

The Use of Legal Scholarship by the Federal Courts of Appeals: An Empirical Study

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David L. Schwartz and Lee Petherbridge, *The Use of Legal Scholarship by the Federal Courts of Appeals: An Empirical Study*, 96 Cornell L. Rev. 1345 (2011)
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THE USE OF LEGAL SCHOLARSHIP BY THE FEDERAL COURTS OF APPEALS: AN EMPIRICAL STUDY

David L. Schwartz† & Lee Petherbridge Ph.D.††

Chief Justice John Roberts recently explained that he does not pay much attention to law review articles, reportedly stating that they are not particularly helpful for practitioners and judges. Chief Justice Roberts's criticism echoes that made by other judges, some of whom, like Judge Harry Edwards, have been much more strident in the contention that legal scholarship is largely unhelpful to practitioners and judges. Perhaps inspired by criticisms like those leveled by Chief Justice Roberts and Judge Edwards, legal scholars have sought to investigate the relevance of legal scholarship to courts and practitioners using a variety of means. One avenue of investigation has been empirical, where several studies using different and sometimes ambiguous methodologies have observed a decrease in citation to legal scholarship and interpreted that observation to mean that legal scholarship has lost relevance to courts and practitioners.

The study reported here examines the hypothesis that legal scholarship has lost relevance to courts. Using empirical techniques and an original data set that is substantially more comprehensive than those used in previous studies, it examines citation to legal scholarship by the federal circuit courts of appeals over the last fifty-nine years. It finds a rather surprising result. Contrary to the claims of Chief Justice Roberts and Judge Edwards, and contrary to the results of prior studies, this study finds that over the last fifty-nine years there has been a marked increase in the frequency of citation to legal scholarship in the reported opinions of the circuit courts of appeals. Using empirical and theoretical methods, this study also considers explanations for courts' increased use of legal scholarship.

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INTRODUCTION

Good morning, ladies and gentlemen. I am pleased to be here . . . to speak on the relevance of legal scholarship to the judiciary. I note that whoever came up with the topic did not add the qualifier “if any,” which shows a commendable degree of confidence.

— Judge Alex Kozinski¹

Legal scholarship has been under sharp attack, particularly when it comes to the role some believe it should play in support of the legal profession.² In recent remarks, Chief Justice John Roberts explained that he does not pay much attention to it, reportedly stating that legal

¹ Alex Kozinski, *Who Gives a Hoot About Legal Scholarship?*, 37 Hous. L. Rev. 295, 295 (2000).

² It has garnered criticism for other reasons as well. See, e.g., Harry T. Edwards, *The Growing Disjunction Between Legal Education and the Legal Profession*, 91 MICH. L. REV. 34, 35 (1992) (“I see no reason why law professors should write mediocre economics, or philosophy, or literary criticism, when arts and sciences professors could be doing a better job . . .”); Richard A. Posner, *Legal Scholarship Today*, 115 HARV. L. REV. 1314, 1320–21 (2002) (expressing concern over how law review articles differ from the scholarly norm: “[t]hink only of the length of law review articles, how unembarrassed the legal writer is to repeat what is well known, how seldom one finds an article that begins with a clear statement of what the author thinks the article adds to the existing literature”).

scholarship is not “particularly helpful for practitioners and judges.”³ And Chief Justice Roberts is not alone in his criticism. Judge Harry Edwards has characterized legal scholarship coming from “elite” law faculties as “abstract scholarship that has little relevance to concrete issues, or addresses concrete issues in a wholly theoretical manner” and offered his impression that “judges, administrators, legislators, and practitioners have little use for much of the scholarship . . . produced by members of the academy.”⁴ Chief Judge Dennis Jacobs of the Court of Appeals for the Second Circuit has been equally dismissive: “I haven’t opened up a law review in years No one speaks of them. No one relies on them.”⁵

Legal academics, too, have roundly criticized legal scholarship for being useless to the bench and bar.⁶ A noted American Bar Association study addressing legal education and professional development stated: “Practitioners tend to view much academic scholarship as increasingly irrelevant to their day-to-day concerns [M]any practicing lawyers believe law professors are more interested in pursuing their own intellectual interests than in helping the legal profession address matters of important current concern.”⁷ A former dean of Hofstra University School of Law expressed the concern that legal aca-

³ Jess Bravin, *Chief Justice Roberts on Obama, Justice Stevens, Law Reviews, More*, WALL ST. J. L. BLOG (Apr. 7, 2010, 7:20 PM), <http://blogs.wsj.com/law/2010/04/07/chief-justice-roberts-on-obama-justice-stevens-law-reviews-more/>; cf. Daniel Solove, *Chief Justice Roberts and Legal Scholarship*, CONCURRING OPINIONS, (Apr. 8, 2010, 12:26 PM) <http://www.concurringopinions.com/archives/2010/04/chief-justice-roberts-and-legal-scholarship.html> (finding Chief Justice Roberts’s view “kind of glib and dismissive”).

⁴ Edwards, *supra* note 2, at 35.

⁵ Adam Liptak, *When Rendering Decisions, Judges Are Finding Law Reviews Irrelevant*, N.Y. TIMES, Mar. 19, 2007, at A8 (quoting Chief Judge Dennis G. Jacobs). Other judges have echoed similar concerns. See, e.g., Thomas L. Ambro, *Citing Legal Articles in Judicial Opinions: A Sympathetic Antipathy*, 80 AM. BANKR. L.J. 547, 549 (2006) (“When we [judges] do read the occasional article, we find it often not only unpersuasive, but even at times at odds with accepted means of analysis.”); Judith S. Kaye, *One Judge’s View of Academic Law Review Writing*, 39 J. LEGAL EDUC. 313, 319–20 (1989) (“Prominent law reviews are increasingly dedicated to abstract, theoretical subjects . . . and less and less to practice and professional issues I am disappointed not to find more in the law reviews that is of value and pertinence to our cases.”); see also *United States v. Six Hundred Thirty-Nine Thousand Five Hundred & Fifty-Eight Dollars* (\$639,558) in *U.S. Currency*, 955 F.2d 712, 722 (D.C. Cir. 1992) (Silberman, J., concurring) (“I suppose, now that many of our law reviews are dominated by rather exotic offerings of increasingly out-of-touch faculty members, the temptation for judges to write about issues that interest them—whether or not raised by the parties or constituting part of the logic of the decision—is even greater.”).

⁶ See, e.g., David Hricik & Victoria S. Salzmann, *Why There Should Be Fewer Articles Like This One: Law Professors Should Write More for Legal Decision-Makers and Less for Themselves*, 38 SUFFOLK U. L. REV. 761, 778 (2005) (claiming that the “trend” toward “‘not merely unhelpful,’ but ‘useless’” legal scholarship is “already apparent” (citation omitted)).

⁷ SECTION OF LEGAL EDUC. & ADMISSIONS TO THE BAR, AM. BAR ASS’N, LEGAL EDUCATION AND PROFESSIONAL DEVELOPMENT—AN EDUCATIONAL CONTINUUM: REPORT OF THE TASK FORCE ON LAW SCHOOLS AND THE PROFESSION: NARROWING THE GAP (1992) [hereinafter MACCRATE REPORT].

democratic scholarship has drifted so far from the interests of the bench and bar, and has become so insulated, that young legal scholars are discouraged from publishing traditional doctrinal work.⁸ In his three-word *The Shortest Article in Law Review History*, Professor Erik M. Jensen included only two footnotes, one of which states:

A reader suggested to me that this article has insufficient legal content, that “Res ipsa loquitur” (or some other pompously legal slogan) would serve my purposes better. But it’s been decades since law review articles had to have anything to do with the law. For that matter, it’s been a long time since law review articles had to have anything to do with anything. This article has as much content as the other stuff in this issue, doesn’t it?⁹

Perhaps animated by these kinds of criticisms, law professors have shown much interest in how legal scholarship defines the relationship between the legal academy and the bench and bar. The scholarly work in this area takes different forms. A significant body of work is directed to the nature and purposes of legal scholarship.¹⁰ Another significant body of work investigates courts’ treatment of legal scholarship.

This second body of scholarship contains at least two lines of investigation. A first is exemplified by the writings of Judges Edwards, Thomas Ambro, and Judith Kaye as well as by the MacCrate Report.¹¹ It is perhaps best described as making a claim to a felt consensus that legal scholarship has drifted so far from the interests of the bench and

⁸ *Remarks of Professor Aaron D. Twerski, L’65*, MARQ. LAW. (Marquette Univ. Law Sch., Milwaukee, Wis.), Spring 2009, at 55, 56 (noting that prestigious law reviews appear less interested in publishing traditional doctrinal scholarship and that “young scholars [engaged in such scholarship] are justifiably afraid that when tenure time comes around their articles will be viewed as pedestrian”). Other law professors repeat these concerns. *See, e.g.*, Hricik & Salzmann, *supra* note 6 (positing that law professors write more for themselves and less for decision makers and arguing that law professors should write more for decision makers and less for themselves).

⁹ Erik M. Jensen, *The Shortest Article in Law Review History*, 50 J. LEGAL EDUC. 156, 156 & n.1 (2000) (having as its entire text: “This is it”).

¹⁰ *See, e.g.*, Richard A. Posner, *The Present Situation in Legal Scholarship*, 90 YALE L.J. 1113 (1981); Edward L. Rubin, *The Practice and Discourse of Legal Scholarship*, 86 MICH. L. REV. 1835 (1988); Mark Tushnet, *Legal Scholarship: Its Causes and Cure*, 90 YALE L.J. 1205 (1981).

¹¹ *See* MACCRATE REPORT, *supra* note 7; Ambro, *supra* note 5; Edwards, *supra* note 2; Kaye, *supra* note 5. This is not to say that all judges dislike legal scholarship. Judge John Minor Wisdom, for example, told his law clerks: “Do not, however, be so brief that you neglect to do a thorough job of research, including research of the law reviews. I like a good article, comment, or note in point—regardless of the source. Do not limit yourself to Harvard, Yale, Stanford, Chicago, and Michigan reviews.” John Minor Wisdom, *Wisdom’s Idiosyncrasies*, 109 YALE L.J. 1273, 1278 (2000).

bar that it has no practicable relevance and therefore is best ignored.¹²

A second line of investigation is empirical. Much of the empirical work involving courts' treatment of legal scholarship has involved examining the frequency with which courts cite to it. Perhaps the most significant studies in this area claim a decline in the frequency with which courts cite to legal scholarship.¹³ These studies have the effect,

¹² That is not to say that this line of scholarly work is devoid of empiricism. Some of it derives from observations taken from law review articles (e.g., exemplary articles) and observations taken from scholarly literature about legal scholarship (e.g., assertions about the nature and purpose of legal scholarship). That said, this body of work is not generally quantitative and does not typically develop a statistical description of historical fact.

