGY FOR DETERMINING WHETHER DIFFERENCES IN REVERSAL RATES WERE STATISTICALLY SIGNIFICANT

The same methodology was used in each of the two parts of this study to determine whether particular differences in reversal rates were statistically significant. In all instances, the null hypothesis\textsuperscript{121} used was that the Federal Circuit’s reversal rate did not differ from that of the representative regional circuits. The alternative hypothesis\textsuperscript{122} was that the Federal Circuit’s reversal rate was higher than that of the representative regional circuits. Z-values were calculated to determine whether these differences in reversal rates were statistically significant to particular confidence levels. A web-based

\textsuperscript{119} If a particular case included decisions on other procedural postures, these decisions were not included in the database.

\textsuperscript{120} A separate database was used for each procedural posture. Each of the databases for each procedural posture studied included the following fields: case caption; citation; circuit; year; and disposition. The summary-judgment database also included fields to track whether the motion was granted or denied at the district court, and whether the plaintiff or defendant was the moving party. The JMOL database also included fields to track whether the motion was granted or denied at the district court, and whether the case involved a pre- or post-verdict motion for JMOL.

\textsuperscript{121} A null hypothesis is a hypothesis that a researcher will accept “unless the statistical evidence is very strong in the other direction.” CHARLES LIVINGSTON & PAUL S. VOAKES, WORKING WITH NUMBERS AND STATISTICS 84 (2005).

\textsuperscript{122} An “[a]lternative [h]ypothesis is the opposite of the [n]ull [h]ypothesis.” \textit{Id.} If the statistical evidence is sufficiently strong to overcome the null hypothesis, then a researcher will accept the alternative hypothesis as true. \textit{Id.}
calculator was used to determine $z$-values.\textsuperscript{123} This calculator used the following formulas
to calculate $z$-values between two different proportions or percentages:

$$ z = \frac{|p_1 - p_2|}{s} , \text{ where:} $$

$$ p_1 = \text{proportion 1}, $$

$$ p_2 = \text{proportion 2}, \text{ and} $$

$$ s = \sqrt{p(1-p)/n_1 + p(1-p)/n_2} , \text{ where:} $$

$$ p = (p_1 n_1 + p_2 n_2)/(n_1 + n_2), $$

$$ n_1 = \text{sample size 1}, \text{ and} $$

$$ n_2 = \text{sample size 2}.\textsuperscript{124}$$

Confidence levels were determined based on the value of $z$. For a large or infinite population, as here, the difference between two proportions is statistically significant if $z$ is greater than 2.58 for a 99\% level of confidence, 1.96 for a 95\% level of confidence, and 1.64 for a 90\% level of confidence.\textsuperscript{125}

III. RESULTS OF THE STUDY

The results of this empirical study support the notion that the Federal Circuit engages in judicial hyperactivity at a greater rate than other circuits. First, Part III.A discusses in detail the results of the first part of this study, which examines overall


\textsuperscript{125} Id.; see also MICHAEL O. FINKELSTEIN, BRUCE LEVIN, STATISTICS FOR LAWYERS 125 (1990) ("[A] two-tailed test with a Type I error rate of .05 rejects the null hypothesis only for departures of at least 1.96 standard deviations from the mean in either direction.").
reversal rates and reversal rates for particular standards of review. Second, Part III.B discusses in detail the results of the second part of this study, which examines reversal rates controlling for several example procedural postures.

A. RESULTS—OVERALL REVERSAL RATES AND REVERSAL RATES FOR PARTICULAR STANDARDS OF REVIEW

The results of this part of the study indicate that the hypothesis that the Federal Circuit’s reversal rate is higher than that of the regional circuits should be accepted. Examining overall reversal rates, the Federal Circuit’s overall reversal rate was statistically significantly greater than the overall reversal rates of the representative regional circuits treated as an aggregate. Additionally, examining particular standards of review, the Federal Circuit’s reversal rate for the de novo standard of review was statistically significantly greater than that of the representative regional circuits treated as an aggregate. Therefore, these results tend to confirm that the Federal Circuit is more judicially hyperactive than other circuits.

This Part discusses the results of first part of the study in detail. First, Part III.A.1 below concludes that the frequency that each standard of review is used in each of the circuits studied does not shed light on whether the Federal Circuit is more judicially hyperactive than other circuits. Second, Part III.A.2 discusses adjusting data concerning the Federal Circuit’s reversal rates for that court’s use of summary affirmances. Third and finally, Part III.A.3 contrasts the reversal rates of the Federal Circuit with those of the representative regional circuits and concludes that the Federal Circuit’s reversal rates are in large part statistically significantly greater than those of the representative regional circuits.
1. Frequency of Each Standard of Review

As a preliminary matter, it might be possible to conclude that the Federal Circuit is judicially hyperactive relative to the other circuits studied by merely looking at the frequency of each standard of review in each circuit. If the Federal Circuit reviewed a significantly greater proportion of issues under the non-deferential de novo standard and a significantly lesser proportion of issues under the more deferential standards, that fact would tend to support a conclusion that the Federal Circuit is more hyperactive than the other circuits. But the results do not support such a conclusion. Table 2 below shows that the frequencies of the standards of review within cases of the Federal Circuit are similar to the overall totals of the representative regional circuits. Indeed, Table 2 reveals that there is not much variation at all among all the circuits studied between the de novo, reasonable juror, and abuse of discretion standards, although there is variation among the non-Federal circuits for the clear error and substantial evidence standards.

Table 2: Frequency of Each Standard of Review by Circuit

<table>
<thead>
<tr>
<th>Standard of Review:</th>
<th>Second Circuit</th>
<th>Fifth Circuit</th>
<th>Seventh Circuit</th>
<th>Ninth Circuit</th>
<th>NON-FED OVERALL</th>
<th>Federal Circuit</th>
</tr>
</thead>
<tbody>
<tr>
<td>De novo</td>
<td>37.8%</td>
<td>42.4%</td>
<td>38.8%</td>
<td>43.0%</td>
<td>41.0%</td>
<td>43.8%</td>
</tr>
<tr>
<td>Clear error</td>
<td>7.7%</td>
<td>23.9%</td>
<td>24.0%</td>
<td>11.2%</td>
<td>14.1%</td>
<td>9.8%</td>
</tr>
<tr>
<td>Substantial evidence</td>
<td>28.4%</td>
<td>4.7%</td>
<td>9.2%</td>
<td>17.0%</td>
<td>16.9%</td>
<td>16.1%</td>
</tr>
<tr>
<td>Reasonable juror</td>
<td>0.8%</td>
<td>3.1%</td>
<td>4.6%</td>
<td>1.2%</td>
<td>1.8%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Abuse of discretion</td>
<td>25.3%</td>
<td>25.9%</td>
<td>23.5%</td>
<td>27.6%</td>
<td>26.2%</td>
<td>30.4%</td>
</tr>
<tr>
<td>OVERALL</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
And a comparison of Figure 2 and Figure 3 below shows graphically how similar the frequency of each standard of review is between the Federal Circuit and the overall totals for the representative regional circuits.

**Figure 2: Frequency of Each Standard of Review—Federal Circuit**

**Figure 3: Frequency of Each Standard of Review—Non-Federal Circuits Overall**

Thus, there is nothing about the frequency of the standards of review employed by the Federal Circuit that would indicate that the Federal Circuit is more judicially hyperactive than the other circuits studied. The opposite would be true if the Federal Circuit reviewed a significantly greater number of issues under the non-deferential de novo standard and a significantly fewer number of issues under the more deferential standards. But that is not the case.

