

# Maintaining Scholarly Integrity in the Age of Bibliometrics

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## Introduction

Law professors seek to influence the course of the law, legal practice, and legal theory through their scholarship. Law schools devote considerable resources to support this scholarly mission and make scholarly impact an important consideration in tenure, promotion, and hiring decisions.<sup>1</sup> Law school observers, whether potential students, alumni, employers, or external funders, likewise take scholarly prominence into account when evaluating the performance and relative standing of law schools.<sup>2</sup>

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1. See, e.g., Adam Chilton et al., *Rethinking Law School Tenure Standards* 10 (Sept. 17, 2019), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3200005](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3200005) (“departments will base their tenure decisions in large part on whether they believe the candidates will be productive scholars in the future, and they will use a candidate’s past scholarly productivity and impact as the most probative evidence on this point”). By some estimates, law schools pay faculty more than \$50,000 per article published. Dan Subotnik & Laura Ross, *Scholarly Incentives, Scholarship, Article Selection Bias, and Investment Strategies for Today’s Law Schools*, 30 *TOURO L. REV.* 615, 616 n.8 (2014).
2. See, e.g., Olufunmilayo B. Arewa, Andrew P. Morriss & William D. Henderson, *Enduring Hierarchies in American Legal Education*, 89 *IND. L.J.* 941, 943 (2014) (“The legal academy places considerable—and, we believe, overly great—weight on institutional prestige in everything from article placement decisions . . . to hiring, promotion, and tenure. . . . The law school hierarchy maps onto a parallel hierarchy of employment opportunities for law school graduates.”); see also Elaine M. Lasda & Richard P. Hulser, *Staying Relevant With Measures of Scholarly Impact*, *ONLINE SEARCHER*, Jan./Feb. 2019 at 10, 11 (“Scholarly metrics are traditionally considered an evaluative tool to determine if an academic researcher should be granted promotion and tenure within a college or university setting. Increasingly, however, they are used to measure and evaluate the impact, performance, or reach of not only researchers and journals, but also research institutions, groups of scholars in a given research specialization, and geographical units—the list is ever-expanding.”); Iman Tahamtan, Askar Safipour Afshar & Khadijeh Ahamdzadeh, *Factors Affecting Number of Citations: A Comprehensive Review of the Literature*, 107 *SCIENTOMETRICS* 1195, 1196 (2016) (“The number of citations is the most frequently used indicator in evaluating the quality of papers, researchers, research centers and universities.”).

Despite the importance of the scholarly mission to the careers of individual scholars and the standing of law schools, assessing scholarly impact presents significant difficulties. Historically, law schools have relied on expert judgments about scholarly impact and scholarly potential when making tenure, promotion and hiring decisions, leaving it to each expert to determine whether a scholar's work has achieved prominence or had an important impact on an area of law.<sup>3</sup> The most prominent ranking of law schools assigns each faculty a quality score based on average ratings by a select group of faculty, judges, and lawyers on a five-point scale ranging from marginal (1) to outstanding (5).<sup>4</sup> Subjective approaches such as these suffer from a variety of problems, including the possibility of gamesmanship or insincerity, idiosyncratic judgments about quality or impact (i.e., lack of a common metric driving the judgments), different levels of stringency among the evaluators, status quo effects, memory biases, and intergroup biases.<sup>5</sup>

Because of these problems, many disciplines long ago incorporated quantitative measures into their assessments of individual scholars and academic programs for personnel and funding decisions.<sup>6</sup> These bibliometrics

3. See, e.g., Eric Goldman, *Writing Tenure Letters: My Top Ten Suggestions* 19 GREEN BAG 2D 357, 357 (2016) ("Letters from peers evaluating the work of a tenure candidate are an important—and, to the tenure candidate, scary—part of most tenure approval processes."); ASS'N AM. LAW SCH., *Report of the AALS Special Committee on Tenure and the Tenuring Process*, 42 J. LEG. EDUC. 477, 485 (1992) ("Procedures used to assess scholarship of untenured faculty. Within the school: Nearly two-thirds indicated that the school assigns responsibility for scholarship assessment within the law school to more than one category (e.g., faculty colleague with special knowledge, tenure committee, all tenured faculty). Outside evaluations: Nearly 70 percent use outside evaluations on a regular basis and another 10 percent in 'exceptional cases,' but not regularly.").
4. Robert Morse, Kenneth Hines & Elizabeth Martin, *Methodology: 2020 Best Law Schools Rankings*, U.S. NEWS & WORLD REP. (Mar. 28, 2019), <https://www.usnews.com/education/best-graduate-schools/articles/law-schools-methodology> [<https://perma.cc/F66W-67X4>]. A few studies have also relied on expert judgments to rank law journals. See Gregory Scott Crespi, *Ranking International and Comparative Law Journals: A Survey of Expert Opinion*, 31 INT'L LAWYER 869 (1997); Gregory Scott Crespi, *Ranking the Environmental Law, Natural Resources Law, and Land Use Planning Journals: A Survey of Expert Opinion*, 23 WM. & MARY ENVTL. L. & POL'Y REV. 273 (1998).
5. See, e.g., Gary Holden, Gary Rosenberg & Kathleen Barker, *Bibliometrics: A Potential Decision Making Aid in Hiring, Reappointment, Tenure and Promotion Decisions*, 41 SOC. WORK IN HEALTH CARE 67, 69 (2005) ("The level of subjectivity observed in these assessments can be distressing. These are the most important decisions in academics' lives. They should be as free from bias as possible.").
6. See, e.g., Janet Dagenais Brown, *Citation Searching for Tenure and Promotion: An Overview of Issues and Tools*, 42 REFERENCE SERVS. REV. 70, 70 (2013) ("Assisting faculty in the compilation of supporting documentation for tenure and promotion (t & p) dossiers is an annual ritual for many academic librarians. Evidence of research productivity, and the impact of that research on the faculty member's field, is a critical component of the dossier."); Alex Csizar, *The Catalogue That Made Metrics, and Changed Science*, 551 NATURE 163, 165 (2017) ("The journal impact factor made its public debut in 1972, soon after the US Congress called on the National Science Foundation to produce a better account of the benefits wrought by public funding of science. There is no doubt that the citation index changed practices of scientific publishing, just as the rise of counting papers had followed the introduction of the catalogue before.").

