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EXPLORING CITATION COUNT METHODS OF MEASURING FACULTY SCHOLARLY IMPACT

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Abstract

After US News & World Report's announcement in 2019 that they will provide a separate ranking of law schools based on faculty scholarly impact, scrutinizing the various methods of assessing scholarly impact has been a hot topic. The various methods include reputation surveys, citation counts, and publication counts. This paper focuses on citation counts. Several methods of conducting citation counts have been circulated since the 1990s, notably Brian Leiter's studies using Westlaw's Law Reviews and Journals database; the Leiter study updates conducted by Gregory Sisk, et al., in 2012, 2015, and 2018; Heald and Sichelman's look at HeinOnline and SSRN in Ranking the Academic Impact of 100 American Law Schools; and Ruhl, Vandenbergh, and Dunaway's 2019 study using Web of Science in Total Scholarly Impact: Law Professor Citations in Non-Law Journals for interdisciplinary scholarly impact. Following the Ruhl study, faculty at Indiana University Maurer School of Law, with its strong record of interdisciplinary scholarship, were curious to learn Maurer's overall scholarly impact. I reviewed existing studies of law faculty scholarly impact and then conducted a study of the interdisciplinary work of the Maurer Law faculty by duplicating the Ruhl citation count method of examining law faculty publications in non-law journals. The results illustrated that Maurer faculty are making a significant scholarly impact in interdisciplinary publications and that a true overall scholarly impact score for a law school's faculty must include some measure of interdisciplinary work. This article reviews a sample of the literature on measuring scholarly impact, describes the citation count method and related issues explored at Maurer, and discusses the benefits and limitations of including interdisciplinary scholarship in evaluating law faculty scholarly impact.
I. INTRODUCTION

As numerous law school faculty members, administrators, and legal field commentators have observed, critiqued, and lamented, the law school rankings "have been an important element of the law school environment" since *U.S. News & World Report* ("U.S. News") first began publishing them in 1987.\(^1\) Despite their flaws, law school rankings can still be useful tools for potential students, faculty, and staff, faced with making choices between schools, to evaluate the pros and cons of each school.\(^2\) While the *U.S. News* rankings include various aspects of legal education from tuition costs to faculty-student ratios and more, faculty scholarship was only included in the subjective peer assessment component of the rankings.\(^3\) The peer assessment score

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\(^3\) *U.S. News* calculates the peer assessment scores from surveys sent to the dean, the associate dean of academic affairs, the chair of the faculty appointments committee, and the most recently tenured faculty member at each school, who are then asked to rate schools on a scale from "marginal" (1) to "outstanding" (5), *See Robert Morse, Ari Castonguay, & Juan Vega-Rodriguez, Methodology: 2021 Best Law Schools Rankings, U.S. NEWS & WORLD REP.* (Mar. 16, 2020), https://www.usnews.com/education/best-graduateschools/articles/law-schools-methodology, https://web.archive.org/web/20200320142417/https://www.usnews.com/education/best-graduateschools/articles/law-schools-methodology.
accounts for 25% of the overall ranking, and represents the largest component of the U.S. News rankings.\(^4\)

Over the years, many authors have commented on the U.S. News peer assessment scores and pointed out the limitations, including the relatively small number of individuals surveyed, lack of available details on the methodology, and biases associated with school size, location, and name recognition. Additionally, the peer assessment scores are highly correlated with the overall rankings. This contributes to the issue of slow response time in the overall rankings, meaning that schools can make significant upgrades but it could take several years for the rankings to reflect those changes.\(^5\) The limitations of the rankings and the lack of objective measures of scholarly impact led legal scholars to create and promote their “own measures that capture attributes that U.S. News misses.”\(^6\) As Professor Brian Leiter noted, the “obvious alternative to subjective reputation is to look only at objective proxies for academic distinction like publication and citation rates.”\(^7\)

The measures developed by legal scholars that have focused on assessing scholarship include citation counts, publication counts, download statistics, and ranking of law reviews and journals.\(^8\) The value of studying citation counts is that it “assesses not what scholars say about schools’ academic reputations but what they in fact do with schools’ output.”\(^9\) Citation count studies utilizing different databases have been repeated periodically and compared against each other, generally finding high correlations between the citation count studies, but not between those studies.

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\(^4\) Paul J. Heald & Ted Sichelman, Ranking the Academic Impact of 100 American Law Schools, 60 JURIMETRICS 1, 2 (2019).

\(^5\) See generally, Heald & Sichelman, supra note 4, at 1-2; Black & Caron, supra note 1, at 87-88; Leiter, supra note 2, at 452; Eisenberg & Wells, supra note 2, at 397-398. These articles are only a few examples, and one can really go down a rabbit hole looking at criticisms of school ranking systems, especially U.S. News.

\(^6\) Black & Caron, supra note 1, at 84.

\(^7\) Leiter, supra note 2, at 455.


\(^9\) Eisenberg & Wells, supra note 2, at 374.
and the *U.S. News* peer assessment score.¹⁰ The reliability and validity of these measures led legal scholars to call for their inclusion in the *U.S. News* law school rankings.¹¹

In February 2019, *U.S. News* announced that it would expand its law school data collection and create a new scholarly impact ranking. According to Robert Morse, Chief Data Strategist for *U.S. News*, the goal was “to analyze each law school’s scholarly impact based on a number of accepted indicators that measure its faculty’s productivity and impact using citations, publications and other bibliometric measures.”¹² The announcement also stated that *U.S. News* would collaborate with William S. Hein & Co. Inc., using their HeinOnline database of legal periodicals to collect citation and publication information from a five-year period for each law school’s faculty. Using each school’s fall 2018 roster of full-time tenured and tenure-track faculty, factors such as mean and median citations per faculty member, and total number of publications would be examined, and then used to calculate a “comprehensive scholarly impact ranking of law schools.”¹³ The new scholarly impact ranking would be separate from the overall Best Law Schools rankings and would be released later in 2019.¹⁴ An update provided in June 2020 stated that the methodology had not been finalized, but would include some measure of average number of citations, median number of citations, and average number of publications per faculty member. The release of the ranking was pushed back to later in 2020, and then eventually dropped entirely.¹⁵

¹⁰ Gregory Sisk, *Measuring Law Faculty Scholarly Impact by Citations: Reliable and Valid for Collective Faculty Ranking*, 60 JURIMETRICS 41, 55–56 (2019); see also Lucas, supra note 8; Heald & Sichelman, supra note 4, at 5–6; Black & Caron, supra note 1, at 85.

¹¹ Sisk, supra note 10, at 56.


¹³ Morse, supra note 12.


The initial announcement from *U.S. News* generated many questions and comments, mostly about the methodology and potential drawbacks. One of the major criticisms is that the proposed methodology and its use of the HeinOnline database would leave out interdisciplinary scholarship. Other limitations are that books and book chapters will be excluded, junior faculty may be undervalued, and more generally that ranking scholarly impact could eventually harm specialty subject areas. 16

The team at HeinOnline also issued a statement to clarify their role and explained that a group of law school deans and professors had approached them during the summer of 2018 and asked if they would consider a collaboration with *U.S. News*. The role of HeinOnline is to provide citation metrics, but they are not involved in the methodology used for the analysis and rankings. The team at HeinOnline is also using the project as an opportunity to improve their ScholarCheck citation tools. They noted that the “traditional HeinOnline citation counts are derived by looking for official citations patterns (i.e. Bluebook),” but that “due to OCR errors, improper use of citations, or lack of an official citation, the current citation metrics are not perfect.” They are working on alternate citation locating methods in order to improve accuracy.17

Regardless of the work on improving the locating of citations, relying exclusively on HeinOnline still leaves out an important area of law faculty scholarship, that of interdisciplinary scholarship. The legal academy is not a monolith, and law schools include faculty with backgrounds in a variety of subjects such as, economics, philosophy, healthcare, environmental science, and more.18

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18 Leiter, *supra* note 2, at 455.
Non-law journals have broad readership, and can have influence across many disciplines and policymaking bodies, making publication and citation in non-law journals “an additional indication of the influence of legal scholars.”

Excluding non-legal citations from scholarly impact studies “may not only underestimate the scholarly impact of some legal scholars, but also may discourage the movement of ideas between law and non-law fields [...]”.

In a 2019 study of non-law journal citations to the work of law faculty, Ruhl, Vandenbergh, and Dunaway found that the results of their interdisciplinary study “offer sufficiently different faculty and law school rankings to provide important new information for the overall assessment of scholarly impact.”

The introduction of a measure of interdisciplinary scholarly impact, combined with the announcement that *U.S News* would begin evaluating faculty scholarly impact, generated interest among the faculty and administration at Indiana University Maurer School of Law (Maurer Law) in the school’s potential interdisciplinary impact score. My project attempted to duplicate the Ruhl, et al., study to estimate the interdisciplinary scholarly impact of the Maurer Law faculty.

This article tracks the process I followed for that project. Part II summarizes the literature review I conducted to gather background information on existing ranking methods, focusing on citation count methods. Part III describes the interdisciplinary citation count I conducted using the fall 2018 roster of full-time tenured and tenure-track faculty at Maurer Law and following the Ruhl, Vandenbergh, and Dunaway study method. Part III also includes some observations gathered while conducting the Maurer Law count, and notes on related ongoing projects. The information gained while completing this project has also been useful for exploring methods of promoting faculty scholarship and encouraging faculty to establish author profiles on a variety of databases. Throughout this process, I have observed that none of the citation counting or download measures are perfect, but they are all useful for comparing and evaluating scholarly impact. If scholarly impact is going to be measured and ranked, the goal should be to compile more data rather than less, and that must include data specifically on the interdisciplinary scholarship of law faculty.