2. Adjusting the Federal Circuit’s Reversal Rates for Summary Affirmances

To avoid artificially high reversal rates, this study took into account the fact that the Federal Circuit often affirms decisions using a device known as the summary affirmation. A summary affirmation is a device by which a court affirms the decision of
the lower court without any opinion or any sort of explanation.\textsuperscript{126} Local Rule 36 of the Federal Circuit gives a panel the power to summarily affirm a decision where “the court determines an opinion would have no precedential value, and any of five other conditions exist.”\textsuperscript{127} Thus, a Federal Circuit panel can issue a Rule 36 summary affirmance “where it is not necessary to explain, even to the loser, why he lost.”\textsuperscript{128}

\footnotesize

\textsuperscript{127} Shaw, supra note 126, at 1015. Federal Circuit Rule 36 reads as follows:

\begin{quote}
The court may enter a judgment of affirmance without opinion, citing this rule, when it determines that any of the following conditions exist and an opinion would have no precedential value:

\begin{enumerate}
  \item the judgment, decision, or order of the trial court appealed from is based on findings that are not clearly erroneous;
  \item the evidence supporting the jury’s verdict is sufficient;
  \item the record supports summary judgment, directed verdict, or judgment on the pleadings;
  \item the decision of an administrative agency warrants affirmance under the standard of review in the statute authorizing the petition for review; or
  \item a judgment or decision has been entered without an error of law.
\end{enumerate}
\end{quote}

\begin{quote}
\textsc{Fed. Cir. R. 36.}
\end{quote}

It was necessary in this study to take into account the existence of these summary affirmances to avoid an artificially high reversal rate. The number of summary affirmances that the Federal Circuit issued during the period of this study was 19 out of 128 total cases—i.e., in 14.8% of the cases.129 This number is certainly significant, so it was necessary to somehow adjust for these summary affirmances.130

The Federal Circuit was the only one of the circuits studied that uses summary affirmances in any appreciable amount. Although the Fifth Circuit, like the Federal Circuit, has a local rule that allows for the use of summary affirmances,131 the Fifth

129 The number of summary affirmances during the period studied was determined using two independent methods, the results of which agreed with each other. The first method involved searching for “FED. CIR. R. 36” in the Westlaw Federal Circuit database (“CTAF”), limited by the dates of the period studied. This method was able to successfully determine the number of summary affirmances because Federal Circuit summary affirmances include the text, “See Fed. Cir. R. 36.” See, e.g., Brady v. United States Postal Serv., 367 Fed. Appx. 149, 150 (2010) (“This CAUSE having been heard and considered, it is ORDERED and ADJUDGED: AFFIRMED. See Fed. Cir. R. 36.”). This method revealed that for the period studied, there were nineteen summary affirmances.

The second method of counting summary affirmances involved searching for all opinions on each day of the period studied on the Federal Circuit’s web site. Opinions and Orders—cafc.uscourts.gov, http://www.cafc.uscourts.gov/opinions-orders/search/report.html. Each nonprecedential opinion was examined to determine whether it was a summary affirmation. This method also revealed that for the period studied, there were nineteen summary affirmances.

130 See Moore, Markman Eight Years Later, supra note 70, at 235. In commenting on her inclusion of summary affirmances in her claim-construction reversal-rate study, Professor Moore explained: “Obviously, eliminating a large group of nonrandomly selected cases would affect the results. [Claim-construction reversal-rate studies that did not consider the Rule 36 summary affirmances eliminated a large group of affirmances from their dataset. This skewed their results and they report a significantly higher reversal rate than actually exists.” Id.; see supra notes 86-91 and accompanying text (contrasting claim-construction reversal rates where summary affirmances were and were not taken into account).

131 5TH CIR. R. 47.6 (“Affirmation Without Opinion”). Fifth Circuit Rule 47.6 reads as follows:
Circuit uses summary affirmances much less often than the Federal Circuit. For example, in 2010, the Fifth Circuit issued only 11 summary affirmances out of 3210 total cases—i.e., only 0.3% of all cases were decided using summary affirmances. Indeed, during the period studied, the Fifth Circuit issued no summary affirmances at all. Thus, it was not necessary to adjust the data for the Fifth Circuit. Moreover, the Second, Seventh, and Ninth circuits do not use summary affirmances, so it was not necessary to adjust the totals for these circuits, either.

Given that the Federal Circuit data had to be adjusted for summary affirmances, it was necessary to determine the best method for doing so. Methods used by other researchers in other empirical studies of reversal rates would not work for this study. In other studies, researchers determined the applicability of a particular summary affirmation to the issue being studied by studying the appeal briefs submitted to the Federal

The judgment or order may be affirmed or enforced without opinion when the court determines that an opinion would have no precedential value and that any one or more of the following circumstances exists and is dispositive of a matter submitted for decision: (1) that a judgment of the district court is based on findings of fact that are not clearly erroneous; (2) that the evidence in support of a jury verdict is not insufficient; (3) that the order of an administrative agency is supported by substantial evidence on the record as a whole; (4) in the case of a summary judgment, that no genuine issue of material fact has been properly raised by the appellant; and (5) no reversible error of law appears. In such case, the court may, in its discretion, enter either of the following orders: “AFFIRMED. See 5TH CIR. R. 47.6.” or “ENFORCED. See 5TH CIR. R. 47.6.”

Id.

Circuit. In these studies, the researchers were studying reversal rates on discrete substantive-patent-law issues such as nonobviousness and claim construction. Thus, the researchers in these studies could readily determine from the appeal briefs whether a particular summary affirmance related to the issue being studied. But this article’s study involves looking at reversal rates for different standards of review, and for many issues, it would be virtually impossible to determine from the appeal briefs whether the Federal Circuit affirmed based on a particular standard of review without resorting to mere speculation. Thus, examining the appeal briefs would not work for this study.

The method that this study used to adjust for summary affirmances in the Federal Circuit was to add affirmances to each standard of review in proportion to the frequency of that standard of review. For example, the study revealed that the Federal Circuit used the de novo standard of review in 43.8% of its cases. Thus, 43.8% of the 19 summary affirmances (8.3) was added to the total number of de novo affirmances in non-summary-affirmance dispositions (49), for an adjusted total of 57.3 affirmances under the de novo standard. Similar adjustments were made to all the other standards of review, as well. Table 3 below summarizes the results of these adjustments, showing how the

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133 See Cotropia, supra note 126, at 925 (nonobviousness study); Moore, District Court Judges, supra note 60, at 8 n.36 (claim construction study); Moore, Markman Eight Years Later, supra note 70, at 239 n.31 (claim construction study).

134 See Cotropia, supra note 126, at 925; Moore, District Court Judges, supra note 60, at 8 n.36; Moore, Markman Eight Years Later, supra note 70, at 239 n.31.

135 For a discussion of the frequency of the different standards of review in the cases studied, see supra Part III.A.1.

136 See supra Table 2.
reversal rates for each standard of review and the overall reversal rate all decreased upon adjustment.