¹³ See, e.g., Robert J. Hume, *Strategic-Instrument Theory and the Use of Non-Authoritative Sources by Federal Judges: Explaining References to Law Review Articles*, 31 JUST. SYS. J. 291, 299 (2010) (reporting that law review citations "have become increasingly less common over time"); Michael D. McClintock, *The Declining Use of Legal Scholarship by Courts: An Empirical Study*, 51 OKLA. L. REV. 659, 660 (1998) ("This survey reveals a 47.35% decline in the use of legal scholarship by courts over the past two decades, the most notable decline occurring in the past ten years."); Louis J. Sirico, Jr., *The Citing of Law Reviews by the Supreme Court: 1971-1999*, 75 IND. L.J. 1009, 1010 (2000) ("We find a continuing decline in [the] number of times the Court cited legal periodicals . . ."); Louis J. Sirico, Jr. & Jeffrey B. Margulies, *The Citing of Law Reviews by the Supreme Court: An Empirical Study*, 34 UCLA L. REV. 131, 134 (1986) (examining two three-year periods and finding a "substantial" decline in citations to legal periodicals by the Supreme Court); Carissa Alden et al., *Trends in Federal Judicial Citations and Law Review Articles 2* (Mar. 8, 2007) (unpublished manuscript), http://graphics8.nytimes.com/packages/pdf/national/20070319_federal_citations.pdf ("Courts cited law reviews more frequently in the 1970s and 1980s than they do today."). Hricik and Salzmann tested the "already apparent" "trend" that law review articles are deemed "not merely unhelpful," but "useless" to the bench and bar" in the following way:

[We] surveyed every opinion written by the United States Supreme Court during the 2003-2004 term. In those opinions, 3,998 sources were cited. Only 744 of those citations were to secondary sources, and only 108 of those citations were to law review articles. In other words, less than three percent of the sources the Supreme Court cited were the law review articles that are supposed to analyze the cutting edge of legal issues, doctrine, and theory. These numbers indicate that judges are relying on black letter law and their own legal reasoning, rather than the theories and discussions proffered by the individuals who ostensibly should be at the forefront of legal knowledge, to effectuate their opinions.

Hricik & Salzmann, *supra* note 6, at 778 (footnote omitted); see also Blake Rohrbacher, *Decline: Twenty-Five Years of Student Scholarship in Judicial Opinions*, 80 AM. BANKR. L.J. 553, 553 (2006) (examining judicial citation to student scholarship and finding that "judicial citation of student notes has plunged since 1980"). But cf. Lawrence M. Friedman et al., *State Supreme Courts: A Century of Style and Citation*, 33 STAN. L. REV. 773, 812 (1981) (reporting an 8% increase in citation to legal scholarship by state supreme courts when comparing 1945-55 with 1960-70).

Some articles do not claim to identify a trend but still describe the frequency of judicial citation to law review articles. See, e.g., Louis J. Sirico, Jr. & Beth A. Drew, *The Citing of Law Reviews by the United States Courts of Appeals: An Empirical Analysis*, 45 U. MIAMI L. REV. 1051, 1052 (1991) (examining 1200 opinions issued in 1989 and finding that "the federal circuit courts cite law reviews infrequently"); see also Gregory Scott Crespi, *The Influence of a Decade of Statutory Interpretation Scholarship on Judicial Rulings: An Empirical Analysis*, 53 SMU L. REV. 9, 11 (2000) [hereinafter Crespi, *Influence of a Decade*] (finding that "almost half of the statutory interpretation articles published between 1988 and 1995 have been cited in at least one judicial opinion" but that this statistic "is a relatively high figure" when compared

therefore, of generally supporting the felt consensus that legal scholarship has lost practicable relevance. Indeed, the two bodies of scholarship are so mutually reinforcing¹⁴ that it is now probably fair to say that the claim that courts have little use for legal scholarship is conventional wisdom.

An examination of the empirical studies supporting the conventional wisdom reveals a variety of methodological approaches. For example, the McClintock study used a “list of leading law journals selected by the *Chicago-Kent Law Review*”¹⁵ and examined three two-year periods, essentially 1975–76, 1985–86, and 1995–96.¹⁶ Louis J. Sirico and Jeffrey B. Margulies examined only Supreme Court opinions and used two three-year periods spaced seven years apart,¹⁷ while David Hricik and Victoria S. Salzmman examined opinions from a single term of the Supreme Court.¹⁸ The study performed by Carissa Alden and her colleagues was intentionally informal. It involved five

with citation rates in general); Gregory Scott Crespi, *The Influence of Two Decades of Contract Law Scholarship on Judicial Rulings: An Empirical Analysis*, 57 SMU L. REV. 105, 111 (2004) (examining a subset of contract law articles and finding that 36.4% had been judicially cited).

Finally, some articles address other aspects of judicial citation to law review articles. See, e.g., Gregory Scott Crespi, *Judicial and Law Review Citation Frequencies for Articles Published in Different “Tiers” of Law Journals: An Empirical Analysis*, 44 SANTA CLARA L. REV. 897, 897 (2004) (finding that courts and scholars cite articles published in “the three most prestigious law journals at much higher rates” than articles appearing in lower-tier journals); Robert M. Lawless & Ira David, *The General Role Played by Specialty Law Journals: Empirical Evidence from Bankruptcy Scholarship*, 80 AM. BANKR. L.J. 523, 524 (2006) (comparing citation to bankruptcy articles published in general law reviews with those published in four specialty journals); Richard A. Mann, *The Use of Legal Periodicals by Courts and Journals*, 26 JURIMETRICS J. 400, 401 (1986) (comparing judicial and academic citations to scholarship published from 1978 to 1979); William H. Manz, *Citations in Supreme Court Opinions and Briefs: A Comparative Study*, 94 LAW LIBR. J. 267, 267 (2002) (comparing citation in Supreme Court briefs with those in Supreme Court opinions); Deborah J. Merritt & Melanie Putnam, *Judges and Scholars: Do Courts and Scholarly Journals Cite the Same Law Review Articles?*, 71 CHI.-KENT L. REV. 871, 872 (1996) (comparing and contrasting the law reviews most cited by legal scholars against those most cited by the courts); Chester A. Newland, *Legal Periodicals and the United States Supreme Court*, 7 U. KAN. L. REV. 477, 479 (1959) (outlining legal periodical citations for twenty-eight justices from 1924 to 1956); Michael J. Saks et al., *Is There a Growing Gap Among Law, Law Practice, and Legal Scholarship?: A Systematic Comparison of Law Review Articles One Generation Apart*, 30 SUFFOLK U. L. REV. 353, 361 (1996) (comparing articles published in 1960 and 1985 for, among other things, citation by courts); Russell Smyth, *Citing Outside the Law Reports: Citations of Secondary Authorities on the Australian State Supreme Courts Over the Twentieth Century*, 18 GRIFFITH L. REV. 692, 692 (2009) (analyzing Australian state supreme court citation to secondary sources over time).

¹⁴ See, e.g., Hricik & Salzmman, *supra* note 6 *passim* (citing to both the literature reflecting the felt consensus and citation studies); *Remarks of Professor Aaron D. Twerski*, L’65, *supra* note 8, at 56 (relying on the claim that “citations to law reviews have plummeted”).

¹⁵ See McClintock, *supra* note 13, at 683 (citing Colleen M. Cullen & S. Randall Kalberg, *Chicago-Kent Law Review Faculty Scholarship Survey*, 70 CHI.-KENT L. REV. 1445, 1446–47, 1452 tbl.I (1995)).

¹⁶ See *id.*

¹⁷ See Sirico & Margulies, *supra* note 13, at 132.

¹⁸ See Hricik & Salzmman, *supra* note 6, at 778.

law reviews and five specialty journals, and only some federal courts.¹⁹ Sirico and Beth A. Drew examined 100 “recent” circuit court opinions from a single year and excluded the United States Court of Appeals for the Federal Circuit.²⁰ Other judicial citation studies have focused variously on student notes,²¹ “statutory interpretation articles of a broad, theoretical nature that were published during the 1988–97 decade,”²² and state supreme court opinions.²³

The variation in methodological approaches (e.g., the use of elite law reviews, particular articles, small samples, and nonrandom samples;²⁴ differences in data collection; and different comparative perspectives) confounds efforts to draw general interpretations about the citation to legal scholarship by courts. In fact, these methodological limitations are serious enough to raise a concern regarding the extent to which empirical work supports the conventional wisdom that legal scholarship has lost practicable relevance to courts. Moreover, many of the studies of judicial citation are starting to show their age. Citation to legal scholarship by courts may be different today than it was during earlier-studied periods.

The study reported here adds a substantially more comprehensive data set to this important body of work than previous studies: an assessment of citation to legal scholarship in 296,098 reported decisions of the federal courts of appeals²⁵ spanning the fifty-nine years

¹⁹ See Alden et al., *supra* note 13, at 1–2. This is not meant to diminish the amount of work these authors clearly expended.

²⁰ See Sirico & Drew, *supra* note 13, at 1052.

²¹ See Rohrbacher, *supra* note 13, at 554–55.

²² See Crespi, *Influence of a Decade*, *supra* note 13, at 10.

²³ See Friedman et al., *supra* note 13, at 774–75 (studying secondary-source citations and many other aspects of state supreme court writings).

²⁴ When it is not feasible to collect data on the entire population, good empirical practices urge random sampling. See Lee Epstein & Gary King, *The Rules of Inference*, 69 U. CHI. L. REV. 1, 108 (2002).

²⁵ We focused on the federal appellate level because, as others have recognized, “the circuit court judiciary is probably the single most important level of the federal judiciary in light of its extensive caseload and policy making authority.” Frank B. Cross & Stefanie Lindquist, *Judging the Judges*, 58 DUKE L.J. 1383, 1385 (2009); see also FRANK B. CROSS, DECISION MAKING IN THE U.S. COURTS OF APPEALS 1–2 (2007) (“[T]he circuit courts are much more important [than the United States Supreme Court] in setting and enforcing the law of the United States.”); DAVID E. KLEIN, MAKING LAW IN THE UNITED STATES COURTS OF APPEALS 4 (2002) (“The truth, well known but often overlooked in the media and even in serious scholarship, is that lower court judges play a major role in the development of legal doctrine.”); Corey Rayburn Yung, *Flexing Judicial Muscle: An Empirical Study of Judicial Activism in the Federal Courts*, 105 NW. U. L. REV. 1, 3 (2011) (“Although the actions of the Supreme Court are higher profile, studying the courts of appeals for activism has been substantially more informative about judges and the judiciary.” (footnote omitted)). Others have surmised that the federal appellate courts should be most receptive to law review articles. See Sirico & Drew, *supra* note 13, at 1051 (“[T]he federal circuit courts may be the most policy-oriented tribunals and hence the most receptive to the theory-oriented discussions of the law reviews.”).

between 1950 and 2008. Using clearly described and easily reproducible methods it further adds to the existing body of knowledge by empirically exploring the stridently pressed conventional wisdom that legal scholarship has drifted so far from the interests of the bench and bar that courts have little use for it.

The study produces two important results. First, the data collected support the interpretation that the use of legal scholarship by the federal circuit courts of appeals has *not* declined. Rather, the use of legal scholarship by such courts has increased. Taken together, the data gathered in this study call into serious question the conventional wisdom that courts have little use for legal scholarship.²⁶ Second, the study provides evidence that a relatively small cohort of judges is responsible for the overwhelming majority of citations. Using empirical and theoretical methods, the study also considers explanations for the empirical results.

We strive to make this Article accessible to all readers, including those without a high level of understanding of empirical methods. To do so, the Article's text describes the basic results, and the footnotes and Appendix provide a more technical empirical explanation for those who are interested.