assess scholarly impact by counting publications and the number of citations to those publications.<sup>7</sup> Depending on the bibliometric used, various adjustments are made to take account of the standing of the publication outlet or the scholar's level of productivity and influence over time.<sup>8</sup>

For over fifty years, efforts have been made to incorporate bibliometrics into the assessment of legal scholarship. In 1976, Maru published what appears to be the first bibliometric analysis of legal scholarship, examining the frequency of citation to an issue published in 1972 from each of 278 different legal journals to rank these journals by the number of citations per page of text.<sup>9</sup> In 1983, Ellman compared faculty productivity across law schools by counting the number of pages published in top law reviews.<sup>10</sup> In 1985, Shapiro identified the fifty most-cited articles published since 1947 from 180 law journals, marking the first point at which individual legal scholars' works were quantitatively compared using a citation study.<sup>11</sup> Many other citation studies followed, some focusing on citations by other legal scholars and some examining judicial citations to legal scholarship.<sup>12</sup>

In 1997, Professor Brian Leiter introduced his widely watched Law School Rankings.<sup>13</sup> Among a variety of approaches to assessing faculty quality, Leiter eventually included a ranking of law schools by scholarly impact as measured by the mean and median number of citations to works by a law school's tenured faculty within Westlaw's journals and law reviews (JLR) database.<sup>14</sup> Beginning in 2012, Sisk and colleagues used this same methodology to produce periodic

7. David Moher et al., *Assessing Scientists for Hiring, Promotion, and Tenure*, 16 PLOS BIOLOGY 1, 1-2 (2018) ("Many assessment efforts assess primarily what is easily determined, such as the number and amount of funded grants and the number and citations of published papers.").
8. For instance, the popular Hirsch, or *h*, index reports an author's *h* number of publications with at least *h* citations each. See J.E. Hirsch, *An Index to Quantify an Individual's Scientific Research Output*, 102 PROC. NAT'L ACAD. SCI. 16569, 16569 (2005).
9. Olavi Maru, *Measuring the Impact of Legal Periodicals*, 1 AM. B. FOUND. RES. J. 227 (1976).
10. Ira Mark Ellman, *A Comparison of Law Faculty Production in Leading Law Reviews*, 33 J. LEGAL EDUC. 681 (1983).
11. Fred R. Shapiro, *The Most-Cited Law Review Articles*, 73 CAL. L. REV. 1540 (1985).
12. See, e.g., Theodore Eisenberg & Martin T. Wells, *Ranking and Explaining the Scholarly Impact of Law Schools*, 27 J. LEG. STUD. 373 (1998); 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 (1996); 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 (1991).
13. See *Brian Leiter's Educational Quality Ranking of U.S. Law Schools, 1999-2000* (Nov. 1999), [http://www.leiterrankings.com/faculty/1999faculty\\_reputation.shtml](http://www.leiterrankings.com/faculty/1999faculty_reputation.shtml) [<https://perma.cc/YH59-U8Y9>].
14. See *Top 35 Law Faculties Based on Scholarly Impact*, BRIAN LEITER'S LAW SCHOOL RANKINGS (Sept. 1, 2007), [http://www.leiterrankings.com/faculty/2007faculty\\_impact.shtml](http://www.leiterrankings.com/faculty/2007faculty_impact.shtml) [[perma.cc/MR9L-8G9H](https://perma.cc/MR9L-8G9H)]. Professor Leiter initially included untenured faculty in the citation study but included only tenured faculty in subsequent studies. See *id.*

rankings of law schools by scholarly impact as measured by mean and median citations within Westlaw's JLR database.<sup>15</sup>

Recently, the most popular publication of law school rankings announced that it was adding a ranking of schools by scholarly productivity and impact "using citations, publications and other bibliometric measures."<sup>16</sup> Although it was initially envisioned as a stand-alone ranking, the possibility remains that these bibliometric scores will eventually be combined with data from the qualitative survey on faculty quality as part of the overall ranking of law schools. After a half-century incubation, it appears the age of bibliometrics has arrived, whether legal scholars like it or not.<sup>17</sup>

Quantitative approaches to scholarly impact overcome many of the problems of qualitative approaches, but bibliometrics suffer from their own problems.<sup>18</sup> Two broad problems in particular plague bibliometric studies: (1)