<table>
<thead>
<tr>
<th>Standard of Review:</th>
<th>Federal Circuit (UNADJUSTED)</th>
<th>Federal Circuit (ADJUSTED FOR SUMMARY AFFIRMANCES)</th>
</tr>
</thead>
<tbody>
<tr>
<td>De novo</td>
<td>32.7%</td>
<td>27.9%</td>
</tr>
<tr>
<td>Clear error</td>
<td>18.2%</td>
<td>15.5%</td>
</tr>
<tr>
<td>Substantial evidence</td>
<td>11.1%</td>
<td>9.5%</td>
</tr>
<tr>
<td>Reasonable juror</td>
<td>NONE</td>
<td>NONE</td>
</tr>
<tr>
<td>Abuse of discretion</td>
<td>20.6%</td>
<td>17.6%</td>
</tr>
<tr>
<td><strong>OVERALL</strong></td>
<td><strong>24.1%</strong></td>
<td><strong>20.6%</strong></td>
</tr>
</tbody>
</table>

This method for adjusting for summary affirmances is certainly not perfect. Indeed, there is no way to know whether adjusting for the overall frequency of the standards of review accurately reflects the frequency of the standards of review as used in summary affirmances. For example, logic dictates that the court likely uses summary affirmances in cases in which the standard of review is deferential, thus making for a straightforward summary affirmation. Thus, the frequency of standards of review in summary affirmances very well may skew towards the more deferential standards of review such as abuse of discretion or substantial evidence. But because of the nature of the summary affirmation, it is not possible to know.
3. *Contrasting the Reversal Rates of the Federal Circuit with Those of the Representative Regional Circuits*

This part of the study supports the premise that the Federal Circuit is more judicially hyperactive than other circuits because the Federal Circuit’s reversal rates are higher than those of the representative regional circuits. Indeed, reversal rates for the standards of review, as well as overall reversal rates, were greater for the Federal Circuit (both unadjusted and adjusted for summary affirmances) than the corresponding aggregate reversal rates for the representative regional circuits. Moreover, the differences between the results for the de novo standard of review and the overall reversal rate are statistically significant. In all instances, reversal rates are calculated as the percentage of issues for which the court either reversed, vacated, or reversed in-part. Table 4 below summarizes all these results, and Figure 4 below displays the same results graphically.

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137 The sole exception is the reasonable juror standard. No comparison can be made between the Federal Circuit’s reversal rate and the other circuits’ reversal rates for this standard because the Federal Circuit did not review any issues under the reasonable juror standard during the period studied.

138 Another way of expressing the quantity of reversal rate is that it is equal to 100 minus the affirmance rate.
As Table 4 shows, the overall reversal rate of the Federal Circuit was statistically significantly greater than that of the representative regional circuits. The overall
unadjusted reversal rate of the Federal Circuit was 24.1%, whereas the overall reversal rate of the representative regional circuits was only 14.0%. This difference is statistically significant to a 99% confidence level. Moreover, the overall reversal rate of the Federal Circuit adjusted for summary affirmances was 20.6%, which was statistically significantly higher than the overall reversal rate of the representative regional circuits to a 95% confidence level. Thus, these results indicate that the null hypothesis—that the Federal Circuit’s reversal rate is similar to that of the regional circuits—should be rejected, and that the alternative hypothesis—that the Federal Circuit’s reversal rate is higher than that of the regional circuits—should be accepted.

Table 5 breaks down these results for each circuit.

<table>
<thead>
<tr>
<th>Standard of Review</th>
<th>Second Circuit</th>
<th>Fifth Circuit</th>
<th>Seventh Circuit</th>
<th>Ninth Circuit</th>
<th>NON-FED OVERALL</th>
<th>Federal Circuit (Unadjusted)</th>
<th>Federal Circuit (ADJUSTED FOR SAs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>De novo</td>
<td>15.5%</td>
<td>14.2%</td>
<td>14.5%</td>
<td>22.6%</td>
<td>18.2%</td>
<td>32.7%</td>
<td>27.9%</td>
</tr>
<tr>
<td>Clear error</td>
<td>23.9%</td>
<td>9.3%</td>
<td>17.0%</td>
<td>6.3%</td>
<td>11.8%</td>
<td>18.2%</td>
<td>15.5%</td>
</tr>
<tr>
<td>Substantial evidence</td>
<td>5.3%</td>
<td>4.8%</td>
<td>11.1%</td>
<td>7.6%</td>
<td>6.5%</td>
<td>11.1%</td>
<td>9.5%</td>
</tr>
<tr>
<td>Reasonable juror</td>
<td>0.0%</td>
<td>28.6%</td>
<td>33.3%</td>
<td>20.0%</td>
<td>23.7%</td>
<td>NONE</td>
<td>NONE</td>
</tr>
<tr>
<td>Abuse of discretion</td>
<td>9.3%</td>
<td>4.3%</td>
<td>21.7%</td>
<td>17.4%</td>
<td>12.8%</td>
<td>20.6%</td>
<td>17.6%</td>
</tr>
<tr>
<td>OVERALL</td>
<td>11.5%</td>
<td>10.5%</td>
<td>17.3%</td>
<td>16.7%</td>
<td>14.0%</td>
<td>24.1%</td>
<td>20.6%</td>
</tr>
</tbody>
</table>

Just as with overall reversal rate, the reversal rate for the de novo standard of review of the Federal Circuit was statistically significantly greater than the corresponding rate of the representative regional circuits. Figure 5 below graphically shows the reversal rates for the de novo standard of review.
As Figure 5 above shows, the Federal Circuit reversal rate, both unadjusted and adjusted for summary affirmances, is greater than the reversal rates for all the other individual circuits studied. The unadjusted reversal rate of the Federal Circuit for the de novo standard was 32.7%, whereas the corresponding reversal rate of the representative regional circuits was only 18.2%. This difference is statistically significant to a 99% confidence level. Moreover, the reversal rate of the Federal Circuit for the de novo standard adjusted for summary affirmances was 27.9%, which was statistically significantly higher than the overall reversal rate of the representative regional circuits to a 90% confidence level. Therefore, these results also indicate that the null hypothesis—that the Federal Circuit’s reversal rate for the de novo standard of review is similar to that of the regional circuits—should be rejected, and that the alternative hypothesis—that the Federal Circuit’s reversal rate for the de novo standard is higher than that of the regional circuits—should be accepted.
As Table 4 above shows, although the differences between them are not statistically significant, the unadjusted and adjusted reversal rates for the Federal Circuit for the clear error, substantial evidence, and abuse of discretion standards of review are all greater than the corresponding rates for the representative regional circuits taken overall. Because the differences are not statistically significant, there is no statistical basis for rejecting the null hypothesis—that the Federal Circuit’s reversal rates for these standards of review are similar to those of the regional circuits. But it is perhaps the relatively small sample size of Federal Circuit issues (112) compared to the relatively large sample size of regional-circuit issues (2096) that led to these differences being not statistically significant. If that is the case, then further data gathering to increase the sample size might make the results for all standards of review statistically significant. And even though the differences for these standards using the current data are not statistically significant, the fact that the Federal Circuit’s reversal rates are consistently higher than those of the representative regional circuits tends to provide at least intuitive support to the alternative hypothesis—that the Federal Circuit’s reversal rates are higher than those of the regional circuits.

However, examining the Federal Circuit’s reversal rate against that of each individual circuit (rather than against the overall totals for all the representative circuits) reveals that the Federal Circuit’s reversal rate does not always exceed that of each individual circuit. Figure 6 below graphically shows the reversal rates for the clear error standard of review for each circuit and overall.
As Figure 6 shows, the unadjusted Federal Circuit reversal rate for the clear error standard (32.7%) was greater than that for all the individual circuits except the Second Circuit (23.9%), and the adjusted Federal Circuit reversal rate (15.5%) was greater than that of the Fifth (9.3%) and Ninth circuits (6.3%), but not that of the Second (23.9%) and Seventh (17.0%) circuits. Notably, however, where the reversal rates of the Second and Seventh Circuits exceed that of the Federal Circuit, these differences are not statistically significant.139 Thus, these differences between the Federal Circuit and the Second and Seventh Circuits taken individually may not alter the overall conclusion that the Federal Circuit’s reversal rate is greater than that of the representative regional circuits.

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139 The difference between the reversal rate for the Second Circuit and Federal Circuit (unadjusted) was not statistically significant to a 90% confidence level (z=0.405). Similarly, the difference between the reversal rate for the Second Circuit and Federal Circuit (adjusted) was not statistically significant to a 90% confidence level (z=0.645). Finally, the difference between the reversal rate for the Seventh Circuit and Federal Circuit (adjusted) was also not statistically significant to a 90% confidence level (z=0.128). An increase in sample size for this standard of review might yield significant results, one way or the other.
Similarly, Figure 7 below depicts the reversal rates for the substantial evidence standard of review for each circuit and overall.