The remainder of this Article proceeds in two parts. Part I describes the methodology employed in the study. Part II presents the results. It includes information about citation to legal scholarship in decisions of the federal circuit courts of appeals over the last fifty-nine years, analyzes variables that contribute to courts' use of legal scholarship, and outlines important directions for future work.

I

METHODOLOGY

This Part begins by defining what we mean when we refer to the "use" of "legal scholarship" by judges. It then explains the techniques used to collect the data underlying the study and reports some of the basic parameters of the data set.

A. The "Use" of "Legal Scholarship" by Judges

In this study, "legal scholarship" means law review and law journal articles.²⁷ Our most basic research interest is in the relevance of legal

²⁶ This finding does not, of course, mean that all legal scholarship is thus salient and practicably relevant to the bench and bar. Part II and the Conclusion address these and other topics.

²⁷ Within law review and law journal articles, we intend to include academic journals, which primarily consist of faculty-written and student-edited articles. We believe that journals directed primarily to news reporting or practitioner updates, such as the *National Law Review* or state bar journals, fall into a different category and are not within our definition

scholarship to judges. We define “relevant” by its customary definition: “having significant and demonstrable bearing on the matter at hand.”²⁸ The matter at hand here is the decisional-law-making process of the judges of the federal circuit courts of appeals. Legal scholarship is therefore relevant if it has a bearing on that judicial process.

Determining whether a piece of legal scholarship has a significant and demonstrable bearing on the decisional-law-making process presents a somewhat thorny question: how is one supposed to know? It seems likely that in some instances legal scholarship may have a bearing on a judge’s decisional process and the judge may not even know it. In such cases, it might be incredibly difficult to establish the relevance of the legal scholarship. It also seems likely that in some instances legal scholarship may have a bearing on a judge’s decisional process, and the judge knows about it but never includes an express reference to the legal scholarship in the opinion comprising the decision.²⁹ In such cases, too, it might be quite difficult to establish the relevance of the legal scholarship.

In this study, we have assumed away some of this problem by measuring whether legal scholarship is relevant by tabulating its express “use” in reported opinions.³⁰ To be clear, for the purposes of this

of legal scholarship. Our definition of legal scholarship excludes treatises, hornbooks, and similar secondary materials. We do not exclude them because they are unimportant forms of legal scholarship; of course they are important. We exclude them from this study because the literature criticizing legal scholarship introduced above usually excludes them. Indeed, these criticisms tend to laud the contributions of treatises and hornbooks. We also exclude books written by academics from our definition.

²⁸ MERRIAM-WEBSTER’S COLLEGIATE DICTIONARY 1051 (11th ed. 2004).

²⁹ See, e.g., Edwards, *supra* note 2, at 45 (noting that he, Judge Edwards, uses legal scholarship without citing to it, and therefore that “citation studies invariably underestimate utility”).

³⁰ Our focus on the decisional-law-making process requires, we think, the use of reported opinions. Other prominent studies of citation counts focus exclusively on reported opinions. See, e.g., William M. Landes et al., *Judicial Influence: A Citation Analysis of Federal Courts of Appeals Judges*, 27 J. LEGAL STUD. 271, 271 (1998). Formal evidence of decisional law historically does not include unreported (or nonprecedential) opinions. See, e.g., FED. CIR. R. 32.1 (authorizing unreported opinions and explaining: “[a]n opinion or order which is designated as nonprecedential is one determined by the panel issuing it as not adding significantly to the body of law”); *id.* at 36 (authorizing judgments of affirmance without opinions and explaining: “[t]he court may enter a judgment of affirmance without opinion, citing this rule, when it determines that . . . an opinion would have no precedential value”); see also Porter v. Merit Sys. Prot. Bd., 210 F. App’x 996, 996 (Fed. Cir. 2006) (applying FED. CIR. R. 32.1); Waddoups v. Dep’t of the Air Force, 201 F. App’x 995, 996 (Fed. Cir. 2006) (deciding an appeal without a published opinion); cf. FED. R. APP. P. 32.1 (introducing permission to cite to unreported opinions in briefing as of January 1, 2007, but not changing the precedential status of the cited opinion). This observation strongly suggests two things. First, while there may be reasons to study the judicial use of legal scholarship in unreported opinions, clumping unreported opinions together with reported opinions in a study examining the use of legal scholarship in the decisional-law-making process will be more confounding than informative. Second, judges should only rarely use legal scholarship in unreported opinions since they are not intended to add to

study judges “use” scholarship when they cite to it in reported opinions.³¹

Our approach has several advantages.³² It measures use fairly directly by looking at what judges choose to include in the documents communicating reported decisions.³³ Reported decisions are documents evidencing the law, and thus citation to legal scholarship in reported decisions brings cited scholarship into close relationship with the law. Moreover, judges do not have to cite to legal scholarship, so the choice to cite to it—even as a source of general authority for a proposition—or to criticize it can be understood as having a bearing on the decisional process. That is, that choice is a part of the law. If anything, counting citations to legal scholarship in reported decisions likely undercounts the relevance of legal scholarship to judges. Finally, measuring the use of legal scholarship by measuring citations in opinions has the benefit of being a fairly objective measure: not only are we not required to guess or make a subjective judgment about whether the cited legal scholarship was “really” used, but because discerning a citation to a law review article is not normally difficult, we also lessen the likelihood of measurement error.

the law. To test the second hypothesis, we examined all unreported opinions in Westlaw for all circuits from 1950 to 2008 and found that citation to legal scholarship, while it does occasionally occur, is exceptionally rare.

³¹ There are, of course, other ways to approach the question of whether courts use legal scholarship. Our approach—counting citations in opinions—measures judicial behavior. Alternatively, one could directly survey judges about their views on legal scholarship. Surveying judges, however, would likely measure judicial attitudes toward legal scholarship. Behaviors and attitudes are different, and attitudes are subject to a variety of cognitive biases. A third alternative is to focus on law review articles instead of judges and determine the proportion of legal scholarship to which courts cite. In other words, instead of calculating the number of law review citations divided by the number of reported opinions, one could calculate the number of law review citations divided by the number of published law review articles. However, when compared to our method, this approach is less accurate for measuring the usefulness of legal scholarship to the judiciary. That is not to say that such a study would be uninteresting; it is just a different study and one we believe is tangential to our research question.

³² That is not to say it is perfect. Measuring the citation to legal scholarship in opinions is an imperfect measure not only because it undercounts, but also because the approach cannot control for the relevance of legal scholarship to the content of opinions comprising decisions. It thus leaves to inference the relationship between citation to legal scholarship in judicial opinions and the relevance of legal scholarship to both judges and the law. Inferring relevance in this way is, perhaps, most often valid. However, judges might cite to legal scholarship even when the citation has no bearing on the law (e.g., for strategic reasons).

³³ For our purposes, it does not matter whether the citation originated from the judge, her clerk, one of the litigants, or some other source. All that matters is that the judge chose to include it in a reported opinion.

B. Content Analysis of Judicial Opinions

The original dataset built for this study follows a well-accepted social science technique known as “content analysis.”³⁴ Content analysis refers to summarizing documents or other messages for analysis using objective, verifiable methods. It is applied here to judicial opinions using three basic steps: first, selecting the relevant opinions;³⁵ second, coding the selected opinions;³⁶ and finally, analyzing the data collected through coding using statistical techniques.³⁷

Content analysis is useful for helping scholars verify, analyze, and assess empirical claims about the content of large numbers of judicial opinions.³⁸ The present study, which involves over 296,000 judicial opinions, thus presents an excellent opportunity for the application of content analysis. That said, it should be noted that a content-analysis approach presents concerns that should be kept in mind when interpreting and analyzing the results of this study.³⁹ The most prominent concerns are implied by our definition of “use” provided above:⁴⁰ unobserved reasoning, strategic behavior, and selection bias can all

³⁴ For an article describing content analysis and its application to legal studies, see Mark A. Hall & Ronald F. Wright, *Systematic Content Analysis of Judicial Opinions*, 96 CALIF. L. REV. 63, 79–99 (2008). For some recent examples of legal scholarship that have used content analysis as an approach to examining a body of law, see John R. Allison & Mark A. Lemley, *The (Unnoticed) Demise of the Doctrine of Equivalents*, 59 STAN. L. REV. 955, 966–76 (2007); Edward K. Cheng, *The Myth of the Generalist Judge*, 61 STAN. L. REV. 519, 530–40 (2008); Christian A. Chu, *Empirical Analysis of the Federal Circuit’s Claim Construction Trends*, 16 BERKELEY TECH. L.J. 1075, 1096–1143 (2001); Christopher A. Cotropia, *Nonobviousness and the Federal Circuit: An Empirical Analysis of Recent Case Law*, 82 NOTRE DAME L. REV. 911, 924–30 (2007); Lee Petherbridge & R. Polk Wagner, *The Federal Circuit and Patentability: An Empirical Assessment of the Law of Obviousness*, 85 TEX. L. REV. 2051, 2076–102 (2007); Lee Petherbridge, *On the Decline of the Doctrine of Equivalents*, 31 CARDOZO L. REV. 1371, 1384–1404 (2010); Lee Petherbridge, *Patent Law Uniformity?*, 22 HARV. J.L. & TECH. 421, 438–63 (2009); David L. Schwartz, *Courting Specialization: An Empirical Study of Claim Construction Comparing Patent Litigation Before Federal District Courts and the International Trade Commission*, 50 WM. & MARY L. REV. 1699, 1712–33 (2009); David L. Schwartz, *Practice Makes Perfect? An Empirical Study of Claim Construction Reversal Rates in Patent Cases*, 107 MICH. L. REV. 223, 245–58 (2008); R. Polk Wagner & Lee Petherbridge, *Is the Federal Circuit Succeeding? An Empirical Assessment of Judicial Performance*, 152 U. PA. L. REV. 1105, 1148–79 (2004).

³⁵ See Hall & Wright, *supra* note 34, at 101–06 (explaining how case content analysts select cases for study).

³⁶ See *id.* at 107–17 (listing and elaborating upon the steps researchers should follow in coding material).

³⁷ See *id.* at 117–20 (discussing approaches to content analysis, noting the benefits of statistical testing, and discussing two broad types of statistical analysis).

³⁸ See *id.* at 72 tbl.1, 100–20 (analyzing the results of 134 studies that performed content analysis on judicial opinions).

³⁹ Judge Edwards, for example, has been a vociferous critic of empirical studies of appellate decision making. See Harry T. Edwards & Michael A. Livermore, *Pitfalls of Empirical Studies That Attempt to Understand the Factors Affecting Appellate Decisionmaking*, 58 DUKE L.J. 1895, 1907–30 (2009) (discussing several limitations on empirical research into judicial decision making).

⁴⁰ See *supra* notes 30–33 and accompanying text.

limit the interpretation of data gathered using a content-analysis approach.⁴¹ Thus, as noted above, the results and discussion we provide are subject to concerns of unobserved reasoning and strategic behavior. In other words, judges almost certainly “use” legal scholarship more than we can detect by measuring citation,⁴² and judges may elect to cite *vel non* legal scholarship for reasons we do not attempt to quantify here.⁴³ The study is also subject to concerns of selection bias,⁴⁴ or the idea that perhaps cases that would most likely generate a citation to legal scholarship are selected against such that they are less likely to generate an appellate opinion.⁴⁵

Nonetheless, the current claims and conventional wisdom surrounding judicial use of legal scholarship strongly suggest, we think, a need to begin to systematically assess and understand the topic. An important first step in developing this area of study includes making efforts to quantify judicial use of scholarship and identify factors upon which judicial use of scholarship depends. Content analysis—despite (and probably more accurately because of) its well-known limita-

⁴¹ See Hall & Wright, *supra* note 34, at 85–100.