15. See Gregory Sisk, Valerie Aggerbeck, Debby Hackerson & Mary Wells, *Scholarly Impact of Law School Faculties in 2012: Applying Leiter Scores to Rank the Top Third*, 9 ST. THOMAS L. REV. 838 (2012); Gregory Sisk, Valerie Aggerbeck, Nick Farris, Megan McNevin & Maria Pitner, *Scholarly Impact of Law School Faculties In 2015: Updating the Leiter Score Ranking for the Top Third*, 12 ST. THOMAS L. REV. 100 (2015); Gregory Sisk, Nicole Catlin, Katherine Veenis & Nicole Zeman, *Scholarly Impact of Law School Faculties in 2018: Updating the Leiter Score Ranking for the Top Third*, 15 U. ST. THOMAS L. REV. 95 (2018) [hereinafter Sisk et al. (2018)].
16. Robert Morse, *U.S. News Considers Evaluating Law School Scholarly Impact*, U.S. NEWS & WORLD REP. (Feb. 13, 2019), <https://www.usnews.com/education/blogs/college-rankings-blog/articles/2019-02-13/us-news-considers-evaluating-law-school-scholarly-impact> [perma.cc/4W5L-DNUK]. See also Robert Morse, *U.S. News Responds to the Law School Community*, U.S. NEWS & WORLD REP. (May 2, 2019), <https://www.usnews.com/education/blogs/college-rankings-blog/articles/2019-05-02/us-news-responds-to-the-law-school-community> [perma.cc/9QAS-V42P]. As discussed in these sources, *U.S. News & World Report* plans to use Hein's law journal database for its citation study, but the specific methodology to be used remains to be determined.
17. And many do not. See, e.g., Jeffrey L. Harrison & Amy R. Mashburn, *Citations, Justifications, and the Troubled State of Legal Scholarship: An Empirical Study*, 3 TEX. A&M L. REV. 45, 84 (2015) ("This study shows that when it comes to the use of (or attribution of meaning to) citations, law professors have been co-opted by a system that is not only based on the mostly-faulty attribution of substantive meaning to citations, but also ensures that most scholars will not succeed in the numbers game."); Lawprofblawg & Darren Bush, *Law Reviews, Citation Counts, and Twitter (Oh My!): Behind the Curtains of the Law Professor's Search for Meaning*, 50 LOYOLA UNIV. CHIC. L.J. 327, 364 (2018) ("Rather than focus on ideas, we have become more focused on the external measurement of the idea's worth by today's flight-of-measurement fancy or by historical measurement techniques. . . . Ours is an appeal to cast aside the quest for external validation, and instead focus on the ultimate goal of academia: understanding and improving society."); Scott Jaschik, *Do Law Schools Need a Second Ranking From 'U.S. News'?*, INSIDE HIGHER EDUC. (Feb. 18, 2019), <https://www.insidehighered.com/admissions/article/2019/02/18/us-news-plans-new-ranking-law-schools> [perma.cc/3ST3-CH7K] ("We know that law schools will do whatever they can to improve their ranking,' [Professor Brian Tamanaha] said via email. 'This new ranking will have the same consequence, prompting law schools to maximize this specific set of narrow metrics.'").
18. For an exhaustive listing of criticisms of citation studies, see Alan Reinstein, James R. Hasselback, Mark E. Riley & David H. Sinason, *Pitfalls of Using Citation Indices for Making Academic Accounting Promotion, Tenure, Teaching Load, and Merit Pay Decisions*, 26 ISSUES IN ACCT. EDUC. 99, 101-11 (2011).

the representation problem: unless the database utilized in a citation study captures all relevant scholarship or is unbiased in the sources sampled, the results of the study will not be representative of true scholarly impact; and (2) the manipulation problem: once the bibliometric methodology is known, those affected by the results of the bibliometric study can take steps to manipulate those results.<sup>19</sup>

Both problems pose serious risks for the integrity of future bibliometric studies of legal scholarship. Currently no database exists that captures the population of legal scholarship or an unbiased sample of all legal scholarship, creating conditions for the representation problem to appear. Furthermore, the databases currently used, and likely to be used in future bibliometric studies, overweight certain areas of the law, exacerbating the representation problem. With respect to the manipulation risk, if the behavior of scholars and institutions from other disciplines is any guide, legal scholars and their institutions will likely take steps to inflate the apparent impact of their scholarship in bibliometric studies, most likely through increased self-citations and use of citation cartels. Fortunately, workable solutions exist for both problems.

The representation problem can be addressed first by creating citation counts for specialty areas within the law based on fair representations of journals that regularly publish work in these areas (e.g., tax, business law, jurisprudence, law and economics, history). In addition, norms should be established for high, medium, and low frequencies of citation within particular subdisciplines to ensure proper comparisons in impact analyses. Similar norms may be established for demographic subgroups, to address concerns about possible underrepresentation in citation studies.<sup>20</sup> These additions will

19. There is a third pervasive problem that we do not directly address: the “what does it all mean” problem. Many question the validity of citation counts as measures of impact because a citation can mean so many different things or be the result of non-quality considerations. *See, e.g.,* J.M. Balkin & Sanford Levinson, *How to Win Cites and Influence People*, 71 CHI.-KENT L. REV. 843, 846 (1996) (“[C]itation counts are worrisome not because they are trivial and divert our attention from the real issues of merit. Rather, they are worrisome precisely because they may be quite important—because fascination with citation counts suggests that our very ideas of merit may have been infected with and even constituted by relations of social power.” (footnote omitted)); Harrison & Mashburn, *supra* note 17, at 80 (“high citation counts do not mean the article has any demonstrable value”); Shapiro, *supra* note 11, at 1543 (“Citation counts do, of course, have limitations. Some problems stem from ambiguous motivations of scholars in choosing to include particular references. Citations may be made for many reasons.”). We share this concern, but we see citation studies as a useful supplement to imperfect qualitative assessments of scholarly impact. Our goal is to make bibliometrics more meaningful measures of scholarly impact.
20. Some evidence suggests that women and minorities fare well in citation studies, but vigilance and further monitoring for disparities would be wise to ensure that the use of citation studies does not work to their disadvantage. *See* Christopher A. Cotropia & Lee Petherbridge, *Gender Disparity in Law Review Citation Rates*, 59 WM. & MARY L. REV. 771, 809 (2018) (“In contrast to other fields, we observe that articles authored by women received significantly more citations than articles authored by men. Although female authors are more likely to coauthor than male authors, this factor alone does not fully explain the citation disparity.”

treat individual scholars more fairly, but to ensure fair treatment of schools with different mixes of scholarly interests, the databases chosen for the citation studies should be supplemented with searches from specialty journals omitted from the primary databases. Otherwise, schools will be penalized for hiring and promoting scholars working outside the mainstream.

The manipulation problem can be mitigated through three mechanisms. First, legal journals should demand that authors disclose the number of citations to the author's own work and to work by colleagues from the author's institution (i.e., disclose "self-citations" and "colleague citations," as we have done in our initial author note). This information should be required on submission and after editing to ensure that manipulation does not occur during the editing stage. Second, all legal journals should move to a system of blind submissions in which the identity and institutional affiliations of authors cannot be easily determined. Blind submissions would reduce the incentive of journal editors to select submissions for non-quality reasons or to use author prominence as a proxy for quality, and would incentivize authors to produce higher-quality works. Third, the faculty lists used to assemble citation counts for each school should be disclosed. Transparency will foster replicability and, most importantly, deter schools from strategically including or excluding faculty from the study to alter their citation counts.<sup>21</sup>

In the remainder of the essay, we motivate our concerns about bibliometric studies, and we discuss in more detail how these concerns can be effectively addressed. Quantitative studies of scholarly impact, if designed to avoid perverse effects and conducted in ways that produce fair and accurate results, can be a valuable addition to traditional qualitative approaches to scholarly impact. Indeed, many legal scholars who write excellent scholarship but reside outside the top-ranked law schools should welcome impact studies that separate scholarly impact from institutional prominence. And those scholars residing in top-ranked law schools should have nothing to fear from fair and accurate bibliometric studies if they have earned their positions through the production of impactful scholarship.