Figure 7: Reversal Rates for Substantial Evidence Standard of Review

As Figure 7 shows, the unadjusted Federal Circuit reversal rate (11.1%) is greater than that of all the other individual circuits except for the Seventh Circuit (11.1%), to which it is equal. This figure also shows that the adjusted Federal Circuit reversal rate (9.5%) is greater than that of all the other individual circuits except for the Seventh Circuit (11.1%). Notably, however, as for the clear error standard of review, where the reversal rate of the Seventh Circuit exceeds that of the Federal Circuit, this difference is not statistically significant.\(^{140}\) Thus, again, these differences between the Federal Circuit and the circuits taken individually may not alter the overall conclusion that the Federal Circuit’s reversal rate is greater than that of the representative regional circuits.

\(^{140}\) The difference between the reversal rate for the Seventh Circuit and Federal Circuit (adjusted) was not statistically significant to a 90% confidence level (\(z=0.164\)). An increase in sample size for this standard of review might yield significant results, one way or the other.
Finally, Figure 8 below depicts the reversal rates for the abuse of discretion standard of review for each circuit and overall.

![Figure 8: Reversal Rates for Abuse of Discretion Standard of Review](image)

Here, the unadjusted Federal Circuit reversal rate (20.6%) is greater than that of all the other individual circuits except for the Seventh Circuit (21.7%). Additionally, the adjusted Federal Circuit reversal rate (17.6%) is greater than that of all the other individual circuits except for the Seventh Circuit (21.7%). Again, as for the clear error and substantial evidence standards of review, where the reversal rate of the Seventh Circuit exceeds that of the Federal Circuit, this difference is not statistically significant.\[^{141}\] Thus, again, these differences between the Federal Circuit and the circuits taken individually may not alter the overall conclusion that the Federal Circuit’s reversal rate is greater than that of the representative regional circuits.

\[^{141}\] The difference between the reversal rate for the Seventh Circuit and Federal Circuit (unadjusted) was not statistically significant to a 90% confidence level ($z=0.119$). The difference between the reversal rate for the Seventh Circuit and Federal Circuit (adjusted) was not statistically significant to a 90% confidence level ($z=0.476$).
In sum, this part of the study supports the hypothesis that the Federal Circuit engages in judicial hyperactivity to a greater extent than the representative regional circuits studied. Indeed, the Federal Circuit’s overall reversal rate (both unadjusted and adjusted for summary affirmances) was statistically significantly greater than the overall reversal rate of the representative regional circuits taken as an aggregate. Moreover, the Federal Circuit’s reversal rates for the individual standards of review exceeded those of the representative regional circuits. In particular, the difference between the Federal Circuit’s reversal rate for the de novo standard of review and that of the representative regional circuits treated as an aggregate was statistically significant. Thus, these results indicate that the hypothesis that the Federal Circuit’s reversal rate is higher than that of the regional circuits should be accepted. Therefore, these results support the notion that the Federal Circuit engages in judicial hyperactivity to a greater extent than the regional circuits.

B. RESULTS—REVERSAL RATES FOR SEVERAL EXAMPLE PROCEDURAL POSTURES

The results of this part of the study also support the hypothesis that the Federal Circuit’s reversal rate is higher than that of the regional circuits should be accepted. For all three example procedural postures examined, there is a statistically significant difference between the Federal Circuit’s reversal rate and the mean reversal rate of the representative regional circuits studied. Therefore, these results tend to confirm that the Federal Circuit is more judicially hyperactive than other circuits.

This Part discusses the results of the second part of the study in detail. First, Part III.B.1 discusses the results with respect to summary-judgment cases. Second, Part
III.B.2 discusses the results with respect to judgment-as-a-matter-of-law cases. Third and finally, Part III.B.3 discusses the results with respect to preliminary-injunction cases.

1. Summary Judgment

The results of this study show that the Federal Circuit reverses summary-judgment decisions at a statistically significantly higher rate than that of the representative regional circuits studied. A motion for summary judgment allows a party to dispense with a trial when there is “no genuine issue as to any material fact and . . . the moving party is entitled to judgment as a matter of law."\textsuperscript{142} Disposition of patent cases through summary judgment is common, just as for other types of cases.\textsuperscript{143} A court of appeals reviews the grant of a motion for summary judgment under a de novo standard\textsuperscript{144} and reviews the denial of a motion for summary judgment under an abuse of discretion standard.\textsuperscript{145}

\textsuperscript{142} FED. R. CIV. P. 56(c); see, e.g., Del. Valley Floral Group, Inc. v. Shaw Rose Nets, LLC, 597 F.3d 1374, 1378-1379 (Fed. Cir. 2010) (quoting FED. R. CIV. P. 56(c)). The trial court must draw all reasonable inferences “in favor of the non-movant” and must treat the evidence “in the light most favorable to the non-movant.” E.g., id. at 1379 (citing Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 248 (1986)).

\textsuperscript{143} As an example, a recent typical patent case resolved on summary judgment is Delaware Valley Floral Group, Inc. v. Shaw Rose Nets, LLC, 597 F.3d 1374 (Fed. Cir. 2010). In this case, the Federal Circuit reviewed the grant of a motion for summary judgment that invalidated the patentee’s patent based on the on-sale bar. Id. at 1378-79. As in any summary judgment case, the court largely focused on whether issues of material fact existed that would have precluded judgment as a matter of law in favor of the accused infringer. Id. at 1379.

\textsuperscript{144} E.g., Conroy v. Reebok Int’l, 14 F.3d 1570, 1575 (Fed. Cir. 1994).

\textsuperscript{145} E.g., Trading Techs. Int’l, Inc. v. eSpeed, Inc., 595 F.3d 1340, 1359 (Fed. Cir. 2010).
Table 6 below gives the results for reversal rates for the Federal Circuit and the regional circuits examined.

<table>
<thead>
<tr>
<th>Circuit</th>
<th>Affirmed</th>
<th>Reversed</th>
<th>Vacated</th>
<th>Reversed in Part</th>
<th>Rev’d + Vacated + Rev’d in Part</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal Circuit</td>
<td>57.5%</td>
<td>10.0%</td>
<td>5.0%</td>
<td>27.5%</td>
<td>42.5%</td>
</tr>
<tr>
<td>Non-Fed Circuits (MEAN)</td>
<td>77.2%</td>
<td>6.8%</td>
<td>5.9%</td>
<td>9.9%</td>
<td>22.5%</td>
</tr>
<tr>
<td>2d</td>
<td>75.3%</td>
<td>5.0%</td>
<td>8.7%</td>
<td>10.5%</td>
<td>24.2%</td>
</tr>
<tr>
<td>5th</td>
<td>87.2%</td>
<td>8.5%</td>
<td>0.0%</td>
<td>4.3%</td>
<td>12.8%</td>
</tr>
<tr>
<td>7th</td>
<td>84.1%</td>
<td>4.5%</td>
<td>2.3%</td>
<td>9.1%</td>
<td>15.9%</td>
</tr>
<tr>
<td>9th</td>
<td>68.9%</td>
<td>15.6%</td>
<td>2.2%</td>
<td>13.3%</td>
<td>31.1%</td>
</tr>
</tbody>
</table>

As Table 6 shows, the Federal Circuit reversed, at least in part, the district court’s decision on summary judgment in 42.5% of the cases studied. In contrast, the regional circuits reversed these decisions, at least in part, an average of only 22.5% of the time. This difference is statistically significant to a 99% confidence level.146

Figure 9 below shows the breakdown of overall reversal rates for each individual circuit studied.