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20 Id. at 5.

21 Id. at 36.
II. LITERATURE REVIEW

A. Non-Citation Count Methods

A number of scholars have proposed alternate methods of ranking law schools, and/or called for including additional data in the U.S. News rankings. Since the 1990s, a variety of articles examining and ranking law reviews, law schools, law faculties, and individual scholars have been published.\(^{22}\) One recent article even suggests evaluating schools on the fulfillment of their overarching two-part mission: generating legal knowledge and preparing new lawyers.\(^{23}\) Many of the empirical studies gather data from Westlaw, HeinOnline, Social Science Research Network (SSRN), and other databases, and include extensive comparisons with other studies. While this article mainly focuses on citation counts for measuring faculty scholarly impact, it is helpful to keep the other non-citation count methods in mind, since each method has benefits and limitations.

One example of a study focusing on law reviews and faculty productivity is the Faculty Scholarship Survey, which the Chicago-Kent Law Review began calculating and publishing in 1989.\(^{24}\) The Survey was initially intended to track the effects of changing the Law Review from a traditional law review format to a symposium format. The Survey’s methodology, updated in 1995, has two components: ranking the top law reviews, and ranking faculty productivity within those reviews.\(^{25}\) The Survey used the list of leading law reviews determined by other scholars utilizing Shepard’s Law Review Citations and the Social Sciences Citation Index.\(^{26}\) The faculty productivity component was determined by generating a database of qualifying articles from the twenty leading law reviews for a five-year period (1988-1992), and calculating an average number of faculty at each school. “Qualifying articles” are articles, essays, or reviews that are at least ten pages long and published by a professor, associate, or assistant professor.\(^{27}\)

\(^{22}\) See, Cullen & Kalberg, supra note 8; Leiter, supra note 2; Sisk, et al. (2012), supra note 8; Sisk, et al. (2015), supra note 8; Sisk, et al. (2018), supra note 8; Black & Caron, supra note 1; Eisenberg & Wells, supra note 2; Robert Steinbuch, On the Leiter Side: Developing a Universal Assessment Tool for Measuring Scholarly Output by Law Professors and Ranking Law Schools, 45 LOY. L.A. L. REV. 87 (2011-12).

\(^{23}\) Chris Guthrie, Toward a Mission-Based Ranking?, 60 JURIMETRICS 75 (2019) (Guthrie proposes that all law schools have a two-part mission, to generate knowledge about law and the legal system and to prepare students to enter the legal profession, and thus should be ranked based on how well they fulfill that mission. This would be based on replacing subjective surveys with objective scholarly impact measures, altering the bar passage and job placement categories, and eliminating the other categories of the U.S. News rankings).


\(^{25}\) Cullen & Kalberg, 1445.


\(^{27}\) Cullen & Kalberg, supra note 8, at 1449–50.
The Survey results generated several tables. The tables rank the fifty most productive law faculties based on the number of articles published per faculty member in: the ten leading law reviews excluding in-house articles; the ten leading law reviews including in-house articles; the twenty leading law reviews excluding in-house articles; the twenty leading law reviews including in-house articles. The final table averaged the results of the other tables and ranked the "law school faculties based on the average number of articles published per faculty member." Each table placed the University of Chicago, University of Colorado, Cornell University, Yale, and Harvard as the top 1-5, respectively. Compared to the U.S. News ranking for the study period, several differences can be observed. The 1992 U.S. News rankings placed Yale, Harvard, Stanford, Chicago, and Columbia in the top 1-5 spots respectively, with Cornell at #14 and Colorado not even in the top 20. Note that Columbia ranked 8th and Stanford placed 15th in the averaged table of the Faculty Scholarship Survey. While this example is based on older data, the Survey illustrated that by applying an objective measure, such as calculating faculty productivity in leading law reviews, some schools were possibly undervalued or overvalued by the subjective peer assessment scores of the U.S. News rankings.

Another example of an objective measure that focuses on law reviews is Alfred Brophy's 2006 study examining the connection between the reputations of law schools and their respective law reviews. The study looked at the relationship between U.S. News rankings and peer assessments, and citations to schools' main law reviews by other journals and by courts, and also compared that data to Brian Leiter's peer assessment study from 2003. The study used "the data published by U.S. News in 2005 (nominally the 2006 rankings), along with the Washington and Lee Law Library 2004 citation data (which measures citations of works published from 1997 to 2004 by other journals and by courts). The results reveal a high correlation between law review rankings and law school rankings for those schools in the top tier of U.S. News, which demonstrates that

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28 Id. at 1450-51.
29 Id. at 1455-60.
31 Cullen & Kalberg, at 1460.
law reviews that are frequently cited are associated with well-regarded schools.”

The results of the study strongly suggest “that citations are a fairly accurate gauge of reputation (and perhaps quality) at least for the top-100 schools—and maybe the quality of other schools, too.” Additionally, for schools in the third and fourth tiers, “the reason there may be a lower correlation between reputation and citation may be due in part to the inability of raters to accurately assess those schools.”

A final example of an objective measure not based on citations to faculty scholarship is Black and Caron’s 2006 study that focused on SSRN download statistics and used that data to assess “only the SSRN rankings of law schools.” The study claimed that “SSRN-based measures can offer a different, also useful, albeit also partial, picture that has its own set of limits and biases, but at the same time can address some of the deficiencies in other measures.” According to this study, the disadvantages of citation and publication counts are that they only include a limited number of American schools, are updated sporadically, and lag behind the most current faculty scholarship. SSRN, on the other hand, features real-time data of emerging scholarship, can be updated more frequently, includes more U.S. and even foreign schools, and includes interdisciplinary work. However, SSRN also has limitations and biases, such as only including authors who are willing to post their work, favoring particular subjects like cyberlaw or law and economics, and the possibility of gaming the download statistics.

B. Citation Count Methods

Several methods exist for evaluating faculty scholarship based on counting citations to a faculty’s output, rather than evaluating the output itself. The citation count methods utilize different databases, each with benefits and limitations. This section of the paper summarizes Eisenberg and Wells’ use of Westlaw, Leiter’s study also using Westlaw, the Leiter Score updates conducted by Sisk and his team, and finally the Heald and Sichelman study that gathered data from HeinOnline.


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[32] Id. at 56.
[33] Id.
[34] Black & Caron, *supra* note 1, at 86.
[35] Id. at 85.
[36] Id.
The Eisenberg and Wells study examined the academic reputations of 32 law schools. Their goal was to assess “not what scholars say about schools’ academic reputations but what they in fact do with schools’ output.” 39 Therefore, they measured the number of times that the faculties’ scholarly works were cited. While the study ranks the schools, the authors focused more on groupings of schools, arguing that groupings are “more robust to small changes in personnel or methodology.” 40 They also examined patterns of scholarly impact, focusing on several factors including “entry-level compared with lateral status, gender, minority status, subjects taught, and years in teaching.” 41

Eisenberg and Wells provided a detailed explanation of their methodology. They used the Westlaw Texts and Periodicals database (identified online as “tp-all”), which in 1995 contained approximately 550 journals, and was more comprehensive than the comparable Lexis database or the Social Science Citations Index’s law review collection. They limited the schools studied to the top 20 in academic reputation in U.S. News’s 1996 rankings, plus 12 additional schools they considered to be “reasonable candidates for top 20 inclusion.” 42 They limited the faculty population to the tenured and tenure-track faculty at each school as appearing in the 1993-94 directory of the Association of American Law Schools (AALS). Because the searches were not conducted until late 1995 and early 1996, all faculty members in the study had, by definition, been teaching for at least 2 years. They also controlled “for length of time in teaching by limiting some results to those with more than 7 years of teaching experience and by stating many results in terms of time-adjusted citations.” 43

After identifying the database, schools, and faculty members, Eisenberg and Wells settled on a basic search algorithm: entering the query “first name w/2 last name” in the tp-all database for each faculty member on their list. The query generated “the number of documents in tp-all in which the search term appears. This response is the number used in this study.” 44 However, as the authors noted, their search algorithm could result in overcounting or undercounting a professor’s citations.

Overcounting, or false positives, could occur for faculty with common names, or “names similar to names of historical figures who may be the subject of

39 Eisenberg & Wells, supra note 2, at 374.
40 Id. at 375.
41 Id.
42 Id. at 379. (but as the authors noted, they did not account for post-1994 faculty movement).
43 Id. at 379 (but as the authors noted, they did not account for post-1994 faculty movement).
44 Id. at 380 (Westlaw’s definition of a document for the tp-all database was broad: “an article, a note, a symposium contribution, a product review, or other materials published in one of the available periodicals, or a section from one of the available texts”).
articles in tp-all.”

To deal with the overcounting problem for faculty with common names, famous names, or unexpectedly high citation counts, Eisenberg and Wells used a sampling methodology to estimate that professor’s citation count. They also added a restriction to eliminate treatises as a source of overcounting. However, they did not attempt to eliminate documents where a professor’s name only appears in an acknowledgement note.