(footnote omitted)); Deborah Jones Merritt, *Scholarly Influence in a Diverse Legal Academy: Race, Sex, and Citation Counts*, 29 J. LEG. STUD. 345, 363 (2000) ("the analyses in this paper suggest an impressive level of scholarly success for the white women, women of color, and men of color who joined law faculties during the late 1980s"); see also Freda B. Lynn, Mary C. Noonan & Michael Sauder, *A Rare Case of Gender Parity in Academia*, 98 SOC. FORCES 518, 518-19 (2019) ("bibliometric studies on citations *per publication* suggest that this major reward is not marked by female disadvantage" (footnote omitted)). To address the concern that citation studies favor senior scholars, age norms could be established, or one could "divide total citations either by age or by years since receiving the J.D." Gary M. Lucas, Jr., *Measuring Scholarly Impact: A Guide for Law School Administrators and Legal Scholars*, 165 U. PA. L. REV. ONLINE 165, 169 (2017).

21. The present leading source for bibliometric-based scholarly impact—Professor Sisk's studies that continued Professor Leiter's approach to scholarly impact—does not disclose the faculty lists used for each school or the total number of faculty included for each school (i.e., the denominator for the computed average citation rates is not disclosed) in its published ranking. See, e.g., Sisk et al. (2018), *supra* note 15.

### I. Fair Representation

Legal scholarship covers a wide range of topics and subject matter domains, but some areas receive more attention than others from both scholars and the editors of legal journals. General law reviews predominate in the databases primarily used for legal citation studies—Westlaw’s Journals and Law Review database and Hein’s Law Journal Library<sup>22</sup>—and scholarship addressing topics of public law, especially constitutional law, predominates in general law review publications.<sup>23</sup> Not coincidentally, public law articles tend to be the most highly cited articles within citation studies.<sup>24</sup>

This overrepresentation of public law scholarship in citation databases produces unrepresentative measures of scholarly impact for many subdisciplines within the law. For instance, interdisciplinary legal scholars, who populate much more of the legal academy now than thirty years ago,<sup>25</sup> will be disadvantaged in citation studies using the Hein and Westlaw databases that are usually used in legal citation studies because both omit important interdisciplinary journals in which these scholars more often publish (see APPENDIX).<sup>26</sup> Of the two databases, Hein does contain more interdisciplinary

22. Clarivate’s Journal Citation Reports (JCR) contains a law category that covers 150 journals, most of which are also general law reviews. Few studies of American legal scholarship have used the JCR Law database as their source, probably due to the limited coverage. Currently, Westlaw’s JLR database covers more than 1000 journals, and Hein’s Law Journal Library covers more than 2800 journals.
23. See Arewa et al., *supra* note 2, at 1010 (“Our preliminary results from our subject-matter trends study show that constitutional law is more heavily represented in ‘top’ journals (however defined) than commercial law, bankruptcy, tax, torts, or property (among others).” (footnote omitted)); Leah M. Christensen & Julie A. Oseid, *Navigating the Law Review Article Selection Process: An Empirical Study of Those With All the Power—Student Editors*, 59 S.C.L. REV. 175, 196 (2007) (reporting results of survey of editors; finding slight preference for constitutional law and finding that tax, civil procedure, admiralty, and “pragmatic” topics such as professional responsibility and legal pedagogy are less likely to be published).
24. Balkin and Levinson note, for instance, that public law articles dominated Shapiro’s original study of the most-cited articles of all time. See Balkin & Levinson, *supra* note 19 at 854; see also Lucas, *supra* note 20, at 168 (“the top scholars in constitutional law and law and economics are cited much more often than the top scholars in tax and family law” (footnote omitted)).
25. See Lynn M. LoPucki, *Disciplining Legal Scholarship*, 90 TUL. L. REV. 1, 4 (2015) (“Large numbers of prospective legal academics are getting Ph.D.s—in economics and in other potentially colonizing disciplines. In the period from 2011 through 2015, 48% of entry-level, tenure-track hires at top-26 law schools were Ph.D.s. In 2014 and 2015, that rate was 67%.” (footnotes omitted)); Justin McCrary, Joy Milligan & James Phillips, *The Ph.D. Rises in American Law Schools, 1960-2011: What Does It Mean for Legal Education?*, 65 J. LEG. EDUC. 543, 545-46 (2016) (“We find that the proportion of Ph.D.s has indeed climbed, at least among the highly-ranked schools that make up our sample. In those schools, the fraction of hiring cohorts with a Ph.D. rose markedly and very steadily over time, reaching nearly forty percent of the hiring cohort in recent years. Thus, the trend toward Ph.D. hiring at these schools is real and of significant magnitude.” (footnote omitted)).
26. The Appendix provides examples of important specialty and interdisciplinary journals not currently covered fully or at all in the Westlaw or Hein database. These lists were tabulated through consultation with faculty whose scholarship falls within the particular subject

journals than Westlaw, leading to predictable differences in citation counts. As an example, consider how Marc Galanter's 1974 classic article on the role of repeat play and economic power in litigation, *Why the "Haves" Come out Ahead: Speculations on the Limits of Legal Change*, fares in the two databases: a search for the title to this article produces 1949 hits in Hein's database, compared with 1445 in Westlaw's database.<sup>27</sup> Although not necessarily true for every subdiscipline within the law, in general, the use of the Hein database should provide fairer representation of the impact of interdisciplinary scholarship. However, serious problems remain even when using the Hein database.