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146 The value of $z$ is 2.79, which is statistically significant to a 99% confidence level because it is greater than 2.58.
Figure 9: Summary Judgment—Overall Reversal Rates for Individual Circuits

As Table 6 and Figure 9 show, the Ninth Circuit is the circuit whose overall reversal rate is the closest to that of the Federal Circuit. The Ninth Circuit’s reversal rate is 31.1%, which is still somewhat lower than the Federal Circuit’s rate of 42.5%. However, this difference is not statistically significant to a 90% confidence level. But the differences between the Federal Circuit’s reversal rate and that of the Second (24.2%), Fifth (12.8%), and Seventh (15.9%) Circuits are statistically significant to at least a 95% confidence level.

147 Although the Federal Circuit’s reversal rate appears on first glance to be significantly larger than that of the Ninth Circuit, this difference is statistically insignificant because the value of $z$ is only 1.09. To be statistically significant to a 90% confidence level, the value of $z$ would have to be at least 1.64. The difference between these numbers may not be statistically significant largely because the sample size here is smaller.

148 The value of $z$ for the Federal Circuit’s rate compared to the Second Circuit’s rate is 2.40, which shows that the difference is significant to a 95% confidence level. The value of $z$ for the Federal Circuit’s rate compared to the Fifth Circuit’s rate is 3.13, which shows that the difference is significant to a 99% confidence level. Finally, the value of $z$ for the Federal Circuit’s rate compared to the Seventh Circuit’s rate is 2.70, which shows that the difference is also significant to a 99% confidence level.
Figure 10 below shows a comparison between the reversal rate of the Federal Circuit and the mean reversal rate of the regional circuits studied, broken down by whether the reviewing court (1) reversed, (2) vacated, or (3) affirmed-in-part and reversed-in-part.

**Figure 10: Summary Judgment—Regional circuits vs. Federal Circuit—Rates of Reversal, Vacation, and Partial Reversal**

![Bar chart showing rates of reversal, vacation, and partial reversal for regional circuits vs. Federal Circuit.]

As Table 6 and Figure 10 show, where the reviewing court reverses or vacates the district court’s decision in its entirety, the differences between the reversal rate of the Federal Circuit and the mean reversal rate of the regional circuits is not very great. For complete reversals, the mean regional circuit rate is 6.8%, whereas the Federal Circuit’s rate is 10.0%. This difference is not statistically significant to a 90% confidence level.\(^\text{149}\)

For complete vacations, the mean regional-circuit rate is 5.9%, whereas the Federal Circuit’s rate is actually lower at 5.0%. However, where the reviewing court affirms in

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\(^{149}\) The value for \(z\) is only 0.746. To be statistically significant to a 90% confidence level, the value of \(z\) would have to be greater than 1.64.
part and reverses in part, there is a very large difference between the Federal Circuit’s rate of 27.5% and the mean regional-circuit rate of 9.9%. This difference is statistically significant to a 99% confidence level. Thus, although the Federal Circuit may not be reversing or vacating district-court decisions in whole significantly more often than the regional circuits studied, the Federal Circuit reverses district court decisions in part much more often than the regional circuits do.

Finally, Figure 11 below breaks down complete reversals, vacations, and partial reversals for each individual circuit studied.

![Figure 11: Summary Judgment—Rates of Reversal, Vacation, and Partial Reversal for Individual Circuits](image)

As Table 6 and Figure 11 show, there is seemingly not any significant variation between the rates of complete reversals and vacations among the circuits studied. The value of $z$ is 3.28. To be statistically significant to a 99% confidence level, the value of $z$ must be greater than 2.58.

The one exception to this is the Fifth Circuit’s number of vacated decisions, which is zero for the cases examined.

---

150 The value of $z$ is 3.28. To be statistically significant to a 99% confidence level, the value of $z$ must be greater than 2.58.

151 The one exception to this is the Fifth Circuit’s number of vacated decisions, which is zero for the cases examined.
Ninth Circuit is the circuit whose rate for partial reversals is the closest to that of the Federal Circuit. The Ninth Circuit’s reversal rate for partial reversals is 13.3%, which is still somewhat lower than the Federal Circuit’s rate of 27.5%. And this difference is statistically significant to just below a 90% confidence level. But the differences between the Federal Circuit’s rate of partial reversals and that of the Second (10.5%), Fifth (4.3%), and Seventh (9.1%) Circuits are statistically significant to at least a 95% confidence level.

2. Judgment as a Matter of Law

As with summary judgment, the results of this study show that the Federal Circuit reverses decisions of district courts involving judgments as a matter of law (“JMOL”) at a statistically significantly higher rate than that of the representative regional circuits studied. Table 7 below gives the results for reversal rates for the Federal Circuit and the regional circuits examined.

---

152 The value of z is 1.63. To be statistically significant to a 90% confidence level, the value of z would have to be at least 1.64. Thus, this difference is statistically significant to just under a 90% confidence level. A larger sample size may have the effect of increasing the confidence level to which this difference is significant.

153 The value of z for the Federal Circuit’s rate compared to the Second Circuit’s rate is 2.93, which shows that the difference is significant to a 99% confidence level. The value of z for the Federal Circuit’s rate compared to the Fifth Circuit’s rate is 3.02, which shows that this difference is also significant to a 99% confidence level. Finally, the value of z for the Federal Circuit’s rate compared to the Seventh Circuit’s rate is 2.20 which shows that the difference is significant to a 95% confidence level.
### Table 7: JMOL—Reversal-Rates Data

<table>
<thead>
<tr>
<th>Circuit</th>
<th>Affirmed</th>
<th>Reversed</th>
<th>Vacated</th>
<th>Reversed in Part</th>
<th>Rev’d + Vacated + Rev’d in Part</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal Circuit</td>
<td>47.7%</td>
<td>21.5%</td>
<td>4.6%</td>
<td>26.2%</td>
<td>52.3%</td>
</tr>
<tr>
<td>Non-Fed Circuits</td>
<td>77.0%</td>
<td>13.3%</td>
<td>1.6%</td>
<td>8.2%</td>
<td>23.0%</td>
</tr>
<tr>
<td>(MEAN)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2d</td>
<td>79.2%</td>
<td>10.4%</td>
<td>4.2%</td>
<td>6.3%</td>
<td>20.8%</td>
</tr>
<tr>
<td>5th</td>
<td>80.8%</td>
<td>12.1%</td>
<td>1.0%</td>
<td>6.1%</td>
<td>19.2%</td>
</tr>
<tr>
<td>7th</td>
<td>70.3%</td>
<td>18.9%</td>
<td>0.0%</td>
<td>10.8%</td>
<td>29.7%</td>
</tr>
<tr>
<td>9th</td>
<td>73.6%</td>
<td>13.9%</td>
<td>1.4%</td>
<td>11.1%</td>
<td>26.4%</td>
</tr>
</tbody>
</table>

As Table 7 shows, the Federal Circuit reversed, at least in part, the district court’s decision on JMOL in 52.3% of the cases studied. In contrast, the regional circuits reversed these decisions, at least in part, an average of only 23.0% of the time. This difference is statistically significant to a 99% confidence level.\(^{154}\)

Figure 12 below shows the breakdown of overall reversal rates for each individual circuit studied.

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\(^{154}\) The value of \(z\) is 4.65, which is statistically significant to a 99% confidence level because it is greater than 2.58.
As Table 7 and Figure 12 show, the Seventh Circuit is the circuit whose overall reversal rate is the closest to that of the Federal Circuit. The Seventh Circuit’s reversal rate is 29.7%, which is significantly lower than the Federal Circuit’s rate of 52.3%. Indeed, this difference is statistically significant to a 95% confidence level. Moreover, the differences between the Federal Circuit’s reversal rate and that of the Second (20.8%), Fifth (19.2%), and Ninth (26.4%) Circuits are statistically significant to a 99% confidence level.

Figure 13 below shows a comparison between the reversal rate of the Federal Circuit and the mean reversal rate of the regional circuits studied, broken down by

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155 The value of $z$ is 2.21, which is statistically significant to a 90% confidence level because it is greater than 1.96.