Undercounting occurred for two major reasons. First, the lack of interdisciplinary coverage in the tp-all database. Eisenberg and Wells dismiss this problem by arguing that few law professors are publishing in non-law journals; most good law schools have a few interdisciplinary scholars and so the schools are even in that regard; if the scholarship is highly successful, it will be cited in law journals. Second, technical issues could result in undercounting such as unusual name structure, variations in citation styles, and being a later-listed author on a publication with multiple authors.

Despite the potential problems with their study, Eisenberg and Wells point out several benefits. Their study is a better indicator of impact since it does not measure a professor’s production, but whether others in the field are actually using the scholarship. They selected Westlaw as the data source because it is widely available to others in the legal field, making it easy for others to replicate the study. Their search query allows authors to be credited for books and other publications not contained in the tp-all database, as long as a document within the database cites that author’s name. Finally, because “Westlaw counts documents in which a search term appears, not the number of citations to a search term within a document,” the effect of self-citations is greatly limited.

After describing their methodology and its pros and cons, Eisenberg and Wells then explained how they used the data to rank and group schools. First, they conducted the w/2 search for each faculty member to generate a count of the documents citing that faculty member. Then, they used that data to calculate for each school “the mean number of documents citing the school’s faculty per faculty member and the median number of citations for the faculty.” The means and medians were then used to rank the schools.

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45 Id. (the example given is searching for a professor named “John Marshall” and returning results including documents about Chief Justice John Marshall).
46 Id. (examine the first 10 or 20 documents in the w/2 search results, then multiply the total number of documents by the proportion of sampled documents that are not false positives).
47 Id. at 381.
48 Id. at 381–384 (the problem with multiauthor works is often referred to as the “et al. problem” since only the first author is listed in a citation and the rest are replaced by the use of “et al.”).
49 Id. at 385.
50 Id. at 386.
According to the Eisenberg and Wells study, the top four schools were Yale, University of Chicago, Harvard, and Stanford. Despite being grouped together at the top, there was a "noticeable gap between Yale, Chicago and the next two schools, Stanford and Harvard." The second group consisted of Cornell, Columbia, and Michigan, and the third group was NYU, Virginia, Berkeley, and Northwestern. The study showed a large gap between the first and second groups, with a smaller gap between the second and third groups. Comparing their study to the U.S. News rankings, Eisenberg and Wells found that some schools were overrated and other schools were underrated by U.S. News. While there were not many differences among the top 15 or 20 schools, Cardozo, Cornell, Colorado, Chicago-Kent, and George Mason were likely underrated by U.S. News's methodology.

The study also found that generally, lateral hires outperformed entry-level hires, constitutional law was the most popular topic, and there was "no substantial evidence of differences in the rates at which males and females are cited." Examining the link between years teaching and citations, the study showed that citations increased during the early years, but then leveled off and started to decline around the 17th year of a professor's career.

The subjects with the highest rates of citation were constitutional law, feminism and law, and jurisprudence. Other highly cited subjects were administrative law, antitrust, and law and economics. Yale and Chicago had high percentages of faculty teaching constitutional law, which contributed to their high rankings in the study, because the "gap between them and Harvard and Stanford substantially decreases if one excludes professors who teach constitutional law." Eisenberg and Wells add a note of caution to their study. They recognize that scholars who rank low under their methodology may still be excellent scholars, but "laboring in a field that does not generate many citations in the database we use. Or their scholarly impact may not be measurable through a simple count of citations." They also note that "someone who ranks highly may be producing large amounts of citable but weak scholarship." Finally, they acknowledge that because the tp-all database has some limitations, readers should consider the reported numbers "as indices of performance and not regard them as measuring absolute levels of performance."

51 Id. at 387.
52 Id.
53 Id. at 397.
54 Id. at 375.
55 Id. at 399.
56 Id. at 408.
57 Id. at 376.
58 Id.
59 Id. at 386.
Brian Leiter’s study published in 2000 “measures the academic distinction of 66 law faculties by combining three measures: per capita rates of citation, per capita productivity of books and articles, and subjective reputation among academics.” The two objective proxies for academic distinction that he used were “per capita publication of articles and books for the period 1995 through July 1998 and per capita scholarly impact of the top quarter of each faculty as measured by citations to faculty work on the Westlaw Journals and Law Reviews Combined (JLR) database as of July 1998.” The subjective reputation measure used in the study was based on U.S. News’s reputational survey conducted in fall 1998 and reported in the 1999 law school rankings. Leiter calculated each school’s final rank by averaging its objective proxies rank and reputational survey rank.

To select the 66 schools in the study, Leiter considered schools that performed well in Cullen and Kalberg’s 1995 Chicago-Kent Law Review faculty scholarship survey, schools consistently in the top 50 of reputational surveys, and a few schools likely to perform well based on his knowledge of their faculties and publications. He used the 1997-98 AALS Directory of American Law Teachers to compile each school’s faculty roster. He only included tenured or tenure-track law faculty whose job duties included scholarship, and he made adjustments for faculty moves that occurred in 1998-99.

To measure per capita productivity in articles for the period 1995 through July 1998, Leiter focused on productivity in the 10 law reviews that were cited most often, plus the leading faculty-edited journals in 10 law subjects. Article length was also factored into the productivity score, with articles of 6-20 pages earning 1 point, 21-50 pages earning 2 points, and more than 50 pages earning 3 points. Points were halved for publications in the faculty member’s home law review. Leiter also considered productivity of books, focusing on leading academic and law publishers. Points were awarded on a scale from 9 points for authoring a scholarly book through an academic press, down to 1 point for a new edition of a casebook.

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60 Leiter, supra note 2, at 451.
61 Id. at 455-56.
62 Id. at 458.
63 Id. at 460; see also Cullen & Kalberg, supra note 8.
65 Id. at 463 (the full list of publishers: Cambridge, Cornell, Harvard, Oxford, Princeton, California, Chicago, Yale, Aspen, Foundation, and West).
Leiter combined the results of article and book productivity in a table of overall productivity. Comparing the results of the productivity scores with the subjective reputational survey, “the schools that are almost always in the top 15 in reputational surveys—Berkeley, Chicago, Columbia, Cornell, Duke, Georgetown, Harvard, Michigan, Northwestern, NYU, Penn, Stanford, Texas, Virginia, and Yale—all perform in at least the top 20 in terms of per capita productivity, with the exception of Duke.”\textsuperscript{66} The productivity measures also showed that many schools with strong productivity were being undervalued in the reputation surveys, including Cornell, Colorado, Miami, and Chicago-Kent, to name just a few.\textsuperscript{67}

Leiter included a productivity measure in his study because productivity statistics reflect more current scholarship than impact and citation statistics, which take more time to accumulate. Additionally, “productivity studies permit schools with faculty who work in underdiscussed (hence undercited) areas to nonetheless shine,” such as those writing about tax or comparative law.\textsuperscript{68} One major drawback of the productivity measure is over-inclusiveness, or “lack of a substantial qualitative check.”\textsuperscript{69} Leiter balances that out by including the citation counts and subjective reputation scores, which “introduce an important qualitative element that might otherwise be missing.”\textsuperscript{70}

To measure scholarly impact, Leiter examined “the per capita rate of citation to the top quarter of each faculty” and “largely following the methodology employed by Eisenberg and Wells in their groundbreaking study of scholarly impact.”\textsuperscript{71} However, Leiter used Westlaw’s Journals and Law Reviews database (JLR) rather than the tp-all database that Eisenberg and Wells used, because tp-all included treatises “and thus would artificially inflate the counts for schools at which these scholars teach.”\textsuperscript{72} Leiter used the same “first name /2 last name” search query, with minor variations where necessary, and also performed the same sampling method to limit the impact of false positives for authors with common names. Other differences from the Eisenberg and Wells study were that Leiter focused only on the top 25% of each faculty for impact, and he used citation counts that were current for 1998-99, instead of looking back to 1993-94.\textsuperscript{73}

Leiter identified four situations that can skew citation counts and limit the value of attempting to correlate counts with scholarly quality: “the industrious drudge: the competent but uninspired scholar who simply churns out huge amounts

\textsuperscript{66} Id. at 465-66. Duke ranked #34 in productivity, which is a drop of 23 places compared to its #11 rank in reputation. Leiter points this out as an example of a school that may have been overvalued by \emph{U.S. News}.  
\textsuperscript{67} Id. at 466.  
\textsuperscript{68} Id. at 467.  
\textsuperscript{69} Id. at 468.  
\textsuperscript{70} Id.  
\textsuperscript{71} Id., citing Eisenberg & Wells, supra note 2.  
\textsuperscript{72} Leiter, 468.  
\textsuperscript{73} Id.
of writing” and is therefore bound to accumulate a high citation count; treatise writers would also generate large numbers of citations, but would generally be more highly regarded than the industrious drudge; the “academic surfer” who watches the latest trends and can quickly produce articles on the current hot topic, thereby garnering many citations; and finally, “there is work that is cited because it constitutes ‘the classic mistake’: some work is so wrong, or so bad, that everyone acknowledges it for that reason.”

Despite these potential flaws, Leiter argues that citation counts are still a useful proxy for measuring scholarly impact and the quality of a school’s faculty. The study lists the top 50 most-cited faculty, and another list of scholars in private law areas with at least 700 citations, all of whom were well-known and generally highly regarded in the field. Leiter argues that those results show “that high levels of scholarly impact correlate reasonably well with a strong reputation.” Leiter notes, however, that some excellent scholars are left out because their topics do not generate many citations. He also observes that some highly cited scholars actually have mixed reputations but can “significantly affect the results if just one is at a small school or if two or three are at a larger school.” Additionally, “outside the highest levels of scholarly impact, the correlation between reputation and impact becomes much weaker.”