First, the present citation count method used by Hein for purposes of its Author Profiles counts only citations to publications available in the Hein database.<sup>28</sup> Therefore, a publication in a source not covered by Hein's Law Journal Library, even one greatly impacting the course of legal scholarship, does not count at all in the "Cited by Cases" or "Cited by Articles" counts found in Hein's Author Profiles. For instance, Professor Philip C. Bobbitt has published a number of important books on constitutional law and legal theory, including *Tragic Choices*<sup>29</sup> and *Constitutional Fate: Theory of the Constitution*.<sup>30</sup> A search for references to the *Constitutional Fate* book within Hein's Law Journal Library alone produces 543 results, with many of these results being articles or essays discussing the significance of this work.<sup>31</sup> Yet Professor Bobbitt's Author Profile on Hein states that his scholarship has been cited by only 220 articles.<sup>32</sup> Hein's author citation methodology greatly underrepresents the significance of Professor Bobbitt's scholarship by excluding citations to works published in non-Hein sources, and similar underrepresentation is likely to occur for many other scholars who spend their time producing influential books or publishing in interdisciplinary journals. This serious shortcoming counsels

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matter domains.

27. This difference of 504 citations is greater than the number of citations many scholars' full oeuvre will garner in a lifetime. The numbers in the text reflect the results of a search on April 30, 2020, of the Law Journal Library in Hein and the Secondary Sources database in Westlaw, using the article title in quotation marks as the search query.
28. Personal correspondence with Katie Haymes, Hein Online representative (March 13, 2019) (copy on file with authors).
29. GUIDO CALABRESI & PHILIP BOBBITT, *TRAGIC CHOICES* (1978).
30. PHILIP BOBBITT, *CONSTITUTIONAL FATE: THEORY OF THE CONSTITUTION* (1982).
31. This result reflects a full-text search of the Law Journal Library for the phrase "Constitutional Fate: Theory of the Constitution" on April 30, 2020 (documented search results on file with authors).
32. As of May 13, 2019; Professor Bobbitt's Author Profile is available at [https://heinonline.org/HOL/AuthorProfile?base=&search\\_name=Bobbitt,%20Philip%20C.&1=1590773825](https://heinonline.org/HOL/AuthorProfile?base=&search_name=Bobbitt,%20Philip%20C.&1=1590773825). To make matters worse, when one clicks on the "Cited by Articles" label to obtain more information about this metric, one is told that "[t]his metric counts the cumulative number of times this author has been cited by other articles in HeinOnline," when what it should say is that the metric counts only citations to publications originating in sources within Hein's Law Journal Library.



against the use of Hein's "Cited by Courts" and "Cited by Articles" tallies in any citation studies and for making any decisions about the significance of a scholar's work. An alternative counting methodology and alternative metrics should be used in any future citation studies that utilize Hein's database.<sup>33</sup>

Second, given the omission of important specialty journals from and the predominance of public law scholarship in both of the standard databases, any scholars publishing outside the mainstream of topics that interest law review editors and other legal scholars will likely find their work poorly treated in citation studies conducted using these databases, no matter how significant that work may be within the scholar's particular niche. This problem has consequences for both institutions and individual scholars.

If it were the case that underrepresented areas of scholarship were evenly distributed across the law school terrain, then no individual school would suffer from Hein and Westlaw's underrepresentation problems. Given the limited resources that many schools can devote to scholarship, however, and given that often scholars with similar interests or approaches will find themselves on the same faculty through affinity-based hiring preferences, an even distribution of underrepresentation is unlikely to hold. Indeed, many institutions seek to carve out a distinctive place within the law school terrain in areas we know do not do well in traditional citation studies (e.g., a number of schools have devoted considerable resources to assemble a strong tax faculty or to develop expertise in dispute resolution). Institutions that have devoted considerable resources to support nontraditional areas of scholarship or that have developed strengths in particular areas of the law that tend to perform relatively poorly in citation studies will find their faculties undervalued in bibliometric-based rankings of law faculty.

The first-best solution to this problem would be to expand the usual databases to include the omitted journals or to supplement searches from these databases with searches from the omitted journals. Either solution will require significant resources.<sup>34</sup> Depending on the stakes, legal scholars and schools may find it necessary to conduct their own supplemental citation studies to correct the picture painted by the unadorned citation studies.<sup>35</sup> As citation studies gain importance in law school rankings, schools that fail to correct the picture painted by unrepresentative databases may have no choice but to alter

33. Recall that *U.S. News & World Report* has partnered with Hein to conduct its new ranking of law schools by citation counts. See Morse, *Considers*; Morse, *Responds supra* note 16.

34. The commercially driven citation study by *U.S. News & World Report* may bring with it new resources for such improvements.

35. Alternatively, or in addition, schools should encourage their faculty to create Google Scholar profiles that capture all of their publications and associated citations. Absent such orderly Google Scholar pages for all law faculty, a citation study using Google Scholar would be incredibly time-consuming given the amount of time that would be needed to assemble each faculty member's publications and then sort the correct from incorrect citations to those works. See Lucas, *supra* note 20, at 171-72.

their mix of faculty to favor more traditional legal scholarship that produces a more favorable picture.

A more feasible, second-best solution is to create subdiscipline rankings and norms about citation levels. To facilitate the creation of these subdiscipline counts and norms, schools should designate faculty by their primary scholarship domain when supplying faculty lists for use in the citation studies.<sup>36</sup> To ensure adequate representation of works within a subdiscipline, the categories should be framed at a fairly high level of abstraction, but not so high that any type of scholarship would fit. We propose the following set of categories based on common differentiation among types of scholarship:

- Administrative Law
- Business and Consumer Law (including bankruptcy, contracts, commercial law, corporations, secured transactions, and securities)
- Civil Litigation (including civil procedure, civil rights litigation, conflicts of law dispute resolution, federal courts, and remedies)
- Constitutional Law (covering state and federal constitutional law and including religion and the law)
- Criminal Law and Criminal Procedure (including sentencing)
- Environmental Law (including land-use planning and natural resources)
- Evidence
- Family Law
- Health Law and Bioethics
- History and the Humanities
- International and Comparative Law (including law of war and military law)
- Philosophy of Law (including critical race theory, feminist theory, and moral theory)
- Labor and Employment Law
- Law and the Sciences (including anthropology, biological sciences, economics, evolutionary approaches, linguistics, neuroscience, physical sciences, psychology, and sociology)
- Legal Pedagogy
- Legal Ethics and Professional Responsibility
- Legislation and Interpretation (including state and local government)
- Property (including intellectual property)