⁴² See Paul L. Caron, *The Long Tail of Legal Scholarship*, 116 YALE L.J. POCKET PART 38, 41 (2006), <http://www.thepocketpart.org/yj-online/scholarship/59-the-long-tail-of-legal-scholarship> (“Citations reflect one particular end-use of an article; they do not measure how many times an article is read but not cited by a judge or professor.”).

⁴³ For example, perhaps judges writing for the court strategically avoid citing legal scholarship so that rationales offered in an opinion appear to flow naturally from existing precedents, and perhaps judges writing alternative opinions strategically emphasize legal scholarship to bolster an argument for a change in law or to seek allies for en banc review.

⁴⁴ See George L. Priest & Benjamin Klein, *The Selection of Disputes for Litigation*, 13 J. LEGAL STUD. 1, 24 (1984) (explaining that because so few cases reach an appellate judgment, such cases may not be representative of all lawsuits or disputes).

⁴⁵ For example, they might settle or be disposed of without any opinion. For more on unpublished opinions, see Kirt Shulderberg, *Digital Influence: Technology and Unpublished Opinions in the Federal Courts of Appeals*, 85 CALIF. L. REV. 541, 545–51 (1997), which notes that the use of unpublished opinions was first proposed in 1964 and first implemented in the early 1970s. Others have noted that unpublished opinions often constitute a substantial percentage of a court’s opinions and are often similar to published opinions in many respects. See Michael Hannon, *A Closer Look at Unpublished Opinions in the United States Courts of Appeals*, 3 J. APP. PRAC. & PROCESS 199, 201 (2001) (reporting that less than 21% of opinions in the federal courts of appeals are published); Beth Zeitlin Shaw, *Please Ignore This Case: An Empirical Study of Nonprecedential Opinions in the Federal Circuit*, 12 GEO. MASON L. REV. 1013, 1014, 1023–35 (2004) (reporting that the Federal Circuit publishes only 23% of its opinions and that the publication rate varies by the subject matter of the case). See generally Donald R. Songer, *Criteria for Publication of Opinions in the U.S. Courts of Appeals: Formal Rules Versus Empirical Reality*, 73 JUDICATURE 307, 313 (1990) (demonstrating that official criteria for publication do not accurately describe differences between published and unpublished opinions). Using only reported decisions thus has the potential to provide a biased sample. See Edwards & Livermore, *supra* note 39, at 1922–24 (identifying the omission of unpublished decisions as a problem with the U.S. courts of appeals database that empiricists use). However, based on our examination of large numbers of unreported opinions, reported opinions contain the overwhelming majority of citations to legal scholarship. See *supra* note 30. It thus appears that circuit judges are not saving the use of legal scholarship for unreported opinions.

tions—presents a broadly understood and accepted means of approaching these important tasks.

C. The Judicial Citation to Legal Scholarship Database

The data set built for this study includes information collected from all reported opinions⁴⁶ issued between 1950 and 2008 for all of the federal circuit courts of appeals.⁴⁷ Coding was automated using a precise query⁴⁸ executed against each Westlaw federal appellate court database.⁴⁹ The query locates citations to law reviews and law journals

⁴⁶ “Reported opinions” means those opinions Westlaw so designates. We did not distinguish between opinions for the court and alternative opinions. The Westlaw federal circuit court databases used were CTA1R, CTA2R, CTA3R, CTA4R, CTA5R, CTA6R, CTA7R, CTA8R, CTA9R, CTA10R, CTA11R, CTADCR, and CTAFEDR. As Westlaw’s descriptions of each of these databases explain, they include “[r]eported cases from the federal appellate courts authoritative” in the circuit, with coverage beginning in 1945. *E.g.*, *U.S. Court of Appeals, 1st Circuit Cases, Reported*, WESTLAW DATABASE DIRECTORY, <http://directory.westlaw.com/scope/default.asp?db=CTA1R&RS=WDIR2.0&VR=2.0> (last visited July 18, 2011). The Eleventh and Federal Circuits did not exist until well after that date. The Federal Circuit database appears empty before the Federal Circuit’s creation in 1982. The Eleventh Circuit database appears to replicate the Fifth Circuit database before 1980, the year the Fifth Circuit split into the Fifth and Eleventh Circuits. We excluded the duplicative Fifth and Eleventh Circuit data.

⁴⁷ Based on our examination of all available unreported opinions, the overwhelming majority of citations to legal scholarship are found in reported opinions. *See supra* note 30.

⁴⁸ In a previous draft of this Article, we employed a search query that relied upon the Bluebook and the fact that nearly all law reviews include “law review” or “law journal” in their title. We developed the query over the course of several months and refined it through multiple conversations with Westlaw search specialists and by trial and error. Numerous people reviewed the query after several blogs featured a draft of this Article. *See e.g.*, Iantha Haight, *Court Citation of Legal Scholarship on the Rise*, THE COMPETITIVE EDGE, (Aug. 17, 2011, 3:10 PM) <http://blog.law.cornell.edu/library/2010/08/17/court-citation-of-legal-scholarship-on-the-rise> (noting that the search query was “impressive” and about as close to perfect “as you can reasonably get”). Unfortunately, we recently discovered that West, for reasons we do not presently understand, removes blank spaces from citations on an apparent haphazard basis. The haphazard removal appears to occur much more frequently in opinions issued before about 1997. Compounding this problem, Westlaw search specialists have recently advised us that it is not possible to craft a search query that locates citations without spaces—e.g., to the *harv.l.rev.* instead of *harv. l.rev.*—unless the journal’s exact name is included as a search term. The impact of this discovery is that our original search query does not locate some of the citations to legal scholarship in Westlaw circuit court databases and we have not discovered a way of locating them without hard coding in each journal’s West-formatted title. Future researchers should therefore be cautious when utilizing Westlaw for research concerning citation in Westlaw databases. To address this data inconsistency, we constructed a new query that included hard-coded West-formatted journal titles and experimented with the query until we discovered a query the positive responses to which were not substantially increased by the addition of new journals. We then regenerated all of our data.

⁴⁹ The exact Westlaw search for citations in each year YYYY is: “da([YYYY]) & (“[j.” “l. rev.” “l.rev.” “j.l.” “law review” *harv.l.rev.* *stan.l.rev.* *colum.l.rev.* *ny.u.l.rev.* *va.l.rev.* *cal.l.rev.* *u.pa.l.rev.* *mich.l.rev.* *geo.lj.* *tex.l.rev.* *ucla.l.rev.* *nw.u.l.rev.* *minn.l.rev.* *u.chi.l.rev.* *vand.l.rev.* *b.u.l.rev.* *b.c.l.rev.* *n.c.l.rev.* *s.cal.l.rev.* *u.ill.l.rev.* *ind.lj.* *wis.l.rev.* *fla.l.rev.* *am.u.l.rev.* *ariz.l.rev.* *ariz.st.lj.* *wash.u.l.rev.* *geo.wash.l.rev.* *u.color.l.rev.* *ga.l.rev.* *ala.l.rev.* *u.cin.l.rev.* *st.l.rev.* *wash.l.rev.* *byu.l.rev.* *md.l.rev.* *tul.l.rev.* *fla.l.rev.* *hous.l.rev.*) /10 (20**

and excludes citations to treatises or hornbooks.⁵⁰ It includes all law reviews and law journals, not merely the “elite” ones. We obtained the raw number of reported opinions issued by each court on an annual basis. For consistency, we relied upon the same Westlaw databases to obtain the total number of reported decisions per year by using a blank query.⁵¹

Overall, the database includes 296,098 opinions, of which 22,479 include at least one citation to legal scholarship. Because we used an automated search, we did not read each opinion to count citations. Instead, we executed the Westlaw query for each year and circuit court and recorded the number of hits generated. The citation search query thus counts each opinion citing to legal scholarship once, even if the opinion cited to multiple pieces of scholarship.⁵² Consequently the results reported by the present study are likely to be a conservative measure of citation to legal scholarship by the courts.

The rate of false positives—opinions that respond to the Westlaw query but do not, in fact, cite to legal scholarship—is 1.4% of all reported opinions scoring positive for citation to legal scholarship.⁵³ The false-negative rate, which measures opinions that cite to legal

19** 18**) % ((j.l. /4 v.) ti((j. /2 l.) lj jl j.l. l.j.) (at(lj jl lj. j.l.) (“nat! lj.” “national law journal”).” We performed the search in the Westlaw databases listed above, *supra* note 46, which include only reported decisions. The use of rev., review, and j. is meant to include as many law reviews and journals as possible. The search includes all of the flagship journals of the top 100 law schools as ranked by *U.S. News & World Report* in 2010. See *Schools of Law: The Top 100 Schools*, U.S. NEWS & WORLD REP., May 2010, at 74, 74–75. Of the top fifty journals using Washington and Lee University’s combined 2009 rankings, forty-eight fall within the search, and ninety-four of the top 100 are responsive. See *Law Journals: Submissions and Ranking*, WASH. & LEE U. SCH. L., <http://lawlib.wlu.edu/lj/indexOlderYears.aspx> (last visited July 18, 2011) (check the box labeled “Comb.” and “2009”; then click “Submit”). Excluded are *Supreme Court Review* (27); *Law & Contemporary Problems* (42); *Yale Journal on Regulation* (67); the *Business Lawyer* (68); *University of Chicago Legal Forum* (80); and *Supreme Court Economic Review* (97). See *id.*

⁵⁰ This is because, as noted above, see *supra* note 27, the criticisms of legal scholarship identified in the Introduction usually exclude these forms of legal scholarship; indeed, the criticisms more often laud treatises and hornbooks, focusing their ire on law review articles.

⁵¹ The exact Westlaw search for opinions in each year YYYY is: “date([YYYY]) and court.” The word “court” is included because Westlaw prohibits date-only searches. The word “court” is present in all opinions in the case caption. See Christopher A. Cotropia, *Determining Uniformity Within the Federal Circuit by Measuring Dissent and En Banc Review*, 43 *Loy. L.A. L. Rev.* 801, 811 n.59 (2010).

⁵² Note also that this study treats all citations of legal scholarship as equal. In reality, some cases include extensive analysis of, discussion of, and reliance upon law review articles, while others cite to scholarship only in passing.