Leiter draws several comparisons between the results of his study and the results in the Eisenberg and Wells study. Even with the differences in methodology, Leiter notes that “Eisenberg and Wells method is a reasonably stable measure of scholarly impact.” Some of the differences in schools’ placements between the two studies are accounted for by faculty moves and different timeframes.

As with other studies using objective measures, Leiter’s study also found that some schools were likely overrated or underrated by the U.S. News subjective reputational survey. According to Leiter’s study, “schools that do significantly better in reputational surveys than their performance by objective measures would warrant are Duke, Wisconsin, UC Davis, UC Hastings, North Carolina, Boston College, Washington and Lee, Tulane, and Washington, Seattle.” Several other schools had strong objective measures and were therefore underrated by the subjective survey, including “Minnesota, Colorado, Arizona, Miami, George Mason, Utah, Wake Forest, Chicago-Kent, Rutgers—Camden, San Diego, Brooklyn, and Cardozo.”

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74 Id. at 469–470.
75 Id. at 472–73.
76 Id. at 473.
77 Id.
78 Id. at 479.
79 Id. at 458.
80 Id.

Sisk, Aggerbeck, Hackerson, and Wells defined “Scholarly Impact” in their 2012 study “as the acknowledgement of a law professor or the use of a law professor’s scholarship in a subsequent work of published legal scholarship.”81 Their study measured scholarly impact by counting total citations in law reviews over a five-year period for tenured law faculty at 96 schools.

The authors noted that legal scholarship is directed toward an audience, and therefore legal scholars should “ask whether anyone is reading what we have written” and whether the scholarship provokes “intellectual engagement.”82 They stated that scholarly impact should be measured by “whether other legal scholars actually employ our contributions in their own scholarly work.”83 One way to examine that engagement is through Leiter’s Scholarly Impact Scores, which they stated, “have risen to the forefront as a way to objectively measure how a law faculty collectively is succeeding in provoking exploration of ideas within the community of legal scholars.”84

These authors argued that “Scholarly Impact Scores are remarkably egalitarian and democratic” for several reasons, including that a citation counts the same regardless of the rank of the journal, the rank and geographic location of the author’s employer, or the presumed prestige of the subject matter.85 While there is concern that citation count studies would favor those writing on trendy topics and harm those writing on less popular topics or for smaller audiences, this study argues that “the multiple year range of this study and the nature of the measurement in evaluating the collective impact of an entire faculty should mitigate such concerns.”86

For this study, the authors focused on the faculty of 96 law schools, based on the law schools that had “ranked in or near the top seventy for scholarly impact” in previous studies.87 Faculty rosters for each school focused on “the traditional law school professor with traditional scholarly expectations,” meaning those typically expected to publish in legal journals.88 The rosters used in the study did not include untenured or non-tenure-track faculty, such as clinical faculty and legal research and writing faculty.89 However, several schools did not differentiate between classroom and clinical faculty, and had the same scholarly expectations for all faculty. For each

81 Sisk, et al. (2012), supra note 8, at 850.
82 Id. at 842.
83 Id. 843.
84 Id.
85 Id. at 844–45.
86 Id. at 845.
87 Id. at 848.
88 Id.
89 Id.
of those schools, the authors “accepted that law school’s description and included all those faculty on the roster.”Faculty rosters were determined by the cut-off date of June 15, 2012. Visiting faculty were assigned to their home schools unless the announcement of a permanent move had been made.

After determining the schools and faculty rosters, the authors conducted the following search for each tenured faculty member in Westlaw’s Journals and Law Reviews database (JLR): “firstname /2 lastname and date(aft 2006) and date(bef 2012).” The search terms were adjusted to accommodate faculty who had published under more than one name. For faculty members with names considered common or similar to historical figures, the authors “examined the first fifty results (or all results if there were fewer than fifty), compared them to a list of publications by that faculty member, identified which of the first fifty results were to the person under study, and then applied the percentage of correct hits in that first fifty to the full search results.”

The study was conducted in May 2012, to allow “the addition of new pre-2012 articles to stabilize.” After pulling the citation count data, the study followed Leiter’s method of ranking the schools by a weighted score, calculated by using the same formula of “mean x 2 plus the median.” This weighted score is used because, as Brian Leiter noted in 2010, the “mean is more probative of overall impact than median”, thus doubling the mean gives it more weight. The study stops the ranking at #64 because the authors found that schools below the top third were grouped so closely together by impact score that attempting to rank them would have little meaning or value. In addition to ranking faculties collectively, the authors also noted “the individual tenured law faculty members at each ranked law school with the highest citation counts.”

The results of the study, similar to the Eisenberg and Wells study, showed Yale, Harvard, Chicago, and Stanford at the top of the Scholarly Impact rankings. However, as with other scholarly impact studies, this study also found that “several law faculties appear to be significantly undervalued in popular rankings of law

90 Id. at 849.
91 Id. at 849–50.
92 Id. at 850.
93 Id. at 850–851.
94 Id. at 851.
95 Id.
96 Brian Leiter, Top 25 Law Faculties in Scholarly Impact, 2005-2009, BRIAN LEITER’S LAW SCHOOL RANKINGS, http://www.leiterrankings.com/faculty/2010_scholarlyimpact.shtml. (For stats terminology see, MATH IS FUN, https://mathsisfun.com/data/index.html: mean is the average number of citations per school’s faculty; median is the middle number in the value ordered list of the of number of citations per school’s faculty.) (Both websites, last visited May 24, 2021).
97 Sisk, et al. (2012), supra note 8, at 852.
98 Id. at 853.
The Role of Citation in the Law

schools." The study results specifically highlight eighteen law school faculties that "achieve much higher Scholarly Impact rankings than those assigned by U.S. News & World Report." Referencing a study by Richard Schmalbeck, law school reputational surveys showed little movement over a 25-year period, and "he observed, 'no other category of professional school [showed] anything approaching the law schools' level of reputation stability." Sisk, et al., note that for several schools such as Cardozo, Florida State, George Mason, University of St. Thomas, Hofstra, and UNLV, "their ranking by popular survey has not kept pace with their rise in scholarly impact.”


In the 2015 update of the Sisk, et al., study, the authors once again examined the Scholarly Impact of the top third of law schools accredited by the American Bar Association (ABA). The authors acknowledged that there was a nationwide decline in law school applications since 2011, posing a challenge for schools in where to allocate funds and how to balance teaching and administrative duties with scholarly productivity for their remaining faculty. However, the results of this update showed that "those law schools that previously have ranked among the top third in the country in Scholarly Impact appear to have met the educational challenge without sacrificing faculty scholarly activity.”

The authors included a brief discussion of the purposes of continued support for faculty scholarship, and whether there is a trade-off between scholarship and teaching quality. They reference several studies that indicate that scholarly production does not harm teaching quality, and a recent study that found a positive correlation between scholarly productivity and student evaluations. Next, the authors recapped the arguments from the 2012 study, describing why citation counts are a reasonable and reliable measure for scholarly impact, and by extension, faculty

99 Id. at 860.
100 Id. (The schools highlighted were: Brooklyn Law School, Cardozo, Case Western Reserve University, Chapman University, Colorado, Florida State, George Mason, University of Hawaii, Hofstra, University of Houston, University of Missouri at Columbia, UNLV, New York Law School, Penn State, Pittsburgh, Rutgers at Camden, Seattle University, and University of St. Thomas).
102 Sisk, et al. (2012), supra note 8, at 865.
103 Sisk, et al. (2015), supra note 8, at 103.
quality. They also address some criticism of citation count methodology by examining a study by Harrison and Mashburn, which argued that citation counting fails to measure impact because not all citations have equal value. Harrison and Mashburn argued that since citations range from substantive discussion of an article to a mere mention, impact cannot be accurately measured from simply counting citations. Sisk, et al., responded that attempting to classify citations as substantive or not would be too subjective and costly. Additionally, any type of citation to an article shows engagement with that article, and thus should register as impact. Finally, the Sisk, et al. Scholarly Impact Ranking evaluates faculties, calculating the mean and median for each school’s faculty, therefore, “when law schools are compared collectively by means and medians, individual variation on quality of citations should largely be drained out in the wash.”

This study followed the methodology of the 2012 study. The authors selected 98 law schools, which included all the schools that had ranked in or near the top seventy of the 2010 and 2012 Scholarly Impact studies. Rosters of tenured faculty were prepared for each school and shared with the schools for confirmation. For each faculty member, the authors used the Westlaw Law Reviews and Journals database, searching “firstname/2 lastname and date(aft 2009) and date(bef2015).” The data was pulled in June 2015, to allow for stabilization of available pre-2015 articles. The same sampling method from the 2012 study was used again for faculty with common names or names similar to prominent figures. They calculated a mean and median for each school, then calculated the weighted score for each, again using the formula “mean × 2 plus the median.”