36. Currently, Professor Sisk and colleagues prepare “preliminary faculty rosters for the law schools in [their] study” and “share[] those rosters with the deans’ offices at each school, asking for confirmation that the list contain[s] all tenured faculty with standard scholarly obligations.” Sisk et al. (2018), *supra* note 15, at 109. Presumably *U.S. News & World Report* will likewise seek input from schools on the faculty to include in its proposed citation studies. Self-identification of scholarly areas would also remove a subjective element from current rankings of faculty by specialty area. See, e.g., *Most Cited Law Professors by Specialty, 2000-2007* (Dec. 18, 2007), [http://www.leiterrankings.com/faculty/2007faculty\\_impact\\_areas.shtml](http://www.leiterrankings.com/faculty/2007faculty_impact_areas.shtml) [<https://perma.cc/78D3-LTDS>].

- Tax (including ERISA and pension law)
- Torts and Insurance Law
- Trusts and Estates

In addition, schools should provide information on a faculty member's professional age (i.e., number of years in an academic position), race, and gender to facilitate demography-based comparisons to monitor for citation disparities.

The production of subdiscipline rankings would serve two salutary purposes. First, they would provide an objective measure of the impact that schools with faculty focused on particular subdisciplines are actually having in those areas and would free schools with limited resources to focus their resources on a few domains rather than try to compete in the general citation ranking tournament.

Second, subdiscipline rankings would allow apples-to-apples comparisons among individual scholars. A constitutional law scholar whose work garners 200 citations in a five-year period commands a fair amount of respect, but a family law scholar whose work produces 200 citations in that same period is likely one of the most influential family law scholars in the academy. Only by comparing scholarship directed at the same audience can we gain a proper understanding of how scholarship is affecting that audience. Over time, these subrankings would also allow deans and hiring and promotion committees to develop norms about what constitutes low, medium, and high frequencies of citation within particular domains. Qualitative judgments about the rigor and impact of a legal scholar's work should retain a place in promotion and hiring decisions, but taking steps to ensure scholars who do not focus on public law that the impact of their work will be assessed against proper comparators would go far in reducing complaints, and alleviating anxiety, prompted by the use of citation studies in such decision-making.<sup>37</sup>

## **II. What Gets Measured Gets Done: Avoiding Perverse Effects**

One can think of scholarly impact rankings as an example of a much more general problem in law and policy, which is how to assign some benefit or burden on the basis of a difficult-to-measure characteristic of people or institutions. When the characteristic that the policymaker cares about is impossible to measure directly, she must choose some observable proxies

37. Although ultimately an empirical question, adding citations by courts to legal scholarship might also ameliorate the constitutional-law overrepresentation problem. If courts avoid constitutional issues when possible and favor scholarship that directly addresses concrete issues bedeviling the courts, such as problems of harmonizing provisions of the Internal Revenue Code or developing the proper standard of proof for certifying a class action, then we should see fewer citations to constitutional law articles and grand legal theory of the kind attractive to law review editors in judicial citation patterns. Both Westlaw and Hein have the capacity to generate counts of citations by courts to legal scholarship.

for that characteristic. For example, suppose that one were interested in measuring the contributions that basketball players make to the likelihood that their team will win. Because that contribution is impossible to observe, one could construct an index that incorporates information that is observable, such as the number of points those players score, the number of times they steal the ball from their opponents and so on.<sup>38</sup> Presumably this index will capture some of the player's contribution, but not all of it, and it will especially tend to understate the contributions of players who make their contributions in ways that are not measured. Yet once players know which variables will be rewarded, they are likely to emphasize performance on those individual variables regardless of whether that performance contributes to team victories.

As citations assume greater importance in law school rankings and individual scholar evaluations of scholarly impact, we should expect legal scholars and their institutions to respond rationally by seeking to increase their citation counts. To the extent scholars achieve this result by writing more and more impactful scholarship, and law schools assist by making that possible and by promoting good scholarship to see that it attracts an audience, then this new focus on citations will support the scholarly mission. It is not naïve to believe that many scholars and schools will respond in this appropriate fashion to the increasing importance of citation studies.

But it is not overly cynical to expect some scholars and schools to respond in a more strategic fashion, particularly when we look to behavior in disciplines where citation studies have longer held sway. Self-citations have been a persistent worry in citation studies within the sciences, though separating appropriate from inappropriate self-citation has proved difficult.<sup>39</sup> Undoubtedly, though, instances of abusive self-citation have occurred and continue to occur.<sup>40</sup> In its most extreme form, self-citation mutates into self-plagiarism, with entire sections of prior articles being recycled for new articles. Despite the ease with which self-plagiarism can be detected in today's technological world, it continues to occur.<sup>41</sup> In addition, recently a number of

38. See generally *NBA Win Shares*, BASKETBALL REFERENCE, <https://www.basketball-reference.com/about/ws.html> (last visited Apr. 30, 2020) [<https://perma.cc/KH7X-YL7V>].
39. See John P.A. Ioannidis, *A Generalized View of Self-citation: Direct, Co-author, Collaborative, and Coercive Induced Self-citation*, 78 J. PSYCHOSOMATIC RES. 7, 9 (2015) ("Journal self-cites are often fully appropriate and in specialty fields with few journals relatively high journal self-cite rates are unavoidable. . . . However, self-citation may also be inappropriate, excessive, unbalanced (promoting one particular view, and the work of one author or team or school of thought), inbred (promoting one or more connected people), misleading and distorting.").
40. See, e.g., Colleen Flaherty, *Revolt Over an Editor*, INSIDE HIGHER EDUC. (Apr. 30, 2018), <https://www.insidehighered.com/news/2018/04/30/prominent-psychologist-resigns-journal-editor-over-allegations-over-self-citation> [<https://perma.cc/GD2A-646X>] ("Robert Sternberg, professor of human development at Cornell University, resigned last week as editor of *Perspectives on Psychological Science* after colleagues raised concerns about his frequent self-citation in the journal and attitudes toward gender and diversity in general, among other issues.").
41. See, e.g., Jeremy Hall & Ben R. Martin, *Towards a Taxonomy of Research Misconduct: The Case of*

citation cartels (i.e., agreements among scholars to cite one another to inflate their citation counts) have been discovered, demonstrating the lengths to which scholars will go to fare well in citation studies.<sup>42</sup> Of course, we need not look to other disciplines for evidence of strategic behavior, for law schools arguably already game other variables considered in law school rankings (or try to do so), such as employment placements and admission selectivity.<sup>43</sup>