156 The value of $z$ for the Federal Circuit’s rate compared to the Second Circuit’s rate is 3.40, which shows that the difference is significant to a 99% confidence level. The value of $z$ for the Federal Circuit’s rate compared to the Fifth Circuit’s rate is 4.43, which shows that this difference is also significant to a 99% confidence level. Finally, the value of $z$ for the Federal Circuit’s rate compared to the Ninth Circuit’s rate is 3.11, which shows that the difference is also significant to a 99% confidence level.
whether the reviewing court (1) reversed, (2) vacated, or (3) affirmed-in-part and reversed-in-part.

**Figure 13: JMOL—Regional circuits vs. Federal Circuit—Rates of Reversal, Vacation, and Partial Reversal**

As Table 7 and Figure 13 show, the Federal Circuit’s rates of complete reversals, complete vacations, and partial reversals exceed the corresponding mean rates of the regional circuits studied. For complete reversals, the mean regional circuit rate is 13.3%, whereas the Federal Circuit’s rate is 21.5%. This difference is statistically significant to a 90% confidence level.\(^{157}\) For complete vacations, the mean regional circuit rate is 1.6%, whereas the Federal Circuit’s rate is 4.6%. However, this difference is not statistically significant to a 90% confidence level.\(^{158}\) Finally, where the reviewing court affirms in part and reverses in part, there is a very large difference between the Federal Circuit’s

\(^{157}\) The value for \(z\) is 1.66, which is statistically significant to a 90% confidence level because it is greater than 1.64.

\(^{158}\) The value for \(z\) is 1.47, which is not statistically significant to a 90% confidence level because it is not greater than 1.64.
rate of 26.2% and the mean regional-circuit rate of only 8.2%. This difference is statistically significant to a 99% confidence level.\textsuperscript{159} As with summary judgment,\textsuperscript{160} the Federal Circuit again reverses district court decisions in part much more often than the regional circuits do.

Finally, Figure 14 below breaks down complete reversals, vacations, and partial reversals for each individual circuit studied.

\textbf{Figure 14: JMOL—}
\textbf{Rates of Reversal, Vacation, and Partial Reversal for Individual Circuits}

As Table 7 and Figure 14 show, there is seemingly not any significant variation between the rates of complete reversals and vacations amongst the circuits studied.\textsuperscript{161} The Ninth Circuit is the circuit whose rate for partial reversals is the closest to that of the

\textsuperscript{159} The value of $z$ is 4.01, which is statistically significant to a 99% confidence level because it is greater than 2.58.

\textsuperscript{160} See \textit{infra} Part III.B.1 for an analysis of summary-judgment reversal rates.

\textsuperscript{161} The one exception to this is the Seventh Circuit’s number of vacated decisions, which is zero for the cases examined.
Federal Circuit. The Ninth Circuit’s reversal rate for partial reversals is 11.1%, which is somewhat lower than the Federal Circuit’s rate of 26.2%. And this difference is statistically significant to a 95% confidence level.\textsuperscript{162} And the differences between the Federal Circuit’s rate of partial reversals and those of the Second (6.3%), Fifth (6.1%), and Seventh (10.8%) Circuits are statistically significant to at least a 90% confidence level.\textsuperscript{163}

3. Preliminary Injunction

For cases involving preliminary injunctions, although the difference is not as striking as for summary judgment and JMOL, the Federal Circuit’s reversal rate is nonetheless statistically significantly higher than the mean rate of the representative regional circuits. To succeed in a motion for preliminary injunction, the “the moving party must demonstrate [1] a reasonable likelihood of success on the merits, [2] irreparable harm in the absence of a preliminary injunction, [3] a balance of hardships tipping in its favor, and [4] the injunction's favorable impact on the public interest.”\textsuperscript{164} Under the Federal Circuit’s test, “[t]hese factors, taken individually, are not dispositive; rather, the district court must weigh and measure each factor against the other factors and

\textsuperscript{162} The value of $z$ is 2.28, which is statistically significant to a 95% confidence level because it is greater than 1.96.

\textsuperscript{163} The value of $z$ for the Federal Circuit’s rate compared to the Second Circuit’s rate is 2.74, which shows that the difference is significant to a 99% confidence level. The value of $z$ for the Federal Circuit’s rate compared to the Fifth Circuit’s rate is 3.62, which shows that this difference is also significant to a 99% confidence level. Finally, the value of $z$ for the Federal Circuit’s rate compared to the Seventh Circuit’s rate is 1.85, which shows that the difference is significant to a 90% confidence level.

\textsuperscript{164} Nat’l Steel Car, Ltd. v. Canadian Pac. Ry., 357 F.3d 1319, 1324-25 (Fed. Cir. 2004).
against the form and magnitude of the relief requested.” However, to succeed, the movant must establish “both of the first two factors, i.e., likelihood of success on the merits and irreparable harm.” The Federal Circuit has characterized the preliminary injunction as “a drastic and extraordinary remedy that is not to be routinely granted.” A court of appeals reviews the grant or denial of a preliminary injunction under an abuse-of-discretion standard.

Table 8 below gives the results for reversal rates for the Federal Circuit and the regional circuits examined.

\[\text{Table 8}\]

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166 Id. (emphasis omitted).


168 E.g., Am. Signature, Inc. v. United States, 598 F.3d 816, 823 (Fed. Cir. 2010); Abbott Labs. v. Sandoz, Inc., 566 F.3d 1282,1298 (Fed. Cir. 2009).
Table 8: Preliminary Injunction—Reversal-Rates Data

<table>
<thead>
<tr>
<th>Circuit</th>
<th>Affirmed</th>
<th>Reversed</th>
<th>Vacated</th>
<th>Reversed in Part</th>
<th>Rev’d + Vacated + Rev’d in Part</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal Circuit</td>
<td>51.3%</td>
<td>10.3%</td>
<td>30.8%</td>
<td>7.7%</td>
<td>48.7%</td>
</tr>
<tr>
<td>Non-Fed Circuits (MEAN)</td>
<td>65.4%</td>
<td>14.2%</td>
<td>13.6%</td>
<td>6.8%</td>
<td>34.6%</td>
</tr>
<tr>
<td>2d</td>
<td>67.0%</td>
<td>9.9%</td>
<td>16.5%</td>
<td>6.6%</td>
<td>33.0%</td>
</tr>
<tr>
<td>5th</td>
<td>61.8%</td>
<td>1.8%</td>
<td>27.3%</td>
<td>9.1%</td>
<td>38.2%</td>
</tr>
<tr>
<td>7th</td>
<td>59.5%</td>
<td>16.7%</td>
<td>21.4%</td>
<td>2.4%</td>
<td>40.5%</td>
</tr>
<tr>
<td>9th</td>
<td>67.3%</td>
<td>20.0%</td>
<td>5.5%</td>
<td>7.3%</td>
<td>32.7%</td>
</tr>
</tbody>
</table>

As Table 8 shows, the Federal Circuit reversed, at least in part, the district court’s decision on preliminary injunctions in 48.7% of the cases studied. In contrast, the regional circuits reversed these decisions, at least in part, an average of 34.6% of the time. This difference is statistically significant to a 90% confidence level.\textsuperscript{169}

Figure 15 below shows the breakdown of overall reversal rates for each individual circuit studied.

\textsuperscript{169} The value of z is 1.741, which is statistically significant to a 90% confidence level because it is greater than 1.64.
As Table 8 and Figure 15 show, the Seventh Circuit is the circuit whose overall reversal rate is the closest to that of the Federal Circuit. The Seventh Circuit’s reversal rate is 40.5%, which is slightly lower than the Federal Circuit’s rate of 48.7%. However, this difference is not statistically significant to a 90% confidence level.\textsuperscript{170} The circuit with the next-closest reversal rate to the Federal Circuit is the Fifth Circuit, whose reversal rate is 38.2%. This difference is also not statistically significant to a 90% confidence level.\textsuperscript{171} But the differences between the Federal Circuit’s reversal rate and that of the Second (33.0%) and Ninth (32.7%) Circuits are statistically significant to a 90% confidence level.\textsuperscript{172}

\textsuperscript{170} The value of $z$ is 0.742, which is not statistically significant to a 90% confidence level because it is less than 1.64.