Results of this study were similar to the 2012 study. Yale, Harvard, Chicago, NYU, and Stanford were still at the top of the Scholarly Impact ranking. However, the authors noted that several schools moved up by more than five places since the 2012 study. The authors also found that, yet again, several schools appeared to be “significantly under-valued” in the U.S. News rankings, compared to their Scholarly Impact ranking. The list of undervalued schools included some of the same undervalued schools that the 2012 study had highlighted: George Mason, Case Western, University of St. Thomas, Hofstra, Cardozo, Brooklyn, Rutgers-Camden, Pittsburgh. The 2015 study also highlighted a few more undervalued schools: California-Irvine, Vanderbilt, Illinois, Toledo, DePaul, University of San Diego, University of San Francisco, and Chicago-Kent.

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106 Id. at 116.
107 Id. at 117–118.
108 Id. at 118.
109 Id. at 127–128.

Sisk updated the Leiter Scores and Scholarly Impact rankings again in 2018. This update begins with a discussion and defense of engagement in faculty scholarship. The authors acknowledge that many schools are still facing financial challenges, and that has lead others in the profession to question the value of supporting faculty scholarship. However, the authors argue that faculty scholarship is beneficial for several reasons, including supporting the school’s goal of intellectual rigor, problem-solving legal issues, maintaining a dynamic classroom, and inspiring students to professional engagement.  

The 2018 update followed the same methodology of the 2012 and 2015 studies. The authors examined 99 law schools, including “all law schools that previously scored in or near the top seventy for Scholarly Impact” in the 2012 and 2015 results. The study focused on rosters of tenured faculty, verified with each school. While the study continued to use Westlaw’s Law Reviews and Journals database, the search terms were revised to utilize a new field restriction in the Advanced Search function, “TE” (an abbreviation for “text”) to omit “the initial asterisk footnote, thus excluding mere acknowledgments of a professor without any accompanying citation to his or her scholarly work.” The following search was conducted for each faculty member: “TE(firstname /2 lastname) and date(aft 2012) and date(bef 2018).” This study also continued to use Leiter’s formula to calculate a weighted score for each school, which is then used to rank the schools: “the mean x 2 plus the median.”  

The results of the study, compared to the 2015 study, showed “a distinct pattern of decline in citations over the past three years, for most (but not all) individual scholars and for law school faculties collectively.” The authors propose two reasons for this decline. First, Westlaw’s new TE field restriction enabled the authors to exclude the asterisk footnote, which was not possible with the previous studies. Second, the authors suggest that citation data is beginning to show the effects of the decreases in scholarly productivity, resulting from the legal recession’s impact on school budgets and faculty responsibilities.  

The top ranked faculties in Scholarly Impact continued to be Yale, Harvard, Chicago, NYU, Columbia, and Stanford. The study also showed the same schools

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111 Id. at 108.
112 Id. at 109.
113 Id. at 109-110.
114 Id. at 112.
115 Id. at 113.
116 Id. at 114.
being consistently undervalued by the U.S. News rankings when compared to the Scholarly Impact ranking: Vanderbilt, California-Irvine, University of St. Thomas, George Mason, Hofstra, University of San Diego, Chicago-Kent, Brooklyn, Case Western, and San Francisco.\textsuperscript{117}

Heald & Sichelman, \textit{Ranking the Academic Impact of 100 American Law Schools} (2019)

Heald and Sichelman conducted a citation count study similar to the Sisk, et al., studies but used HeinOnline to gather the data and included download statistics from SSRN for comparison. They argued that HeinOnline has several advantages over Westlaw for counting citations. First, HeinOnline minimizes the \textit{et al.} problem by including all authors of an article in the citation. Next, the HeinOnline database has a more extensive collection of periodicals, including more foreign periodicals than Westlaw’s collection. Additionally, HeinOnline does not count blog posts or editor-only citations. Finally, HeinOnline uses the Bluebook citation to locate and count citations, which enables counting “multiple citations to different articles by a single author in a given publication as multiple citations and also overcomes spelling errors in author names.”\textsuperscript{118} However, one major limitation of HeinOnline is that it leaves out citations to “books, book chapters, treatises, and other non-law review citations.”\textsuperscript{119}

Another difference from the Sisk, et al., studies is that Heald and Sichelman include download statistics from SSRN. They argue that SSRN data can potentially “provide a better sense of the ‘splash’ an article has made.”\textsuperscript{120} While SSRN has been criticized as less reliable than HeinOnline and Westlaw, Heald and Sichelman’s methodology adjusted for that, making SSRN a useful measure for impact. They argued that “evidence of consumption, even partial consumption, of a work may be more impressive than the evidence provided by mere citation” and that “a high download count indicates that a professor’s work is considered noteworthy to those interested in a particular field.”\textsuperscript{121} This study also expanded assessment to 100 law schools, and the authors made their data available online, enabling others to download their spreadsheets and conduct their own weighting and ranking methodology.\textsuperscript{122}

\begin{footnotesize}
\begin{enumerate}
\item \textsuperscript{117} Id. at 130–131.
\item \textsuperscript{118} Heald & Sichelman, \textit{supra} note 4, at 4.
\item \textsuperscript{119} Id. at 4.
\item \textsuperscript{120} Id. at 5.
\item \textsuperscript{121} Id. at 10.
\item \textsuperscript{122} Id. at 5. Links were provided in the footnotes of the study: at https://www.dropbox.com/s/x76s2kff2vq8p18/Final%20Heald-Sichelman%2OData--Feb%202016%2ORankings.xlsx?dl=0
\end{enumerate}
\end{footnotesize}
The results of Heald and Sichelman’s study showed “that despite the wide divergence of various methodologies that can be used to rank law school impact, the results are quite similar.”\textsuperscript{123} They found a high correlation (0.84) between their SSRN-only and Hein-only rankings. They also found “a high correlation (0.88) between [their] overall rankings and that of Sisk et al.”\textsuperscript{124} Heald and Sichelman noted that despite “differences in methodology and data, quantitative rankings of law school impact are quite robust to changes in approach.”\textsuperscript{125} Moreover, they found that the correlation between the \textit{U.S. News}’ peer assessment ranking and their overall ranking was only 0.63, showing that several schools were likely being underrated by the peer assessment scores.\textsuperscript{126}

Heald and Sichelman employed a similar strategy as the other citation count studies. First they identified the schools to include in the study, then developed a faculty roster for each school, and finally pulled their data. The 100 schools in their study were selected by comparing the top 100 downloaded schools on SSRN and the top 100 schools in the \textit{U.S. News} ranking. Among those two lists, the authors found significant overlap and “chose the top 83 schools from each list, which gave [them] 100 schools for analysis.”\textsuperscript{127} The list also included 63 of the schools ranked by Sisk, et al. Faculty rosters were made up of “all ‘traditional’ tenured and tenure-track faculty at each law school” excluding “librarians, clinicians, legal writing instructors, emeriti and adjuncts.”\textsuperscript{128} Rosters were compared to the AALS Directory, school websites, SSRN and HeinOnline listings, and sent to school administrators.\textsuperscript{129}

Raw data on “all-time citations, citations in the previous 10 years, and citations in the previous 12 months” was provided by HeinOnline for each author and law journal article in the collections as of September 2016.\textsuperscript{130} Using their faculty rosters, Heald and Sichelman “populated total citation counts for each author at each school, then aggregated those counts to determine school-wide citation counts.”\textsuperscript{131} They collected the SSRN data during February 2016, and included 4009 authors from 100 schools. The study reports download statistics in the following categories: total, median, and mean all-time downloads; and total, median, and mean 12-month downloads.\textsuperscript{132}
The results section provides an in-depth examination of the data, analyzing the different categories of citations and downloads across professor ranks. Heald and Sichelman found that for both HeinOnline and SSRN data, all-time counts increased from “associate to full (non-named) professors and, again, from full (non-named) professors to named professors, in median and mean citation counts.”\textsuperscript{133} Comparatively, the 12-month median and mean counts were much closer across the professor ranks. When discussing the mean and median counts by school, the authors noted “a very high 0.92 correlation between law schools’ all-time mean and all-time median for the 100 schools in [their] sample, indicating that most schools exhibit about the same frequency of ‘superstars’ and ‘consistency’ relative to their peers in the rankings.”\textsuperscript{134} Additionally, the authors found a correlation of 0.97 between all-time and 12-month means, and correlation of 0.90 between all-time and 12-month medians.