For the scholar or school determined to inflate citation counts, three simple tactics could be used, but countermeasures exist for each tactic. First, scholars could increase the number of times they cite their own prior work and works by colleagues within the same institution. Because legal articles contain a plethora of footnotes, adding discussions of tangential issues that implicate one's prior work or the work of colleagues would be easy to do and relatively hard for law review editors to catch. Accordingly, this tactic likely presents the primary threat to the integrity of future citation studies.

An information-forcing rule provides the best means to deter this manipulation tactic. If legal journals require authors to disclose prominently—we propose in the initial author footnote—the number of times the author cites herself and colleagues from her home institution, the author must be prepared to justify those citations. Most importantly, this disclosure produces a public record for review by other scholars for abuses.<sup>44</sup>

This device would protect against only abusive self-citations and institution-based citation cartels. Scholars could still reward friends and acquaintances at other schools, and they perhaps would even enter into citation cartels, but this information-forcing device would thwart the least costly and most likely

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*Business School Research*, 48 RESEARCH POL'Y 414, 420 (2019) (describing self-plagiarism as a “form of intellectual deception” and discussing allegations against the economist Bruno Frey).

42. See, e.g., Ivan Oransky & Adam Marcus, *Gaming the System, Scientific ‘Cartels’ Band Together to Cite Each Others’ Work*, STAT (Jan. 13, 2017), <https://www.statnews.com/2017/01/13/citation-cartels-science/> (“They’re not the kind of gangs that smuggle drugs and murder people. But people looking closely at the scientific literature have discovered that a small number of scientists are part of a different kind of cartel—ones that band together to reference each other’s work, gaming the citation system to make their studies appear to be more important and worthy of attention.”). Recently, Perez and colleagues presented evidence of possible citation cartels among legal scholars. See Oren Perez, Judit Bar-Ilan, Reuven Cohen & Nir Schreiber, *The Network of Law Reviews: Citation Cartels, Scientific Communities, and Journal Rankings*, 82 MODERN L. REV. 240, 261 (2019) (arguing that the citation dynamic found in certain legal journals is “not driven merely by epistemic considerations but reflects a tacit cartelistic behavior”).
43. See generally Darren Bush & Jessica Peterson, *Jukin’ the Stats: The Gaming of Law School Rankings and How to Stop It*, 45 CONN. L. REV. 1235 (2013).
44. If law reviews fail to implement such a requirement, scholars should nonetheless voluntarily disclose this information. If the practice becomes sufficiently common, then a failure to disclose this information will itself signal possible citation manipulation.

type of citation manipulation. Sophisticated studies of citation networks will be necessary to capture more sophisticated citation cartels,<sup>45</sup> but, as with any conspiracy, the risk of detection will increase as more members are added to the citation cartel, and fairly large citation cartels would be necessary to increase a scholar's individual citation counts substantially.

The second manipulation tactic would take the form of legal scholars producing more scholarship more quickly and placing weaker works in home journals. The most brazen manifestation of this tactic would involve adding institutional colleagues as authors even when they contributed nothing to the piece, but for this tactic to provide substantial gains to individual schools, it would likely have to occur at levels that would make the manipulation detectible. For more subtle manipulations in this category, involving increased output at reduced quality, scholarly accountability will be the only means of checking for such manipulation (i.e., by one's peers commenting on work), but changes in the submission process could help. In particular, if all legal journals, but especially student-edited journals, moved to a blind, limited-submissions system, the ability of authors to game the system would be reduced.<sup>46</sup> Some evidence suggests that faculty already take advantage of in-house journals by placing their weaker works there.<sup>47</sup> Removing information about an author's identity and institutional affiliation would not only alleviate pressure on editors to publish work from their own school but would remove author prominence more generally from the equation. Unless we assume student-edited journals are incapable of quality-based submission decisions, a move to a blind review system would facilitate merits-based decision-making.<sup>48</sup> And restricting authors on the number of journals to which they can submit a manuscript would induce authors either to improve the quality of the manuscript before submission or limit submission to realistic outlets (not to

45. For such an approach, see Perez et al., *supra* note 42.

46. Alternatively, the rule used by the *Journal of Empirical Legal Studies* ("JELS") would also reduce author abuses of the present system allowing simultaneous submissions. JELS requires, as a condition of submission, that the author agree to publish in the journal if an offer is made before the submission is withdrawn. See *Author Guidelines*, J. EMPIRICAL LEGAL STUD., <https://onlinelibrary.wiley.com/page/journal/17401461/homepage/forauthors.html> [<https://perma.cc/Y5LY-MXW8>] (last visited Apr. 14, 2020).

47. See Albert H. Yoon, *Editorial Bias in Legal Academia*, 5 J. LEG. ANALYSIS 309, 330 (2013) ("Our analysis shows that legal academics who publish in their own law reviews are cited less often than when they publish in law reviews at other schools. . . . If citation counts are a credible measure for quality, law review editors, when selecting articles from their own professors, act to the detriment of the law review. . . . The other part of this story is that law faculty, by publishing in their own law reviews, appear to be acting opportunistically rather than altruistically. In many instances, it appears as though they are publishing articles in their own law review that, if they were submitting from another law school, would likely not have been accepted for publication.").