⁵³ We calculated the false-positive rate based upon a 5% random sample of the dataset. For the random sample, we manually reviewed the Westlaw citation results to ascertain which results were not of legal scholarship. An example of a false positive was a case that included the phrase “Letter No. 538 (July 21, 1971) by J. L. Robertson, CCH Cons. Credit Guide.” *Joseph v. Norman’s Health Club, Inc.*, 532 F.2d 86, 92 n.10 (8th Cir. 1976).

scholarship but are nonresponsive to our Westlaw query, is 2.3% of all reported opinions scoring positive for citation to legal scholarship.⁵⁴

II

RESULTS & DISCUSSION

This Part begins with the exploration of a very basic research question: how much have the judges of the federal courts of appeals used legal scholarship over the fifty-nine years of our study? It then moves to a more specific, but still very basic research question: has there been a decline in the use of legal scholarship by the judges of the federal courts of appeals? Here the data provide evidence of a rather surprising result: over the fifty-nine years we examined, there has not been a decline in the use of legal scholarship; rather, there has been a marked increase in the use of legal scholarship in the reported opinions of the circuit courts of appeals. This finding raises serious doubts about the conventional wisdom and suggests that easy conclusions about the meaning of legal scholarship to judges may be difficult to reach. Using empirical and theoretical means, this Part continues by considering explanations for courts' increased use of legal scholarship.

A. Judges of the Federal Circuit Courts of Appeals Use Legal Scholarship More Now Than in the Past

To get a broad perspective on the use of legal scholarship by judges over the fifty-nine years we studied, we combined all of the reported opinions from all of the circuits and calculated the rate at which judges cited legal scholarship during that period. Of the 296,098 reported decisions of the federal courts of appeals spanning years 1950–2008, 22,479 (7.6%), or roughly one in every 13.2 decisions, cited at least one law review or law journal article.

As noted in the Introduction, the conventional wisdom is that courts have little use for legal scholarship. Perhaps the most significant empirical evidence for this claim in the scholarly literature is the

⁵⁴ We calculated the false-negative rate based upon the same 5% random sample used to calculate the false-positive rate. See *supra* note 53. For these random circuits and years, we manually reviewed the results from a broader Westlaw search: "(da(YYYY) & ("l.j." "l.rev." "l.rev." "j.l." "law review" "law journal" harv.l.rev. stan.l.rev. colum.l.rev. n.y.u.l.rev. va.l.rev. cal.l.rev. u.pa.l.rev. mich.l.rev. geo.l.j. tex.l.rev. ucla.l.rev. nw.u.l.rev. minn.l.rev. u.chi.l.rev. vand.l.rev. b.u.l.rev. b.c.l.rev. n.c.l.rev. s.cal.l.rev. u.ill.l.rev. ind.l.j. wis.l.rev. fla.l.rev. am.u.l.rev. ariz.l.rev. ariz.st.l.j. wash.u.l.rev. geo.wash.l.rev. u.color.l.rev. gal.l.rev. ala.l.rev. u.cin.l.rev. st.l.rev. wash.l.rev. byu.l.rev. md.l.rev. tul.l.rev. fla.l.rev. hous.l.rev.))." We then determined how many citations to scholarship were responsive to the broader search but missed by our precise search query. The false-positive and -negative rates were sufficiently constant over time to avoid affecting the substantive results of the present study.

repeated observation of a decline in the use of legal scholarship by courts. The empirical claim is, notably, directional. It describes a landscape that shows greater citation by courts to legal scholarship in the past, or a downward-sloping trend in the frequency with which courts cite legal scholarship as one moves forward through time. The empirical claim can be unpacked into two related claims: (1) there has been a decrease over time in the raw number of opinions that contain citations; and (2) there has been a decrease over time in the proportion of opinions that contain citations. The difference between the claims is that the latter accounts for the total number of opinions issued by the court, which has generally increased over time. We address both claims below.

To examine the first empirical claim in more detail, we divided the fifty-nine-year period covered by the study roughly in half. The first group contains all reported opinions citing at least one law review article issued between 1950 and 1979 (thirty years). The second group contains all reported opinions citing at least one law review article issued between 1980 and 2008 (twenty-nine years).

TABLE 1.
REPORTED OPINIONS CITING LEGAL SCHOLARSHIP⁵⁵

Period	Opinions Citing	% of Total
1950–1979	8320	37.0
1980–2008	13450	63.0

Table 1 shows that the overwhelming majority of reported circuit court opinions citing legal scholarship occur in the more recent period, between 1980 and 2008.

To gather additional evidence about the empirical claim that there has been a decline in the use of legal scholarship by the courts (and the judges that comprise them), we plotted the number of reported opinions citing legal scholarship against time (Figure 1).

⁵⁵ Table 1 shows the number of reported opinions citing at least one law review article in particular time periods of the study. For example, in the first thirty years included in the study, 1950–79, federal circuit courts issued 8320 reported opinions that cited at least one law review article. The 8,320 opinions represent a substantial minority (only 37.0%) of the citations found in the study.

FIGURE 1.
REPORTED OPINIONS CITING LEGAL SCHOLARSHIP OVER TIME⁵⁶

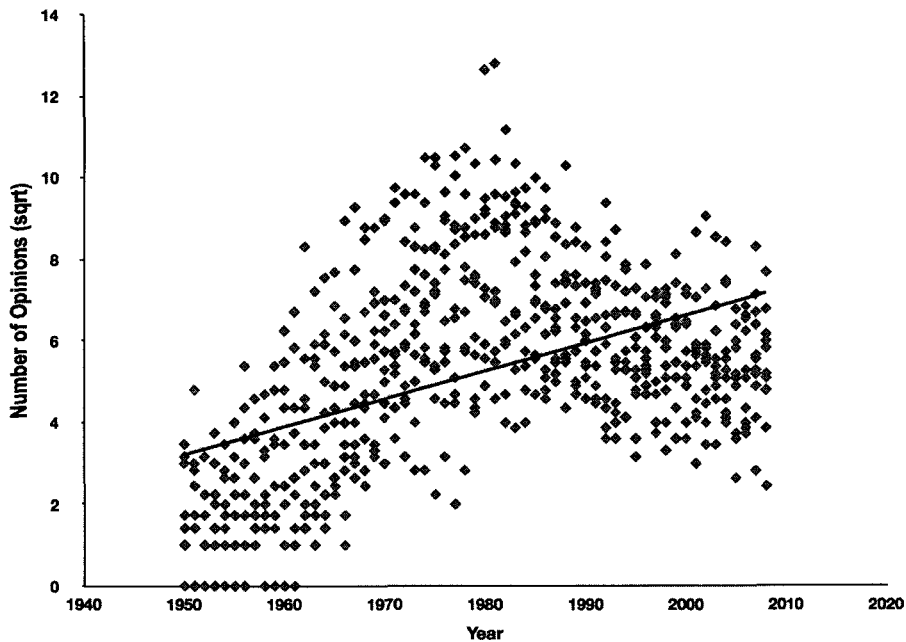


Figure 1 suggests an interpretation directly contrary to the claim that there has been decline in the use of legal scholarship by courts. A visual inspection suggests an upward, and in any event not a downward, trend in the number of opinions citing legal scholarship over the last fifty-nine years.⁵⁷ Further evidence of an upward trend is found in the least squares trendline fitted to the data, which has a significant positive (upward trend) slope. After rising steadily, the number of opinions citing legal scholarship reached a high point in the early to mid-1980s. The number of opinions citing legal scholarship then trended downward for about seven to eight years, and then leveled off around 1990 and held steady at a rate substantially higher

⁵⁶ Figure 1 shows the number of reported circuit court opinions citing legal scholarship for each year starting in 1950. On the abscissa, the year (Year) studied moves from left to right. The ordinate shows the square root of the number of reported opinions (Number of Opinions (sqrt)) citing at least one law review article. A linear (i.e., ordinary least squares (OLS)) trendline is imposed, the slope of which is positive and statistically significant. It has the following statistical characteristics: $R^2 = 0.222$, $t_{obs} = 13.602$, $p < 0.000$. The regression was performed with StatPlus and the graph was created using Numbers.

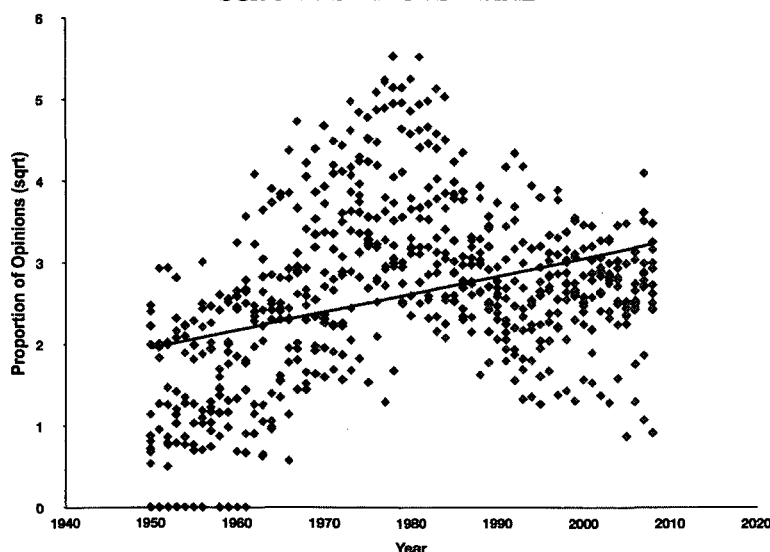
⁵⁷ Because it measures the actual number of reported opinions citing legal scholarship, the observed trend accounts for unreported opinions as well. If unreported data were added to Figure 1, the number of opinions citing legal scholarship over the last fifty-nine years would increase, if only a little. In other words, the observed trend should not change direction, nor should the slope coefficient lose statistical significance.

than that observed in the first half of the period studied.⁵⁸ Put differently, if one compares the first ten years (1950–59) with the most recent ten years (1999–2008), one finds over *six* times as many opinions citing legal scholarship in the more recent period.

Table 1 and Figure 1 rely on absolute numbers of reported opinions citing to law review articles. These data therefore defy the claim that there has been a decline in courts' absolute use of legal scholarship. Bereft of the empirical assertion that there has been an overall decline in judicial use of legal scholarship, some critics of legal scholarship's usefulness may seek to fall back to a narrower claim. They may concede that a greater absolute number of opinions cite to legal scholarship but that the reason for this increase is a concomitant increase in the number of reported opinions in recent years. In that case, they might adhere to the narrower argument that there has been a decline in the proportion of reported opinions citing legal scholarship.

To examine this second, narrower claim of decline in use of legal scholarship by the courts, we plotted the proportion of reported opinions citing legal scholarship against time (Figure 2).

FIGURE 2.
PROPORTION OF REPORTED OPINIONS CITING LEGAL
SCHOLARSHIP OVER TIME⁵⁹



⁵⁸ In a previous draft of the Article, we reported an upward trend in citations in the last twenty years. This observation appears to have been affected by the Westlaw search issue highlighted *supra* note 48. The current data indicate that the use of scholarship has been level over the last twenty years, though at the higher level noted.

⁵⁹ Figure 2 shows the proportion of reported circuit court opinions citing legal scholarship for each year starting in 1950. On the abscissa the year (Year) studied moves

Similar to Figure 1, Figure 2 suggests that there has been no decline in the proportion of reported opinions citing legal scholarship. In particular, it shows that in the past a relatively small proportion of reported circuit court opinions cited legal scholarship, and that over time there has been a marked increase in the proportion of reported circuit court opinions that cite legal scholarship. Like Figure 1, Figure 2 reveals an upward trend in the least squares trendline fitted to the data, which has a significant positive (upward trend) slope. Also like Figure 1, the proportion of opinions citing legal scholarship reached a high point in the late 1970s to early to mid-1980s. The proportion of opinions citing legal scholarship then trended downward for roughly seven to eight years coming to level around 1990 and since holding steady at a rate substantially higher than in the earlier years studied. If one were to compare the first ten years (1950–59) with the most recent ten years (1999–2008), one finds that the proportion of reported opinions citing legal scholarship in the recent period is over *two and a half* times that of the earlier period.