To calculate overall scores for each school and thus determine school rankings, the authors used the Leiter and Sisk et al. formula of mean $\times$ 2 plus the median. They reported SSRN-only rankings, Hein-only rankings, and a combined ranking.\textsuperscript{135} The sets of rankings were highly correlated, with correlation of 0.97 between the SSRN-only and the combined ranking, and 0.94 between the Hein-only and the combined ranking. While some schools moved up or down in the rankings depending on the set of data used, most schools with high SSRN download counts also had high Hein citation counts.\textsuperscript{136}

Heald and Sichelman compared their school rankings to other studies, and found a high correlation of 0.88 with the Sisk et al. rankings, but a lower correlation of 0.63 with the \textit{U.S. News} peer assessment rankings. They also pointed out a few specific examples of schools that were underrated and overrated by \textit{U.S. News}. For example, Vanderbilt was 5th in their combined ranking, 10th in the Sisk et al. ranking, and 17th in the \textit{U.S. News} peer assessment ranking. A more dramatic example, as other studies noted, is the University of St. Thomas at 21\textsuperscript{st} in the combined ranking, 23\textsuperscript{rd} in the Sisk et al. ranking, but only 139\textsuperscript{th} in \textit{U.S. News}. On the other hand, the University of Wisconsin was 30\textsuperscript{th} in \textit{U.S. News}, but only 74\textsuperscript{th} in the Heald and Sichelman’s combined ranking.\textsuperscript{137} A few other schools that were notably underrated by \textit{U.S. News}, and had been noted as underrated in the other citation studies, were Chapman, Case Western, Brooklyn, George Mason, and UC Irvine.\textsuperscript{138}

\textsuperscript{133} Id. at 17.
\textsuperscript{134} Id. at 19.
\textsuperscript{135} Id. at 19–30.
\textsuperscript{136} Id. at 31.
\textsuperscript{137} Id. at 32.
\textsuperscript{138} Id. at 33.
Heald and Sichelman also discussed the limitations of their study. First, they recognized that “neither citation counts nor article downloads are a perfect proxy for faculty quality.”139 Next, they noted that despite their best efforts, the compiled faculty rosters may have inaccuracies. Additionally, citation counts from HeinOnline omit citations to books and treatises, and SSRN is not the only provider of articles for download. They also noted that 12-month data sets are too limited of a window to accurately gauge a school’s recent activity, and that including pre-tenure faculty could have harmed schools with high numbers of pre-tenure faculty. The authors then argued, however, that these limitations are mostly overcome by ranking schools based on their aggregate counts and weighted scores, and that the high correlations between their data sets and between their study and the Sisk et al. study showed that the impact of the limitations was minimal.140

C. Interdisciplinary Citations Method

The citation count studies described above focus on citations in legal publications to other legal publications, and largely leave out the valuable contributions of interdisciplinary scholarship. Additional drawbacks of the studies that rely on Westlaw databases, are that Westlaw’s system “counts citations of authors, not articles” and that it counts self-citations.141 Westlaw also counts “citations to multiple articles by the same author appearing in a single publication as one total citation to that author,” credits the editors of a volume along with the actual author of the chapter being cited, and counts citations to blog posts.142 For articles with three or more authors, Rule 15.1 of The Bluebook recommends using “[first author], et al.,” or listing all of the authors “when particularly relevant.”143 This et al. problem “can affect counts of authors who write with multiple coauthors and have last names beginning with disadvantaged letters.”144

One study from 2019 sought to fill in the missing pieces regarding interdisciplinary scholarship. The term interdisciplinary scholarship “refers to

139 Id. at 35.
140 Id. at 35–36.
141 Black & Caron, supra note 1, at 92 (emphasis in original).
142 Heald & Sichelman, supra note 4, at 3.
144 Black & Caron, at 92, see n.27, referring to the issue that authors are listed in alphabetical order by last name, and when et al. is used, authors with last names at the end of the alphabet are more frequently cut off and thus do not get the citation count, citing Raymond P.H. Fishe, What Are the Research Standards for Full Professor of Finance?, 53 J. FIN. 1053, 1075 (1998).
exploring citation count methods

The 2019 study by Ruhl, Vandenbergh, and Dunaway captured "the degree to which legal scholars are publishing in non-law journals and the extent to which that work is cited in law and non-law journals." Ruhl's team selected Web of Science, in contrast to using Westlaw or HeinOnline, because of its extensive collection of non-law publications. Web of Science is marketed as a global citation database. It functions much like other research databases, offering different search functions and filters. The Web of Science Core Collection used by Ruhl's team is "curated by an expert team of in-house editors" and "includes only journals that demonstrate high levels of editorial rigor and best practice." The Core Collection features indexing back to 1900 where available, and contains over 21,000 journals, 180,000 conference proceedings, 80,000 books, and covers 254 subject disciplines. The journal collection currently includes 467 law journals, and more content is being added constantly.

Ruhl's study covered a five-year period (2012-2018), and examined over 600 tenured law faculty from 25 schools, which resulted in 3,000 articles in non-law publications in the Web of Science database, and 21,000 citations to those articles. The volume of articles and citations indicated that "a good number of law faculty work at the core of interdisciplinary engagement—they publish in non-law journals and those publications are recognized in law and non-law journals." The study represents the first ranking of law faculties based on non-law journal citations, which they refer to as the Interdisciplinary Scholarly Impact Score (IDR Score).

In their paper, they argue that "non-law citations can be an important reflection of a legal scholar's influence on theoretical and applied legal scholarship," and that "non-law citations can be an important indicator of a legal scholar's influence on interdisciplinary scholarship." The authors also point out that "readership of the top non-law journals is much larger than that of even top law

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145 Ruhl et al., supra note 19, at 11, citing the National Academies, NAT'L ACAD. SCI., ENGINEERING & MED., INST. MED., FACILITATING INTERDISCIPLINARY RESEARCH 2 (2005): "Interdisciplinary research is a mode of research by teams or individuals that integrates information, data, techniques, tools, perspectives, concepts, and/or theories from two or more disciplines or bodies of specialized knowledge to advance fundamental understanding or to solve problems whose solutions are beyond the scope of a single discipline or area of research practice."

146 Ruhl et al., at 6.

147 Id.


149 See Web of Science, Master Journal List (select “Law” in the Category filter to view the list of law journals): https://mjl.clarivate.com/search-results (last visited May 24, 2021).

150 Ruhl et al., at 6.

151 Id. at 7.

152 Id.
reviews, and the readers of these journals often include influential scholars and policymakers at a level that few, if any, law reviews can match."\(^{153}\) Additionally, Sisk recognized in his 2012 legal citation study that while interdisciplinary works are usually aimed at other disciplines, "the most influential interdisciplinary scholars in the legal academy tend to have significant followings inside the legal academy as well."\(^{154}\)

Beyond the scope and influence of non-law readership, interdisciplinary publications have additional benefits. Most non-law journals are peer-reviewed by subject experts, meaning that "citations in these journals may suggest empirical and theoretical advances that have passed muster among critics with expertise in these non-law areas that are relevant to law."\(^{155}\) Ruhl et al. identify several other benefits including problem identification, gap-filling, paradigm-shifting, and idea transfer. Problem identification occurs when a non-law publication cites to legal scholarship, indicating that "the legal scholarship identified or framed legal problems in ways that have induced other fields to conduct new theoretical or empirical studies."\(^{156}\) The results of those non-law studies may then influence legal scholarship and potential legal reform. Legal scholars engage in "gap-filling" by publishing non-law scholarship in non-law journals. This supports "legal scholarship by answering factual or theoretical questions that are important for legal theory and law reform but require the co-authors, editing expertise, and peer review that are more common in many non-law journals."\(^{157}\) Paradigm-shifting refers to the concept that when non-law publications cite to legal scholarship, it indicates "that the legal scholar has presented empirical data or ideas that may transcend or challenge the dominant legal thinking and may over the long run force legal scholars to adopt new approaches."\(^{158}\) Idea transfer refers to the practice of legal scholars citing law journals when publishing in non-law journals, which can add to "the movement of legal concepts into the literature of other disciplines."\(^{159}\)

The goals of this study were to "track as closely [sic] the Sisk et al. law-only study, with the substitution of non-law publications and citations in Web of Science" and to "supplement the Leiter-Sisk work by demonstrating the viability and importance of citation counts for legal scholars in non-law publications."\(^{160}\) The

\(^{153}\) Id. at 8, citing BPA Worldwide for circulation and subscription data on the publication *Science*, which had over 129,000 subscriptions in 2019, compared to the *Harvard Law Review’s* 1,344 paid subscriptions in 2018. However, the authors do not mention law review readership statistics for including online databases such as Westlaw or HeinOnline, or statistics on readership access through institutional subscriptions.

\(^{154}\) Sisk, et al. (2012), *supra* note 8 at 846.

\(^{155}\) Id.

\(^{156}\) Id. at 11, referencing Tracey E. George & Chris Guthrie, *Joining Forces: The Role of Collaboration in the Development of Legal Thought*, 52 *J. LEGAL EDUC.* 559 (2002).

\(^{157}\) Ruhl, et al., at 11.

\(^{158}\) Id.

\(^{159}\) Id. at 18.
study focused on publications from 2012 to 2018 and utilized the same faculty rosters as the 2018 Sisk study, but focused on a smaller number of schools due to limitations in time and resources. The schools studied included the U.S. News’ 2019 top 25 law schools, plus four law schools from other tiers for comparison. Out of the selected schools, they focused on the law faculty members “who published at least one sole or co-authored article in a non-law journal during the 2012-2018 time frame.” They used Web of Science for gathering the citations because it “is considered ‘the most well-known and most used resource for citation analysis’ and contains over 20,000 journals across numerous disciplines, including hundreds of law journals.”

For each faculty member, the study team used Web of Science to generate the author’s publication profile for 2012-2018, then they used the database filters to exclude the “Law” publication category, in order to focus on the faculty’s non-law publications. However, this only removed the law publications from the author’s publications list, and law journals were actually still included in the pool for counting the author’s citations. The study therefore measures non-law and law citations to an author’s non-law publications. Once the list of each author’s non-law publications was determined, the study team “collected Web of Science’s Citation Report data regarding the number of publications, number of citations excluding self-citations, and number of articles citing the author.” Using those numbers, they calculated the mean and median number of citations for each school, and the “followed the Sisk et al. method, \(2 \times \text{mean} + \text{median}\), for calculating each school’s Interdisciplinary Impact Score.” They also “added the Sisk law weighted score and [their] non-law weighted scores to produce a Total Weighted Score for each school.”