\textsuperscript{171} The value of $z$ is 1.01, which is not statistically significant to a 90% confidence level because it is less than 1.64.

\textsuperscript{172} The value of $z$ for the Federal Circuit’s rate compared to the Second Circuit’s rate is 1.69, which shows that the difference is significant to a 90% confidence level. The
Figure 16 below shows a comparison between the reversal rate of the Federal Circuit and the mean reversal rate of the regional circuits studied, broken down by whether the reviewing court (1) reversed, (2) vacated, or (3) affirmed-in-part and reversed-in-part.

**Figure 16: Preliminary Injunction—Regional circuits vs. Federal Circuit—Rates of Reversal, Vacation, and Partial Reversal**

As Table 7 and Figure 13 show, unlike for summary judgment and JMOL, only the Federal Circuit’s rate of complete vacations and partial reversals exceed the corresponding mean rates of the regional circuits studied. For complete vacations, the Federal Circuit’s rate of 30.8% greatly exceeds the mean regional circuit rate of 13.6%. Indeed, this difference is statistically significant to a 99% confidence level.\(^{173}\) And where

\[ \text{value of } z \text{ for the Federal Circuit’s rate compared to the Ninth Circuit’s rate is 1.88, which shows that the difference is also significant to a 90% confidence level.} \]

\(^{173}\) The value for \( z \) is 2.83, which is statistically significant to a 99% confidence level because it is greater than 2.58.
the reviewing court affirms in part and reverses in part, the Federal Circuit’s rate of 7.7% only slightly exceeds the mean regional circuit rate of 6.8%. This difference is not statistically significant to a 90% confidence level. In contrast, the Federal Circuit’s reversal rate for complete reversals is actually less than the corresponding mean rate of the regional circuits studied. For complete reversals, the mean regional circuit rate is 14.2%, whereas the Federal Circuit’s rate is only 10.3%.

Finally, Figure 17 below breaks down complete reversals, vacations, and partial reversals for each individual circuit studied.

Figure 17: Preliminary Injunction—
Rates of Reversal, Vacation, and Partial Reversal for Individual Circuits

As Table 8 and Figure 17 show, there is variability between the differences between the Federal Circuit’s reversal rates and those of the regional circuits studied when the data are broken down by complete reversals, complete vacations, and partial

---

174 The value for z is 0.211, which is not statistically significant to a 90% confidence level because it is less than 1.64.
reversals. For complete reversals, the Federal Circuit’s reversal rate falls in the middle of the pack of the circuits studied. Indeed, the rates of both the Seventh (16.7%) and Ninth (20.0%) Circuits exceed that of the Federal Circuit (10.3%), whereas the Federal Circuit’s rate of 10.3% is greater than the rates of the Second (9.9%) and Fifth (1.8%) Circuits. The difference between the Federal Circuit’s rate and that of the Fifth Circuit is statistically significant to a 90% confidence level, but the difference between the Federal Circuit’s rate and that of the Second Circuit is not statistically significant to a 90% confidence level.

For partial reversals, the Federal Circuit’s reversal rate again falls in the middle of the pack of the circuits studied. Indeed, the rate of the Fifth (9.1%) Circuit exceeds that of the Federal Circuit (7.7%), whereas the Federal Circuit’s rate of 7.7% is greater than the rates of the Second (6.6%), Seventh (2.4%), and Ninth (7.3%) Circuits. There is no statistically significant difference to a 90% confidence level between the Federal Circuit’s rate and that of the Second, Seventh, and Ninth Circuits. But the difference between the Federal Circuit’s rate and that of the Second Circuit is not statistically significant to a 90% confidence level.

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175 The value for $z$ is 1.81, which is statistically significant to a 90% confidence level because it is greater than 1.64.

176 The value for $z$ is 0.0700, which is not statistically significant to a 90% confidence level because it is less than 1.64.

177 The value of $z$ for the Federal Circuit’s rate compared to the Second Circuit’s rate is 0.226; the value of $z$ for the Federal Circuit’s rate compared to the Seventh Circuit’s rate is 1.10; and the value of $z$ for the Federal Circuit’s rate compared to the Ninth Circuit’s rate is 0.0860. These $z$ values show that none of these differences is significant to a 90% confidence level because they are all less than 1.64.

178 The value for $z$ is 0.0700, which is not statistically significant to a 90% confidence level because it is less than 1.64.
But for complete vacations, the Federal Circuit’s reversal rate exceeds the corresponding rates for all the regional circuits studied. The Fifth Circuit is the circuit whose rate for complete vacations is the closest to that of the Federal Circuit. The Fifth Circuit’s reversal rate for complete vacations is 27.3%, which is slightly lower than the Federal Circuit’s rate of 30.8%. This difference is not statistically significant to a 90% confidence level. Similarly, the difference between the Federal Circuit’s rate of complete vacations and that of the Seventh Circuit (21.4%) is not statistically significant to a 90% confidence level. But the differences between the Federal Circuit’s rate and those of the Second (16.5%) and Ninth Circuits (5.5%) are both statistically significant—to a 90% and 99% confidence level, respectively.

In sum, the results of this second part of the study also tend to indicate that the hypothesis that the Federal Circuit’s reversal rate is higher than that of the regional circuits should be accepted. For all three example procedural postures studied, the Federal Circuit’s reversal rate was statistically significantly greater than that of the representative regional circuits taken as an aggregate. Thus, the results from this part of the study also indicate that the hypothesis that the Federal Circuit’s reversal rate is higher than that of the regional circuits should be accepted. Therefore, these results also tend to

\[ z = 0.369, \text{which is not statistically significant to a 90% confidence level because it is less than 1.64.} \]

\[ z = 1.50, \text{which is not statistically significant to a 90% confidence level because it is less than 1.64.} \]

\[ z = 1.84, \text{which shows that the difference is significant to a 90% confidence level.} \]

\[ z = 4.67, \text{which shows that this difference is significant to a 99% confidence level.} \]
empirically confirm that the Federal Circuit has engaged in a greater degree of judicial hyperactivity than the representative regional circuits studied.

CONCLUSION

The results of this study tend to show that the Federal Circuit’s reversal rates are indeed higher than those of the other circuits studied, thus supporting the hypothesis that the Federal Circuit is more judicially hyperactive than other circuits. The first part of this study revealed that the Federal Circuit’s overall reversal rate (both unadjusted and adjusted for summary affirmances) was greater than the overall reversal rate of the representative regional circuits taken as an aggregate. Indeed, this difference was statistically significant to a confidence level of 99% for the unadjusted Federal Circuit reversal rate, and 95% for the Federal Circuit reversal rate adjusted for summary affirmances. Moreover, the Federal Circuit’s reversal rates for the individual standards of review exceeded those of the representative regional circuits in each instance.\footnote{This result does not include the reasonable juror standard of review because the Federal Circuit did not review any issues under this standard in the data sample studied.} In particular, the difference between the Federal Circuit’s reversal rate for the de novo standard of review that of the representative regional circuits treated as an aggregate was statistically significant to a confidence level of 99% for the unadjusted Federal Circuit reversal rate, and 90% for the Federal Circuit reversal rate adjusted for summary affirmances. Thus, these results indicate that the hypothesis that the Federal Circuit’s reversal rate is higher than that of the regional circuits should be accepted.
Moreover, the results of the second part of this study also tend to indicate that the hypothesis that the Federal Circuit’s reversal rate is higher than that of the regional circuits should be accepted. For all three example procedural postures studied, the Federal Circuit’s reversal rate was statistically significantly greater than that of the representative regional circuits taken as an aggregate. The Federal Circuit’s reversal rate in summary-judgment decisions (42.5%) was statistically significantly greater than that of the representative regional circuits (22.5%). Similarly, for JMOL cases, the Federal Circuit’s reversal rate (52.3%) was also statistically significantly greater than that of the representative regional circuits (23.0%). Finally, for preliminary injunctions, the Federal Circuit’s reversal rate (48.7%) was again statistically significantly greater than that of the representative regional circuits (34.6%). Thus, the results from this part of the study also indicate that the hypothesis that the Federal Circuit’s reversal rate is higher than that of the regional circuits should be accepted.