Whether considered separately or together, the data gathered and reported in this subpart suggest evidence against the claim that there has been an overall decline in the use of legal scholarship by federal circuit courts. As time has passed, federal circuit courts have on the whole written more opinions citing legal scholarship and cited to legal scholarship in a higher proportion of reported opinions.⁶⁰ Indeed, these results seem to lead in the direction of an altogether different claim: there has been an increase in the use of legal scholarship by courts over the last fifty-nine years.

We close this subpart by acknowledging that while the overall trend is upward, there is some trend variability: a high watermark for the citation to law reviews in the late 1970s to early to mid-1980s,⁶¹ and apparent points of inflection in the early to mid-1980s and around 1990. The reasons for these phenomena are currently un-

from left to right. The ordinate shows the proportion of reported opinions (Proportion of Opinions (sqrt)) citing at least one law review article. As in Figure 1, the time-citation relationship here is roughly linear (as suggested by a review of the residuals following regression), although perhaps not perfectly so (the residuals suggest the possibility of an inflection in the late 1970s and the early 1990s). A linear (i.e., ordinary least squares) trendline is imposed, the slope of which is positive and statistically significant. It has the following statistical characteristics: $R^2 = 0.121$, $t_{obs} = 9.439$, $p < 0.000$. The regression was performed with StatPlus and the graph was created using Numbers.

⁶⁰ One commenter to an earlier draft of this Article speculated that student notes may be cited more often now than in the past because they are more likely to address issues of concern to the judiciary than faculty scholarship. To evaluate this claim, we reviewed a random sample of cited articles. It turns out that the speculation is incorrect. Student notes are cited much less frequently in recent opinions than in opinions before 1980.

⁶¹ It is interesting that when Judge Edwards launched his critique of legal scholarship in 1992, *see* Edwards, *supra* note 2, the appellate courts' use of legal scholarship was beginning to level off after a temporary period of decline.

clear, but a visual inspection of Figures 1 and 2 suggest the interpretation that circuit variation might play a role, namely, that some of the increase observed in the late 1970s and early 1980s might be a function of the behavior toward legal scholarship of some "high-citing" circuits.⁶² It is also tempting to speculate that information technology might affect trends in judicial use of legal scholarship. In that connection, we note that LexisNexis and Westlaw became electronically available in the mid-1970s, and most readers will be familiar with the Internet boom and introduction of HeinOnline in the mid-1990s and 2000, respectively.⁶³ Also, computer word processors became more widely available in the 1980s and 1990s, replacing typewriters and facilitating the ability to cut and paste in documents.⁶⁴ This is all just speculation, of course, and in the next subpart, we turn our attention to developing some explanations for why courts use or do not use legal scholarship.

B. Why Do the Federal Circuit Courts of Appeals Use or Not Use Legal Scholarship?

Here we turn to the difficult question of what we may infer from the fact that courts cite legal scholarship more today than they have in

⁶² As we explained *supra* note 30, unreported opinions are not material to an assessment of the use of legal scholarship in the development of the law. For those who are interested nonetheless, we note that the number of unreported opinions has been relatively flat over the past twenty years, and thus there has not been a decline in the proportion of all opinions (including reported and unreported) citing to legal scholarship in that time period.

⁶³ As points of reference, Lexis went online in 1973 and Westlaw went online in 1975. See William G. Harrington, *A Brief History of Computer-Assisted Legal Research*, 77 LAW LIBR. J. 543, 553 (1985). HeinOnline launched in 2000, *History*, HEINONLINE <http://home.heinonline.org/about/history> (last visited July 18, 2011), and the Internet boom began in the mid- to late-1990s. LexisNexis and Westlaw may have permitted judges and lawyers to locate case law more easily, which they then inserted into opinions and briefs, respectively. Being able to easily find primary authority reduced the need to read (and cite to) law reviews to find the underlying black letter law. Furthermore, neither LexisNexis nor Westlaw included any legal scholarship until 1982; each service expanded their legal scholarship databases slowly thereafter. See Bernard J. Hibbitts, *Last Writes? Reassessing the Law Review in the Age of Cyberspace*, 71 N.Y.U. L. REV. 615, 657-58 (1996). In the 1990s, the Internet made it much easier to find law reviews.

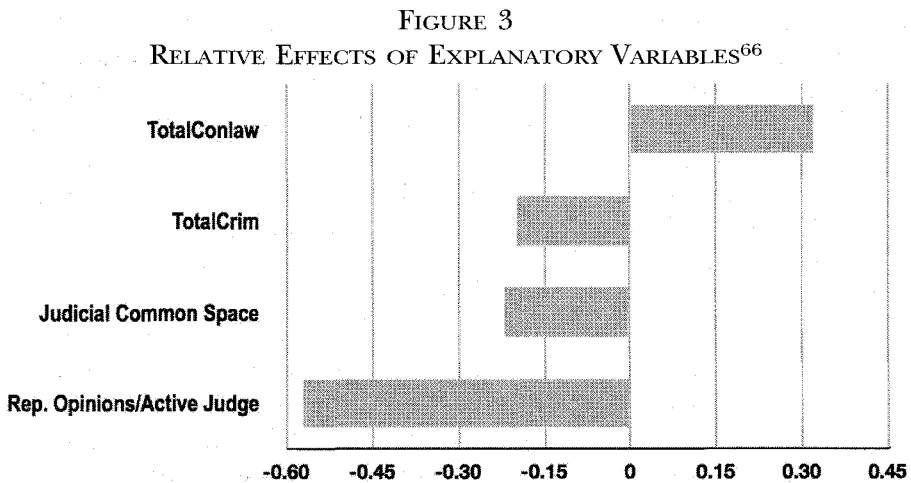
⁶⁴ There are many other possible explanations for the results. For example, the number of law clerks afforded to each appellate court judge has increased over time. Cf. I. SCOTT MESSINGER, FED. JUDICIAL CTR., *ORDER IN THE COURTS: A HISTORY OF THE FEDERAL COURT CLERK'S OFFICE* 58 (2002). Increasing the number of clerks may have altered who was responsible for preparing the initial draft of the opinion. The type of legal scholarship published by law reviews may have changed as well, moving away from more doctrinal scholarship. See McClintock, *supra* note 13, at 659 ("Judges and practitioners increasingly feel that there is a lack of legal scholarship that they can use when they face their daily case loads."). Citation practices by judges may have changed as well. See generally Casey R. Fronk, *The Cost of Judicial Citation: An Empirical Investigation of Citation Practices in the Federal Appellate Courts*, 2010 U. ILL. J.L. TECH. & POL.'Y 51 (finding an increase in overall citations of case law in opinions, but a decrease in string citations of case law over time).

the past. To provide a richer empirical account, we next more rigorously evaluate the data from the time period from 1990 to 2008. The analysis that follows blends empirical evidence and inference with intuition and, in some instances, outright hypothesizing as to what variables explain the observed heightened judicial use of legal scholarship. It has two parts, focusing first on developments affecting the judicial task and the availability and access to legal scholarship. The second part focuses on evidence suggesting that judicial identity may play a role in the use of legal scholarship.

The central empirical support underlying the following discussion comes from a multiple regression model: a statistical argument that allows researchers to explore the contribution of multiple variables (often called “explanatory” or “independent” variables) to an outcome (often called a “response” or “dependent” variable). Here, the outcome of interest is the proportion of opinions that cite to legal scholarship by federal circuit courts of appeals. The model identified a number of variables that might help explain judicial use of legal scholarship.⁶⁵ Figure 3 summarizes the variables that significantly impact whether judges use legal scholarship.

The values illustrated in Figure 3 have been standardized, a perspective that allows one to compare contributions of variables to one another. For example, according to the summary of the model, *TotalCrim* (the total number of criminal appeals in a circuit) contributes to judicial use of legal scholarship to a degree similar to *JCS-Circuit Courts* (a measure of the ideology of the circuit courts). In addition, some of the values reported in Figure 3 are negative, such as *TotalCrim*. A negative value suggests that the associated variable negatively contributes to judicial use of legal scholarship. For example, higher numbers of appeals predict a decrease in judicial use of legal scholarship.

⁶⁵ We also experimented with a binomial regression, where the dependent variable was the number of opinions citing to legal scholarship and the number of reported opinions was an exposure variable. The results were qualitatively similar to those from the simpler OLS regression. Specifically, the same variables were statistically significant and the coefficients all had the same sign. One other variable, *JCS-Supreme Court*, was significant ($p = 0.049$) in the negative binomial model.



1. Busier Judges and Specific Types of Cases

The model⁶⁷ suggests that the busier a court is (in terms of the work required of each judge) the less likely it is to cite legal scholarship. In fact, the strongest explanatory variable in terms of magnitude of effect—*Reported Opinions/Active Judge*—predicts that reported opinions citing legal scholarship decline as the number of reported opinions authored per active circuit judge increases.

The variable *TotalCrim* also predicts a decrease in judicial citation to legal scholarship, suggesting that as the number of opinions directed to criminal appeals increases, federal circuit courts use less legal scholarship. We hypothesize that this variable might also suggest that busy courts are less likely to cite legal scholarship. Our thinking is based on the common understanding that federal courts have been exposed to an increase in criminal cases and appeals from such

⁶⁶ Figure 3 reports standardized coefficients (β s) from a multiple regression model ($R^2 = 0.7326$) examining the contribution of various explanatory variables on the proportion of reported opinions citing legal scholarship from 1990 to 2008. *Rep. Opinions/Active Judge* measures the number of reported opinions authored per active circuit judge. *Judicial Common Space* refers to scores for the regional circuits and for the Supreme Court. See Lee Epstein et al., *The Judicial Common Space*, 23 J.L. ECON. & ORG. 303, 306–09 (2007); *infra* notes 71–72 and accompanying text. For the JCS scores used in this study, see Lee Epstein: Research, Nw. L., <http://epstein.law.northwestern.edu/research/JCS.html> (follow “here” hyperlinks) (last visited July 18, 2011). *TotalCrim* measures the total number of reported and unreported criminal appellate decisions for each data point. *TotalConlaw* measures the number of opinions involving a constitutional issue. All of the variables in Figure 3 are significant at $\alpha = 0.05$. See *infra* Appendix. Moreover, *TotalConlaw* is significant at $\alpha = 0.01$ and *Rep. Opinions/Active Judge* is significant at $\alpha = 0.001$. The brackets at the end of the variables represent the standard errors. A conventional report of three regression models can be found in the Appendix.