The study found that while over half of the faculty for each school had no non-law publications “there are sub-faculties at most of the law schools we studied who have actively published sole or co-authored articles in non-law journals.” The results of the study were compared with the U.S. News rankings and found that several top-ten schools in those rankings actually placed in the bottom half of the interdisciplinary impact rankings. Another difference is that Minnesota ranked first in interdisciplinary impact but was 20th in the U.S. News rankings. However, the ranking by Total Weighted Score was “considerably closer to the U.S. News rankings.”

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161 Id. at 19.
162 Id. at 18.
163 Id. at 20, citing Rebecca Welzenbach, Research Impact Metrics: Citation Analysis, https://guides.lib.umich.edu/citation (last visited May 24, 2021).
164 Ruhl, et al., at 21–22.
165 Id. at 23.
166 Id.
167 Id. at 19.
168 Id. at 24–25.
169 Id. at 25.
Ruhl, Vandenberg, and Dunaway also provided a ranking of the top 50 legal scholars from the citation study. The data showed that the fields of “law and health/medicine, law and psychology, and environmental law” dominated the group. It is also important to note that the top 50 scholars make up only 8% of the cohort of 605 faculty included in the study, but account for 75% of the total citations.170

While Web of Science has some limitations, and relatively few of the faculty in the study generated large numbers of non-law citations, this study still demonstrated the possibilities of calculating an interdisciplinary impact ranking. Similar to the other citation-based rankings, the study also showed that the current U.S. News rankings may be undervaluing some law schools and overvaluing others. The authors concluded that “comparisons with Leiter-Sisk, U.S. News, and SSRN download rankings suggest that the Interdisciplinary Scholarly Impact Score provides a valuable supplement to the other rankings.”171

III. THE MAURER LAW INTERDISCIPLINARY COUNT

A. Conducting the Count

Following the release of the Ruhl, Vandenberg, and Dunaway study, the administration at Maurer Law were curious to learn where the Maurer faculty would place on a ranking of interdisciplinary scholarly impact.172 Concerns about using HeinOnline as the sole source for faculty publications in the forthcoming U.S. News scholarly impact rankings led to the administration asking me to duplicate the Ruhl study methodology using our faculty roster, and to estimate Maurer’s interdisciplinary impact score.

I used the same faculty rosters as the Sisk study because the Ruhl study had also used those rosters. Maurer was included in the 2018 Sisk study, and ranked #36 for scholarly impact by legal citations.173 I located a copy of the 2018 faculty roster that had been sent to Sisk and created a spreadsheet to begin gathering data from Web of Science. I conducted the citation count in December of 2019, in order to present the information at the annual faculty retreat in January 2020.

To calculate each of the 40 faculty members’ citations, I took the following steps:

1. Used the “Author Search” feature to locate a profile and publication list for the professor. Most of the faculty had beta profiles (profiles created

170 Id. at 29.
171 Id. at 36.
172 See id. at 18–19. The Maurer faculty were not included in the Ruhl study because that only focused on the top 25 schools of the U.S. News 2019 ranking. Maurer was ranked #32 that year (see U.S. News’ 2019 ranking, available from Spivey Consulting, https://blog.spiveyconsulting.com/2019-usnwr-rankings/).
173 Sisk, et al. (2018), supra note 8, at 98.
by the Web of Science database algorithm) and a few had already claimed their profiles and verified their publication lists.

2. Skimmed the publication list to verify it was the correct person.

3. Used the search filters to exclude the “Law” category publications and narrow to non-law publications from 2012-2018.

4. Checked the filtered publication list against the professor’s faculty bibliography page to ensure accuracy.

5. Used the citation report feature on Web of Science to determine the citation counts for the publications in the professor’s filtered list.

A few professors did not generate a viable beta profile and publication list due to being combined with unrelated authors with the same or very similar names. In those cases, I followed this alternate process:

1. Checked the professor’s library-maintained bibliography page for any non-law publications in the 2012-2018 timeframe (qualifying publications).

2. Searched for each qualifying publication in the Web of Science database using the “Cited Reference” search to get its citation count.

3. Added up the citation counts from each of the professor’s qualifying publications (if they had more than one) to get a total number for that professor.

For each professor with a beta or claimed profile, if the step of excluding “Law” category publications from their Web of Science publication list resulted in no publications, I double-checked their library-maintained bibliography page and looked for any potential non-law publications. If there was a potential qualifying publication, I then followed the “Cited Reference” process above. However, this rarely occurred because, as the Ruhl, et al., study found, many law professors do not have non-law publications.

After I gathered the total citation counts for each professor, I ordered the faculty list from highest to lowest number of interdisciplinary (IDR) citations to non-law publications. I also added a column to note each professor’s usual field of study (Table 1). Similar to the Ruhl, et al., study, and Black and Caron’s SSRN data, I

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174 The Law Library maintains a bibliography page that contains a full list of all publications for each faculty member: https://law.indiana.libguides.com/current-faculty. (last visited May 24, 2021).

175 Pro tip: if you are going to conduct one of these citation counts, invest in an ad-free premium subscription to your favorite music streaming platform.

176 See Ruhl, et al., supra note 19, at 19.
found that the Maurer Law faculty at the top of the list were publishing in the same currently popular topics: law and healthcare, cyberlaw, and environmental law.\(^{177}\)

<table>
<thead>
<tr>
<th>Faculty Member*</th>
<th>Primary Field(s)</th>
<th>IDR Citations**</th>
</tr>
</thead>
<tbody>
<tr>
<td>FM-13</td>
<td>International Law, Health, Cybersecurity</td>
<td>335</td>
</tr>
<tr>
<td>FM-8</td>
<td>Environmental Law, Public Policy</td>
<td>123</td>
</tr>
<tr>
<td>FM-27</td>
<td>Intellectual Property, Data Law and Policy</td>
<td>62</td>
</tr>
<tr>
<td>FM-7</td>
<td>Data (incl. health) Privacy, Cybersecurity</td>
<td>35</td>
</tr>
<tr>
<td>FM-14</td>
<td>Environmental Law</td>
<td>32</td>
</tr>
<tr>
<td>FM-26</td>
<td>Law and Medicine, Reproductive Rights</td>
<td>24</td>
</tr>
<tr>
<td>FM-16</td>
<td>Tax Law &amp; Policy, Health Law &amp; Policy</td>
<td>16</td>
</tr>
<tr>
<td>FM-4</td>
<td>Corporations, Law &amp; Economics</td>
<td>10</td>
</tr>
<tr>
<td>FM-38</td>
<td>Employment Law, Family Law, Legislative Process</td>
<td>10</td>
</tr>
<tr>
<td>FM-19</td>
<td>Legal Profession, Higher Ed</td>
<td>4</td>
</tr>
<tr>
<td>FM-25</td>
<td>Legal History and Civil Rights</td>
<td>3</td>
</tr>
<tr>
<td>FM-37</td>
<td>International Law</td>
<td>3</td>
</tr>
<tr>
<td>FM-5</td>
<td>Criminal Law, Torts, Race &amp; Law</td>
<td>2</td>
</tr>
<tr>
<td>FM-12</td>
<td>Labor and Employment</td>
<td>2</td>
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<tr>
<td>FM-21</td>
<td>Intellectual Property</td>
<td>2</td>
</tr>
<tr>
<td>FM-24</td>
<td>Tax Law &amp; Policy</td>
<td>2</td>
</tr>
<tr>
<td>FM-34</td>
<td>Constitutional Law, LGBT Law and Policy</td>
<td>2</td>
</tr>
<tr>
<td>FM-2</td>
<td>Environmental Law</td>
<td>1</td>
</tr>
<tr>
<td>FM-15</td>
<td>Civil Rights and Legal History</td>
<td>1</td>
</tr>
<tr>
<td>FM-29</td>
<td>Human Rights, International Law and Business</td>
<td>1</td>
</tr>
<tr>
<td>FM-32</td>
<td>Law and Social Psychology</td>
<td>1</td>
</tr>
</tbody>
</table>

\(^{177}\) See Id. at 29; Black & Caron, *supra* note 1, at 85.
<table>
<thead>
<tr>
<th>FM-1</th>
<th>Admin law, International Relations</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>FM-3</td>
<td>Criminal Law and Procedure, Race &amp; Law</td>
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</tr>
<tr>
<td>FM-6</td>
<td>Contracts, Conflict of Laws</td>
<td>0</td>
</tr>
<tr>
<td>FM-9</td>
<td>Religion, Constitutional Law</td>
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</tr>
<tr>
<td>FM-10</td>
<td>History</td>
<td>0</td>
</tr>
<tr>
<td>FM-11</td>
<td>IP Law and Biotechnology</td>
<td>0</td>
</tr>
<tr>
<td>FM-17</td>
<td>Judicial Ethics</td>
<td>0</td>
</tr>
<tr>
<td>FM-18</td>
<td>Legal History, Trusts &amp; Estates</td>
<td>0</td>
</tr>
<tr>
<td>FM-20</td>
<td>Criminal Law</td>
<td>0</td>
</tr>
<tr>
<td>FM-22</td>
<td>Civil Rights, Reproductive Rights</td>
<td>0</td>
</tr>
<tr>
<td>FM-23</td>
<td>Legal Profession, Globalization, Access to Justice</td>
<td>0</td>
</tr>
<tr>
<td>FM-28</td>
<td>Securities, Corporate Law and Policy</td>
<td>0</td>
</tr>
<tr>
<td>FM-30</td>
<td>Procedure, Evidence, and Family Law</td>
<td>0</td>
</tr>
<tr>
<td>FM-31</td>
<td>Transnational Law and Litigation, Legal Education</td>
<td>0</td>
</tr>
<tr>
<td>FM-33</td>
<td>Procedure, Federal Jurisdiction</td>
<td>0</td>
</tr>
<tr>
<td>FM-35</td>
<td>Criminal Law and Procedure</td>
<td>0</td>
</tr>
<tr>
<td>FM-36</td>
<td>Property Law, Legal Education</td>
<td>0</td>
</tr>
<tr>
<td>FM-39</td>
<td>Constitutionalism, Transnational Law</td>
<td>0</td>
</tr>
<tr>
<td>FM-40</td>
<td>Constitutional Design, Feminist Jurisprudence</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td>671</td>
</tr>
</tbody>
</table>

| *Names omitted; identification number assigned unrelated to citation count. |  |
| **Count of citations to each faculty member's articles that they authored or co-authored in Non-law journals, published 2012-2018, and excluding self-cites. |  |

Table 1. List of faculty, ordered by citation count.