Therefore, the results of this study tend to empirically confirm that the Federal Circuit has engaged in a greater degree of judicial hyperactivity than the representative regional circuits studied. As warned by William C. Rooklidge and Matthew F. Weil, such judicial hyperactivity tends to “increase unpredictability and uncertainty, erode confidence in the courts, and ultimately encourage more unmeritorious appeals.”183 Thus, this study empirically backs up Rooklidge’s and Weil’s contention “that the Federal Circuit, like any other appellate court, should strive to confine its decision-

183 Rooklidge & Weil, supra note 2, at 752.
making procedures to those traditionally associated with an appellate court, and leave . . .

innovative advocacy and fact-finding to others."\textsuperscript{184}

\textsuperscript{184} Id.
APPENDIX A:
RAW DATA—OVERALL REVERSAL RATES AND REVERSAL RATES FOR PARTICULAR STANDARDS OF REVIEW

Table 9, Table 10, Table 11, Table 12, and Table 13 below show the raw data gathered for each circuit studied. Each table shows for each standard of review (de novo, clear error, substantial evidence, reasonable juror, and abuse of discretion) the number of issues affirmed, reversed, vacated, and affirmed in-part/reversed in-part. Each table also shows totals for each of these categories.

**Table 9: Raw Data—Second Circuit**

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<tbody>
<tr>
<td>De novo</td>
<td>191</td>
<td>10</td>
<td>21</td>
<td>4</td>
<td>226</td>
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<tr>
<td>Clear error</td>
<td>35</td>
<td>1</td>
<td>9</td>
<td>1</td>
<td>46</td>
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<tr>
<td>Substantial evidence</td>
<td>161</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>170</td>
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<tr>
<td>Reasonable juror</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>5</td>
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<tr>
<td>Abuse of discretion</td>
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<td>11</td>
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<td><strong>OVERALL</strong></td>
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<td><strong>15</strong></td>
<td><strong>47</strong></td>
<td><strong>7</strong></td>
<td><strong>598</strong></td>
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**Table 10: Raw Data—Fifth Circuit**

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<tr>
<td>De novo</td>
<td>163</td>
<td>9</td>
<td>14</td>
<td>4</td>
<td>190</td>
</tr>
<tr>
<td>Clear error</td>
<td>97</td>
<td>1</td>
<td>9</td>
<td>0</td>
<td>107</td>
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<tr>
<td>Substantial evidence</td>
<td>20</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>21</td>
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<tr>
<td>Reasonable juror</td>
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<td>2</td>
<td>1</td>
<td>1</td>
<td>14</td>
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<tr>
<td>Abuse of discretion</td>
<td>111</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>116</td>
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<td><strong>OVERALL</strong></td>
<td><strong>401</strong></td>
<td><strong>15</strong></td>
<td><strong>27</strong></td>
<td><strong>5</strong></td>
<td><strong>448</strong></td>
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Table 11: Raw Data—Seventh Circuit

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<tbody>
<tr>
<td>De novo</td>
<td>65</td>
<td>5</td>
<td>5</td>
<td>1</td>
<td>76</td>
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<tr>
<td>Clear error</td>
<td>39</td>
<td>3</td>
<td>5</td>
<td>0</td>
<td>47</td>
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<tr>
<td>Substantial evidence</td>
<td>16</td>
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<td>0</td>
<td>0</td>
<td>18</td>
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<tr>
<td>Reasonable juror</td>
<td>6</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>9</td>
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<tr>
<td>Abuse of discretion</td>
<td>36</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>46</td>
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<tr>
<td><strong>OVERALL</strong></td>
<td><strong>162</strong></td>
<td><strong>14</strong></td>
<td><strong>17</strong></td>
<td><strong>3</strong></td>
<td><strong>196</strong></td>
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Table 12: Raw Data—Ninth Circuit

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<tbody>
<tr>
<td>De novo</td>
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<td>41</td>
<td>26</td>
<td>16</td>
<td>367</td>
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<tr>
<td>Clear error</td>
<td>90</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>96</td>
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<td>Substantial evidence</td>
<td>134</td>
<td>2</td>
<td>8</td>
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<td>145</td>
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<td>Reasonable juror</td>
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<td>0</td>
<td>2</td>
<td>10</td>
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<tr>
<td>Abuse of discretion</td>
<td>195</td>
<td>19</td>
<td>20</td>
<td>2</td>
<td>236</td>
</tr>
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<td><strong>63</strong></td>
<td><strong>59</strong></td>
<td><strong>21</strong></td>
<td><strong>854</strong></td>
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Table 13: Raw Data—Federal Circuit

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</thead>
<tbody>
<tr>
<td>De novo</td>
<td>33</td>
<td>14</td>
<td>2</td>
<td>0</td>
<td>49</td>
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<tr>
<td>Clear error</td>
<td>9</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td>Substantial evidence</td>
<td>16</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>18</td>
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<td>Reasonable juror</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Abuse of discretion</td>
<td>27</td>
<td>2</td>
<td>5</td>
<td>0</td>
<td>34</td>
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<td><strong>85</strong></td>
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<td><strong>0</strong></td>
<td><strong>112</strong></td>
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APPENDIX B:
RAW DATA—REVERSAL RATES FOR SEVERAL EXAMPLE PROCEDURAL POSTURES

Table 14, Table 15, and Table 16 below show the raw data for the cases examined involving summary judgment, JMOL, and preliminary injunction, respectively.

Table 14: Raw Data—Summary Judgment

<table>
<thead>
<tr>
<th>Circuit</th>
<th>Total Cases Examined</th>
<th>Affirmed</th>
<th>Reversed</th>
<th>Vacated</th>
<th>Reversed in Part</th>
</tr>
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<tbody>
<tr>
<td>Federal Circuit</td>
<td>40</td>
<td>23</td>
<td>4</td>
<td>2</td>
<td>11</td>
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<tr>
<td>Non-Fed Circuits (TOTAL)</td>
<td>355</td>
<td>274</td>
<td>24</td>
<td>21</td>
<td>35</td>
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<tr>
<td>2d Cir.</td>
<td>219</td>
<td>165</td>
<td>11</td>
<td>19</td>
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<td>5th Cir.</td>
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<td>4</td>
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<td>1</td>
<td>4</td>
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<td>9th Cir.</td>
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Table 15: Raw Data—JMOL

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<tr>
<th>Circuit</th>
<th>Total Cases Examined</th>
<th>Affirmed</th>
<th>Reversed</th>
<th>Vacated</th>
<th>Reversed in Part</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal Circuit</td>
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<td>31</td>
<td>14</td>
<td>3</td>
<td>17</td>
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<tr>
<td>Non-Fed Circuits (TOTAL)</td>
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<td>80</td>
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<td>9th Cir.</td>
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Table 16: Raw Data—Preliminary Injunction

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<th>Reversed</th>
<th>Vacated</th>
<th>Reversed in Part</th>
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<td>20</td>
<td>4</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>Non-Fed Circuits (TOTAL)</td>
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<td>50</td>
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<td>2d Cir.</td>
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