⁶⁷ The model, which includes circuit and year dummy variables, explains 73% of the variance in citation to legal scholarship by courts, suggesting that there likely are other variables that also explain courts’ use of legal scholarship.

cases,⁶⁸ and so part of the way in which one circuit may be busier than another is in bearing a disproportionate increase in criminal caseload. We emphasize that this is just hypothesizing. We have not excluded the possibility that hearing more criminal cases might decrease citation to legal scholarship for other reasons. For example, it may be that the issues presented are more routine or that the culture or details of criminal appellate practice are less receptive to the use of legal scholarship.⁶⁹

The interpretation that the busier a court is (in terms of the work required of each judge) the less likely it is to cite legal scholarship—besides being fairly intuitive—finds some support in the anecdotal literature. For example, Judge Ambro of the Court of Appeals for the Third Circuit has explained that he does not have time to read and synthesize law review articles—he is simply too busy deciding cases.⁷⁰

The variable *TotalConLaw* in Figure 3 predicts an increase in citation to legal scholarship by courts. The higher the number of opinions dealing with a constitutional law issue, the more a federal court of appeals uses legal scholarship. As there is ample legal scholarship directed to constitutional law issues, this result does not seem surprising. Furthermore, constitutional law issues are often perceived to be of extreme importance, and the courts may rely more upon legal scholarship in cases perceived to be important.

2. *Judicial Identity*

Judicial identity seems to play a role in citation to legal scholarship. The regression contains Judicial Common Space score variables which measure of the ideology of the circuit courts of appeals and the Supreme Court for each year.⁷¹ These scores map judicial ideology from -1 (most liberal) to +1 (most conservative). The circuit court ideology variable is based upon appointing president and senate com-

⁶⁸ See, e.g., Michael Heise, *Federal Criminal Appeals: A Brief Empirical Perspective*, 93 MARQ. L. REV. 825, 828 (2009) (noting the “sheer increase in federal criminal appeals over time”).

⁶⁹ One of this Article’s authors (David Schwartz) believes that these reasons likely do explain a large amount of the criminal appeal impact.

⁷⁰ Ambro, *supra* note 5, at 549 (noting that the increased judicial workload requires him to “decide most issues on the cases cited in the briefs or on the case that [his] own research has turned up”).

⁷¹ CROSS, *supra* note 25, at 19 (noting that JCS scores are the “best currently available measure for circuit court judicial ideology”).

position during confirmation of judges.⁷² It is populated for each year and each circuit.⁷³

As shown in Figure 3, citation to legal scholarship depends on ideology, at least as measured by the JCS scores. The regression provides evidence that the more conservative a circuit court is at a given time (as measured by the variable *Judicial Common Space*), the less likely it is that its reported opinions cite to legal scholarship. Conversely, the more liberal a circuit is, the more likely that its reported decisions cite to legal scholarship.⁷⁴ What this might mean is a topic for a different article; however, it is worth noting here that the ideology of the court is the average ideology of the individual judges. Thus, while a relatively rough measure, its predictive impact suggests that the ideology of the judges may play a role in the use of legal scholarship in reported decisions.⁷⁵

The distribution of citation by regional circuit judges constitutes additional empirical evidence consistent with the proposition that judicial identity impacts citation to legal scholarship. Figure 4 shows that only 14.2% of all judges are responsible for roughly 50% of citations.⁷⁶ This result suggests that there is something different about a relatively small cohort of judges who, for some reason,⁷⁷

⁷² See Epstein et al., *supra* note 66, at 310–14. Basically, JCS scores for appellate judges begin with NOMINATE scores, which scale issues for presidents, representatives, and senators for every term. They are adjusted with some measure for the home-state Senators of a nominated appellate court judge. The Supreme Court JCS scores are calculated along the same scale by a complex algorithm that includes voting patterns on issues before the Supreme Court. Some law professors have criticized the ideological coding of issues by political scientists. See, e.g., Carolyn Shapiro, *The Context of Ideology: Law, Politics, and Empirical Legal Scholarship*, 75 MO. L. REV. 79, 79 (2010) (arguing that coding ignores the role of law in judicial decision making and presumes that cases can be broken down into a simple liberal–conservative distinction).

⁷³ The Supreme Court ideology variable is a transformed Martin-Quinn score, which is another measure of ideology developed from votes by justices. See generally Andrew D. Martin & Kevin M. Quinn, *Dynamic Ideal Point Estimation via Markov Chain Monte Carlo for the U.S. Supreme Court, 1953–1999*, 10 POL. ANALYSIS 134, 145–52 (2002) (presenting a model for estimating judicial ideology and applying it to the Supreme Court Justices for the years 1953 through 1999).

⁷⁴ The Supreme Court's JCS score is not statistically significant in the OLS regression.

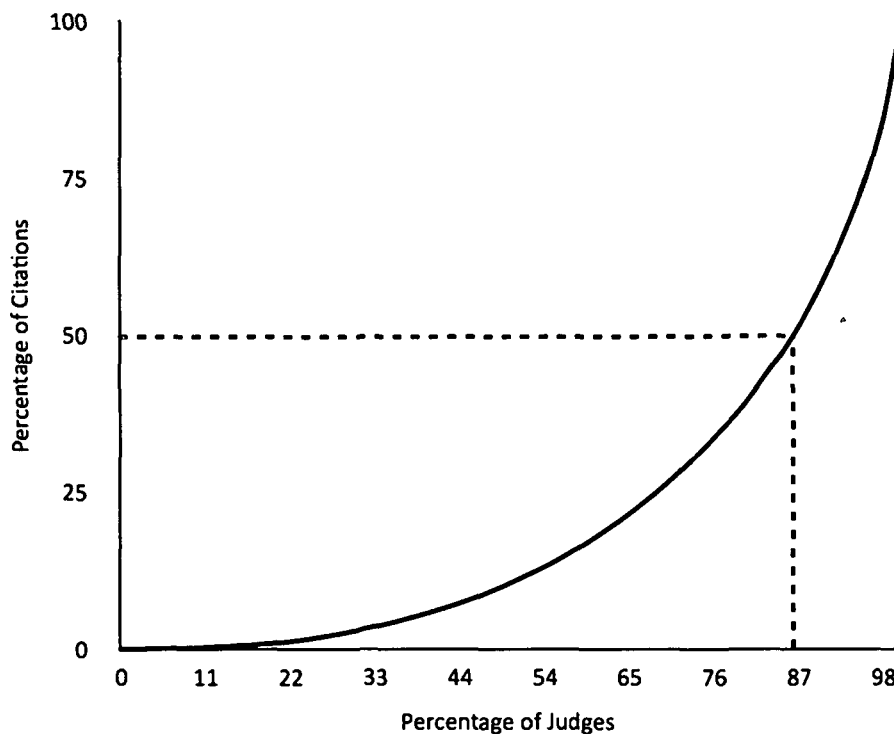
⁷⁵ It is tempting to speculate about the implications of this result. At this point, we offer several possible explanations. First, perhaps there is more liberal than conservative legal scholarship, which is plausible based upon the perceived leftward slant of the academy. If this is true, there is more supportive legal scholarship for liberal judges to cite. Second, perhaps conservative judges are more likely to be legal formalists, who are less likely to rely upon legal scholarship in their decision making.

⁷⁶ Sirico finds a skew in the citations by Supreme Court Justices, with Justice Souter accounting for over one-third of the citations. See Sirico, *supra* note 13, at 1013.

⁷⁷ At this point we have little firm empirical information on why this is so. This distribution does not account for time because it includes total citations from 1990 to 2008 instead of rate of citation per year. Some of the judges with the highest levels of citation have had long tenures as circuit judges (e.g., Judges Posner, Easterbrook, and Becker). Presumably, the longer someone has been a circuit judge the longer they have had to

cite legal scholarship substantially more frequently than their colleagues.⁷⁸

FIGURE 4
REGIONAL CIRCUIT CUMULATIVE DISTRIBUTION⁷⁹



At this point we have little firm empirical information on why some judges differ from others in terms of citation to scholarship.

publish reported opinions that use legal scholarship. By contrast, a circuit judge appointed twelve months ago will have had far fewer opportunities to write opinions that cite legal scholarship. It is not the case however, that long-tenured judges all have high levels of citation while more recently appointed judges all have less.

⁷⁸ For example, the median of all circuit judges ($n = 356$) in the dataset is thirteen reported opinions citing, while the top citers were an order of magnitude higher, with 528, 355, and 346 citations, respectively (counting all identified citations as in Figure 4, *see infra* note 79).

⁷⁹ Figure 4 shows the cumulative distribution of citations from 1990 to 2008. On the abscissa the cumulative percentage of judges ($n = 356$) moving from 0% on the left to 100% right. The ordinate shows the percentage of cumulative percentage of citations. The distribution is nonlinear, having a long tail encompassing a large cohort of circuit court judges. The hatched lines reveal the percentage of judges on each side of 50% of all citation to legal scholarship. The raw data point nearest 50% citations is 50.30%, which corresponds to 85.96% of circuit judges. The data reported here counts all full citations in opinions in the dataset (so one opinion may give rise to more than one counted citation; short citations not included) as opposed to all opinions citing at least one piece of legal scholarship (so one opinion may give rise to only a single counted citation—the technique used for all of the other analyses reported). The graph was created using Numbers.

Speculation is always possible. For example, some judges may simply be more intellectually curious and choose to spend precious time engaged with legal scholarship while other judges make time in their lives for other pursuits. Or perhaps the use of legal scholarship reflects a philosophy of judging, a hypothesis that finds some support in the observations that citation to legal scholarship depends on JCS score and that a relatively small subset of judges accounts for most of the citations. In any event, a detailed investigation into the impact of judicial identity on the use of legal scholarship is, we think, best addressed in future work.⁸⁰

C. Future Directions for Work

The work presented in this Article suggests three main avenues of future research that should prove fruitful in helping to understand how legal scholarship defines the relationship between the academy and the bench and the bar.⁸¹

1. *What Variables Explain Judicial Use of Legal Scholarship?*

While the work presented here suggests some explanations for why judges use or do not use legal scholarship, more work is called for in this area. First, the regression model presented here explains about three-quarters of the variation in courts' citation to scholarship, suggesting that there are other—and perhaps quite powerful—variables upon which judicial citation to legal scholarship depends.⁸² It could be that ease of finding and access to scholarship—perhaps brought about by the flourishing of Internet publication (SSRN, bepress, HeinOnline, LexisNexis, Westlaw, etc.), efficient web browsers, and a culture that rewards aggressive self-promotion by legal

⁸⁰ Judges within the cohort include Judges Posner, Frank Easterbrook, Edward Becker, Edmund Lynch, Alex Kozinski, and Guido Calabresi. We note that many of these judges were academics before joining the bench. It also appears that there has been an increase in appointments of former academics to the federal circuit courts of appeals in the last thirty years. See Tracey E. George, *Court Fixing*, 43 ARIZ. L. REV. 1, 44 fig.1 (2001). Interestingly, the top three citing judges (Posner, Easterbrook, and Becker) are also the top three circuit judges most cited by the Supreme Court. See Jeffrey A. Berger & Tracey E. George, *Judicial Entrepreneurs on the U.S. Courts of Appeals: A Citation Analysis of Judicial Influence* 15–17 tbl.3 (Vanderbilt Univ. Law Sch., Law & Econ. Working Paper No. 05-24), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=789544.

⁸¹ One of the most obvious avenues for future exploration is independent testing of the hypotheses and interpretations this Article makes; we think that developing a rich understanding of this important topic demands a science-oriented approach.