48. See Barry Friedman, *Fixing Law Reviews*, 67 DUKE L.J. 1297, 1350 (2018) ("there is wide, indeed overwhelming, consensus that blind review ought to be the norm." (footnote omitted)). As Friedman notes, "[t]echnology makes blind review extremely simple." *Id.*

mention the wasted effort on the part of journal editors that such a system would avoid).<sup>49</sup>

Third, law schools may manipulate whose works get counted in citation studies. For instance, by assigning unproductive faculty members emeritus, administrative, or some other designation that will remove them from the scope of the citation study, a school could inflate its per faculty citation count by subtraction. Or, in the case of a faculty member outside the law school who has written significant legal scholarship, the school could assign this faculty member a status within the law school to inflate its citation count by addition. Yet another blatant strategy would simply be to not report all faculty members if there is no external checking of faculty rosters. To deter these maneuvers, faculty rosters should be made public. Competitor schools will be motivated to ensure that peers play the citation game fairly, but to serve this role the faculty that schools include in the citation study must be made public.

The countermeasures proposed above will only help maintain the integrity of citations and citation studies. We should expect that the increasing salience of bibliometric measures for evaluating law professors will cause them, and the institutions to which they belong, to make hard choices about how to allocate effort and resources. To the extent that the presence of impactful legal scholars on a faculty is an important part of the law school experience for students, and to the extent this kind of scholarship has been undersupplied in some sense in the past, the incentive to engage in more such scholarship may redound to the benefit of students. One way that faculty can have a greater impact is by writing more. Unavoidably, writing more means that law professors must either work more total hours or spend less time teaching, mentoring, engaging in community life at their institutions, writing amicus briefs, or otherwise providing service to their education institution or legal community to which they belong. Each professor will make these trade-offs for herself, but, for tenured faculty at least, we should not expect that the only response will be to work more.

A partial corrective is provided, however, by the existence of other measures that factor into law school rankings. So long as student resources, student satisfaction, and career placement factor into some law school rankings, we should not expect law schools to forsake all aspects of the educational mission but for the scholarly mission. It is certainly the case that resources may be reallocated in reaction to the increasing prominence of citation studies (e.g., teaching loads among faculty may be reassigned based on relative scholarly impact and teaching ability), but quantitative measures of scholarly impact are unlikely to assume predominant influence among all educational quality factors.

49. *Cf. id.* at 1352-56 (discussing the benefits of limiting journal submissions and requiring acceptance of first offers to publish).

### **Conclusion**

Citations serve a valuable function both by crediting important work on which other work builds, and by pointing readers to works that they should explore if they are interested in a topic or proposition. Citation inflation leads to devaluation of truly important scholarly contributions and diminishes the important signaling function that citations provide. Moreover, pervasive gaming of citation counts is apt to breed cynicism about the value of legal scholarship and the scholarly mission.

To maintain scholarly integrity in the age of bibliometrics, we cannot count on professional ethics of law schools and scholars alone given the material consequences likely to accompany favorable bibliometrics. The researchers and organizations that produce prominent citation studies should take steps to ensure fair representation of the full range of legal scholarship in their studies, and they should demand that law schools supply accurate faculty lists, including information that will facilitate appropriate subdiscipline comparisons within these citation studies. Only with these steps, paired with transparency in the data and methods used, will the citations studies provide fair and accurate measures of scholarly impact for all types of legal scholarship.

This transparency in methodology will, however, make it possible for scholars and schools to manipulate citation counts. To deter such manipulation, legal journals should mandate that authors disclose the frequency with which they have cited their own works and that of their colleagues, and should move to a system of limited, blind submissions. With these safeguards in place, scholarly integrity and bibliometric integrity can coexist.



**Appendix: Omitted Specialty and Interdisciplinary journals**Business and Tax Law

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British Tax Review<sup>H</sup>  
 Capital Markets Law Journal  
 EC Tax Review  
 European Business Law Review  
 European Business Organization Law Review  
 Global Governance<sup>H</sup>  
 IBFD Bulletin  
 International Tax Review<sup>H</sup>  
 Journal of Financial Regulation  
 Journal of Law, Finance & Accounting  
 Journal of World Trade  
 National Tax Journal  
 Review of International Political Economy  
 State Tax Notes  
 Tax Notes  
 Tax Notes International  
 World Tax Journal

International and Comparative Law

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Common Market Law Review<sup>H</sup>  
 Comparative Political Studies  
 Comparative Politics  
 Human Rights Quarterly<sup>H</sup>  
 International Migration  
 International Organization  
 International Studies Quarterly  
 Journal of Ethnic and Migration Studies  
 Journal of International Economic Law<sup>H</sup>  
 Journal of Conflict Resolution  
 Journal of Peace Research  
 World Politics<sup>H</sup>

History and Humanities

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American Historical Review  
 Journal of Legal History<sup>H</sup>

Journal of Supreme Court History <sup>H</sup>  
Journal of the History of International Law <sup>H</sup>  
Law and History Review <sup>W</sup>  
Law, Culture & the Humanities <sup>H</sup>  
Law Text Culture <sup>H</sup>  
The Roman Legal Tradition <sup>H</sup>

Jurisprudence/Philosophy of Law

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Criminal Justice Ethics <sup>H</sup>  
Criminal Law and Philosophy <sup>W</sup>  
Jurisprudence <sup>H</sup>  
Law & Philosophy  
Legal Theory <sup>H</sup>  
Modern Law Review <sup>H</sup>  
Oxford Journal of Legal Studies <sup>H</sup>  
Ratio Juris <sup>H</sup>

Law and Social Science

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American Law & Economics Review <sup>H</sup>  
Behavioral Sciences & the Law <sup>H</sup>  
European Journal of Law and Economics  
International Journal of Law and Psychiatry  
International Journal of the Sociology of Law  
International Review of Law and Economics <sup>W</sup>  
Journal of Competition Law & Economics <sup>H</sup>  
Journal of Empirical Legal Studies <sup>H</sup>  
Journal of Forensic Sciences  
Journal of Law and Courts <sup>H</sup>  
Journal of Law, Economics and Organization <sup>H</sup>  
Journal of Law and Society <sup>H</sup>  
Law & Human Behavior <sup>W</sup>  
Psychology, Crime & Law  
Psychology, Public Policy & Law <sup>W</sup>  
Review of Law and Economics <sup>H</sup>

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<sup>H</sup> Full or partial coverage in Hein's Law Journal Library.

<sup>W</sup> Full or partial coverage in Westlaw's Journals and Law Review Database.