⁸² We ran three separate regression models, one with the main reported variables of interest, a second one that also included dummy variables for each circuit, and a final one that includes dummy variables for each circuit and year from 1990 through 2008. As noted *supra* note 67, with both the year and circuit dummy variables, the model accounts for about 73% of the variation in the use of legal scholarship ($R^2 = 0.7326$). Without these dummy variables, the model accounts for about 45% of the variation ($R^2 = 0.4517$). The full results for each model are provided in the Appendix.

scholars (e.g., blogging and other forms of networking and cross-communicating)—might play an important role in the judicial use of legal scholarship.⁸³ Furthermore, our empirical analysis is limited to the time period 1990–2008. Different factors may have been important in earlier periods, so empirical investigation of periods before 1990 is warranted.

We also provide evidence suggesting that judicial identity plays a role in judicial use of legal scholarship.⁸⁴ But here, too, our study leaves many more questions than it answers. Our model suggests that judicial ideology might play a role, but how ideology translates into a decision to cite or not cite law review articles is far from clear. In addition, we present evidence suggesting that some judges are very different from their colleagues in that they cite legal scholarship far more often.⁸⁵ But have judges always differed in this manner?⁸⁶ And what is special about the judges who use legal scholarship much more often than their colleagues? Are they law professors themselves or academically minded for some other reason? Is this related to ideology in some way or to some philosophy of judging?⁸⁷ Or does it simply reflect variation in the intellectual curiosity of judges—or at least variation in the means by which some judges satisfy their intellectual curiosity?

At a recent talk, Justice Antonin Scalia commented that the shelf life of a law review article is about five years.⁸⁸ Assuming that is so, and thus assuming that in many instances courts use relatively recent legal scholarship, has something changed about law review articles that encourages judges to use them more? One possible explanation here might be the online availability of images of published articles via

⁸³ See, e.g., F. Allan Hanson, *From Key Numbers to Keywords: How Automation Has Transformed the Law*, 94 LAW LIBR. J. 563, 598–600 (2002) (arguing that computer-aided legal research has fundamentally transformed legal research); cf. Lawrence B. Solum, *Blogging and the Transformation of Legal Scholarship*, 84 WASH. U. L. REV. 1071, 1087 (2006) (noting that blogs may be viewed as shorter forms of legal scholarship). But cf. Robert C. Berring, *Legal Information and the Search for Cognitive Authority*, 88 CALIF. L. REV. 1673, 1696 (2000) (arguing that Westlaw and Lexis did very little to change the practice of law).

⁸⁴ See *supra* Part II.B.2.

⁸⁵ See *supra* Part II.B.2.

⁸⁶ For example, were judges a generation ago more homogenous in their use of legal scholarship?

⁸⁷ In a study of Supreme Court citations, one researcher noted that the two justices who cited secondary sources most frequently, Brennan and Marshall, were on the liberal wing of the Court, while Rehnquist and White, two of the most conservative justices on the Court at that time, had among the lowest citation counts. See Wes Daniels, “Far Beyond the Law Reports”: *Secondary Source Citations in United States Supreme Court Opinions October Terms 1900, 1940, and 1978*, 76 LAW LIBR. J. 1, 10 tbl.6 (1983). But cf. Sirico & Margulies, *supra* note 13, at 134–35 (discounting the possibility that citation rate changes were due to changes in Justices on the Court).

⁸⁸ Antonin Scalia, *The Legacy of Judge Howard T. Markey*, 8 J. MARSHALL REV. INTELL. PROP. L. (SPECIAL ISSUE) 1, 8 (2009).

HeinOnline. Another development that might encourage judicial use of legal scholarship is the movement (or at least claim of preference) by law reviews toward accepting and publishing shorter articles. A possible effect of shorter articles is that scholarship may appear less muddy (e.g., authors have to be more explicit about what their contribution is⁸⁹), and judges can consume it at lower cost than in the past. Other developments in the form or styling of law review articles, like the increased use of abstracts and other structural devices, might make scholarship more accessible to judges.

Finally, this study has focused on citations in the judges' output—legal opinions—not the mechanism by which citations of legal scholarship are introduced into the opinions. Numerous questions about the mechanism remain. For example, to what extent are citations provided by the law clerks, the judges themselves, and the parties or their counsel via the appellate briefs?

2. *What Kind of Scholarship Do Judges Use and How Do They Use It?*⁹⁰

Much of the literature criticizing legal scholarship has been directed at “Law and” types of scholarship.⁹¹ But “Law and” scholarship can be defended on the ground that it in fact aims to be more helpful to judges (and others like legislators) than conventional forms of legal scholarship. What kinds of legal scholarship do judges use? Does the increase in use include a contribution from quality “Law and” scholarship, or doctrinal work, purely normative rhetorical argument, or other work seeking to interpret precedent or statutes by conventional means? Analyzing the content of cited law review articles seems both appropriate and possible.⁹²

How do judges use legal scholarship? The results we present offer evidence that judges use it more frequently, but our means of mea-

⁸⁹ Cf. Posner, *supra* note 2, at 1320–21 (criticizing legal scholarship for often not clearly explaining what the author thinks an article adds to the established literature).

⁹⁰ This category overlaps at least somewhat with the category *What Variables Explain Judicial Use of Legal Scholarship?*, *supra* Part II.C.1, in particular with the discussion about whether there are qualities or characteristics of the form or presentation of legal scholarship that encourage judges to use it.

⁹¹ See, e.g., Edwards, *supra* note 2, at 34–35.

⁹² Others have attempted to categorize the judicially cited scholarship. See Alden et al., *supra* note 13, at app.E (classifying scholarship cited in 1960, 1980, and 2000 as practical, theoretical, or mixed). The Association of American of Law Schools' conference for new law teachers offers a description of legal scholarship that places legal scholarship into nine distinct categories. See Martha Minow, *Archetypal Legal Scholarship—A Field Guide* (June 2006) (unpublished manuscript) (on file with author). To the extent that Minow's description could be turned into a coding rubric, it might provide a fairly well-accepted means of categorizing the articles cited in judicial opinions.

surement is in reality quite crude.⁹³ Moreover, citation to legal scholarship, while a form of use, is not fully descriptive of the substance of the use. Do judges use scholarship in a robust way (e.g., by analyzing and considering the arguments made or, in the case of empirical work, critically examining the evidence and interpretations that flow from the evidence, ultimately articulating how the analysis impacts the decisional process)? Or do “[j]udges use [law review articles] like drunks use lampposts[:] more for support than for illumination”?⁹⁴ This question, too, seems approachable through an analysis of the content of opinions⁹⁵ by, for example, scoring article content against the judgment or scoring the signal used for the citation.

3. *How Relevant Is Legal Scholarship, Really, to the Bench and Bar?*

This category of future work seeks to address more of a metaquestion: is legal scholarship an institution of the legal system, or is it merely an institution of the legal academy divorced or attenuated from the legal system in some substantial way? Along these lines, the results presented here show a skewed distribution of citation to legal scholarship. The median amount of citations per judge—probably the most accurate measure of central tendency given the context and distribution—some might consider quite low. But is it?

How often should judges cite legal scholarship? Should every circuit level opinion reveal that judges considered legal scholarship in the relevant area? Does legal scholarship have any role to play in the day-to-day functioning of the legal system? These and other questions are of tremendous interest, but will probably not be satisfactorily answered until much additional work has been performed.

CONCLUSION

This Article reports a surprising and unexpected result. Over the last fifty-nine years, there has been an increase in the frequency of citation to legal scholarship in the reported opinions of the circuit courts of appeals. The Article also offers empirical findings that suggest some possible explanations for the observation, and which, more generally, might help to explain why courts cite or do not cite to legal scholarship. From these results, conclusions about the meaning of legal scholarship to judges may be difficult to reach, but this Article suggests a number of avenues for potentially fruitful future research.

⁹³ As noted earlier, judges almost certainly use legal scholarship more often than they cite it; determining when they use it without citation seems a daunting project.

⁹⁴ See Liptak, *supra* note 5 (quoting Judge Robert D. Sack).

⁹⁵ See, e.g., Gary Edmond & David Mercer, *Conjectures and Exhumations: Citations of History, Philosophy and Sociology of Science in US Federal Courts*, 14 LAW & LITERATURE 309 (2002) (examining the citation of scientific articles against the backdrop of *Daubert* challenges).

APPENDIX
 VARIABLES EXPLAINING CITATION TO LEGAL SCHOLARSHIP
 FROM 1990–2008⁹⁶

Variable	Model 1	Model 2	Model 3
No. Appeals	-5.52E-06 (2.04e-6)**	7.22E-07 (2.36e-6)	1.57E-06 (2.58e-6)
Opinions/Appeal	-0.1448432 (0.0309878)***	-0.0094185 (0.0319128)	-0.0174254 (0.0332398)
Reported Opinions/Active Judge	-0.0020908 (0.0002531)***	-0.0015677 (0.0003629)***	-0.0018351 (.0003853)***
JCS-Circuit Courts	-0.0682374 (0.0144017)***	-0.0534328 (0.024733)**	-0.0688984 (.0292029)*
JCS-Supreme Court	0.2668500 (0.0765675)	0.0273272 (0.0622997)	(omitted)
No. Law Revs	-0.0001006 (0.0000935)	-0.000034 (0.000082)	-0.0000574 (0.0000579)
Total Crim	-0.0000256 (0.0000125)*	-0.0000279 (0.0000112)**	-0.00003 (.0000119)*
TotalConlaw	0.0000540 (0.0001517)	0.0004446 (0.0002334)†	0.0006223 (0.0002322)**
Circuit indicator		x	x
Year indicator			x
Constant	0.5047385 (0.0599083)	0.3659536 (0.0506173)	0.3943835 (0.0353228)
R ²	0.4521	0.7029	0.7326

⁹⁶ The table in this Appendix reports three separate multiple regression models examining the contribution of the explanatory variables to the proportion of reported opinions citing legal scholarship from 1990 to 2008. As described earlier, *see supra* note 66, *No. Appeals* measures the total number of appeals filed for the circuit; *Opinions/Appeal* measures the number of opinions authored per appeal filed; *Rep. Opinions/Active Judge* measures the number of reported opinions authored per active circuit judge; *JCS-Circuit Courts* and *JCS-Supreme Court* refer to JCS scores for the regional circuits and for the Supreme Court. For more on the JCS metric, see generally sources cited *supra* note 66. *No. LawRevs* measures the number of law reviews in existence for each of the underlying data points. *TotalCrim* measures the total number of reported and unreported criminal appellate decisions for each data point. The Westlaw query “(TI(“United States” “U.S.”) & (sentenc! guilt! convict! pled))” was used to gather information for the *TotalCrim* variable. *TotalConlaw* measures the number of opinions involving a constitutional issue, as measured using West’s Headnotes (Topical Headnote 92) for each data point. Some variables (including the dependent variable *Reported Opinions Citing*) were transformed to improve normality. In addition, models 2 and 3 include dummy variables for either year (from 1990 until 1998) or circuit court. Superscripts report the relevant level of statistical significance: variables which do not significantly predict the response variables (no superscript), while others are predictors at a marginal level of significance (†), $p \leq 0.1$; at the conventional definition of significance (*), $p \leq 0.05$; at higher level of significance (**), $p \leq 0.01$; and at an even higher level of significance (***), $p \leq 0.001$. This table includes data from all regional federal circuits, but not data from the Court of Appeals for the Federal Circuit because we were unable to obtain data for some of the explanatory variables for that circuit. The models were created using Stata.