Once my list was compiled, I calculated a total of 671 interdisciplinary citations, a mean of 17 and a median of 1, for all faculty (Table 2). Calculating a median of 1 when including all faculty is somewhat significant because Ruhl’s team noted that over half of the faculty for each law school in the study had no non-law publications, and “the median for non-law citations using all faculty was also zero for all the schools.”\(^{178}\) In comparison, over half of the Maurer faculty had at least

\(^{178}\) Ruhl, et al., at 19.
one non-law publication, and Maurer’s median for non-law citations using all faculty was 1, which illustrates that Maurer’s faculty are making a greater impact in interdisciplinary scholarship than the faculty at many other schools.

I used the Sisk formula of $2 \times mean + median$ to calculate an Interdisciplinary (IDR) Impact Score for all faculty, which was 35. Comparing this IDR score to the table generated by Ruhl’s study, Maurer would rank between Northwestern at #20 with a score of 38 and Texas at #21 with a score of 22. This is, of course, just an estimate, since many schools were untested by the Ruhl study and would likely fall in the score range of 38-22. This estimate is also not an apples-to-apples comparison because Ruhl’s IDR scores and ranks were calculated after filtering out faculty with zero non-law publications. Maurer’s estimated score of 35 was calculated including all faculty, which demonstrates that even when Maurer is hindered by using the all-faculty score compared to other schools’ filtered-faculty scores, Maurer’s score shows a high rate of IDR impact that suggests it is undervalued by other ranking methodologies.

<table>
<thead>
<tr>
<th>Indiana University Maurer School of Law</th>
<th>IDR Weighted Score Calculation &amp; Impact Rank Estimate, All Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019 US News Rank</td>
<td>32</td>
</tr>
<tr>
<td>2018 Law Mean*</td>
<td>120</td>
</tr>
<tr>
<td>2018 Law Median*</td>
<td>104</td>
</tr>
<tr>
<td>2018 Law Weighted Score*</td>
<td>344</td>
</tr>
<tr>
<td><strong>2018 Law Impact Rank</strong></td>
<td>36</td>
</tr>
<tr>
<td>IDR Mean</td>
<td>17</td>
</tr>
<tr>
<td>IDR Median</td>
<td>1</td>
</tr>
<tr>
<td>IDR Weighted Score**</td>
<td>35</td>
</tr>
<tr>
<td>IDR Impact Rank Estimate***</td>
<td>21</td>
</tr>
<tr>
<td>Impact Rank Difference Law-IDR</td>
<td>+15</td>
</tr>
<tr>
<td>Heald &amp; Sichelman Ranking, SSRN Only</td>
<td>35</td>
</tr>
<tr>
<td>Heald &amp; Sichelman Ranking, Hein Only</td>
<td>44</td>
</tr>
<tr>
<td>Heald &amp; Sichelman Ranking, Combined Rank</td>
<td>39</td>
</tr>
</tbody>
</table>

179 See Id. at 19-22.
Exploring Citation Count Methods

*Law Weighted Score, Law Mean, Law Median, and Law Impact Rank all taken from Scholarly Impact of Law School Faculties in 2018: Updating the Leiter Score Ranking for the Top Third, Gregory Sisk, Nicole Catlin, Katherine Veenis, Nicole Zeman, 15 Univ. St. Thomas L. J. 95 (2018). Authors used Westlaw law journal database to determine law journal citations over five-year period to the work of tenured faculty members for each of the top-third ABA-accredited law schools.

**IDR Weighted Score calculated by: (following method used by Sisk et al.) 2 x mean + median.

*** According to Ruhl, Vandenbergh, & Dunaway in Total Scholarly Impact: Law Professor Citations in Non-Law Journals (2019), Northwestern is IDR Impact Rank #20 with an IDR Weighted Score of 38, and Texas is #21 with an IDR Weighted Score of 22. If IU’s score is 35, IU bumps Texas, assuming no other school from outside the Ruhl study would displace the IDR Impact rankings if their score was calculated.

Heald & Sichelman examined Law Citations and Law Impact but used Hein and SSRN for citation counts instead of Westlaw: Heald and Sichelman, Ranking the Academic Impact of 100 American Law Schools, Jurimetrics, v. 60, (2019).

Table 2. Weighted score calculation and impact rank estimate, based on all faculty.

To exactly duplicate Ruhl’s methodology, I then eliminated the faculty with zero non-law publications in 2012-2018 from my ordered list, which left 24 faculty members (Table 3). I recalculated the mean and median, resulting in a mean of 28 and median of 2.5 (Table 4). Based on these numbers, the IDR score would be 58.5, giving Maurer Law an estimated rank falling between Harvard at #15 with an IDR Score of 59, and NYU at #16 with an IDR score of 55. This direct comparison of Maurer’s filtered-faculty score to other schools’ filtered-faculty scores further demonstrates that Maurer faculty are being recognized at a high rate for their contributions in interdisciplinary scholarship. This also illustrates that omitting interdisciplinary citations from any scholarly impact measure misses a large piece of faculty impact, and leads to significantly undervaluing schools like Maurer.
The Role of Citation in the Law

Adjusted tables:

<table>
<thead>
<tr>
<th>Faculty Member</th>
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<th>IDR Citations*</th>
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</thead>
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<tr>
<td>FM-3</td>
<td>Criminal Law and Procedure, Race &amp; Law</td>
<td>0</td>
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<td>FM-22</td>
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<td>0</td>
</tr>
<tr>
<td>FM-31</td>
<td>Transnational Law and Litigation, Legal Education</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td><strong>671</strong></td>
</tr>
</tbody>
</table>

*Count of citations to each faculty member's articles that they authored or co-authored in Non-law
Table 3. Filtered faculty list, ordered by citation count.

<table>
<thead>
<tr>
<th>Indiana University Maurer School of Law</th>
<th>IDR Weighted Score Calculation &amp; Impact Rank Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Only Faculty with Non-Law Publications in 2012-2018</td>
<td></td>
</tr>
<tr>
<td>2019 US News Rank</td>
<td>32</td>
</tr>
<tr>
<td>2018 Law Mean*</td>
<td>120</td>
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<td>2018 Law Median*</td>
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<td>2018 Law Weighted Score*</td>
<td>344</td>
</tr>
<tr>
<td><strong>2018 Law Impact Rank</strong>*</td>
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<tr>
<td>IDR Mean</td>
<td>28</td>
</tr>
<tr>
<td>IDR Median</td>
<td>2.5</td>
</tr>
<tr>
<td>IDR Weighted Score**</td>
<td>58.5</td>
</tr>
<tr>
<td><strong>IDR Impact Rank Estimate</strong>*</td>
<td>16</td>
</tr>
<tr>
<td>Impact Rank Difference Law-IDR</td>
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<tr>
<td>Heald &amp; Sichelman Ranking, SSRN Only</td>
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</tr>
<tr>
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*Law Weighted Score, Law Mean, Law Median, and Law Impact Rank all taken from *Scholarly Impact of Law School Faculties in 2018: Updating the Leiter Score Ranking for the Top Third*, Gregory Sisk, Nicole Catlin, Katherine Veenis, Nicole Zeman, 15 Univ. St. Thomas L. J. 95 (2018). Authors used Westlaw law journal database to determine law journal citations over five-year period to the work of tenured faculty members for each of the top-third ABA-accredited law schools.

**IDR Weighted Score calculated by: (following method used by Sisk et al.) $2 \times \text{mean} + \text{median}$.
According to Ruhl, Vandenbergh, & Dunaway in *Total Scholarly Impact: Law Professor Citations in Non-Law Journals* (2019), Harvard is IDR Impact Rank #15 with an IDR Weighted Score of 59, and NYU is #16 with an IDR Weighted Score of 55. If IU’s score is 58.5, IU bumps NYU, assuming no other school from outside the Ruhl study would displace the IDR Impact rankings if their score was calculated.


Table 4. Estimated IDR Score and Impact Rank, using the filtered faculty list.

### B. Observations While Conducting the Count

In addition to the pros and cons of each database already described, I noted a few other issues while conducting the citation count in Web of Science, and another citation count project involving multiple databases. First, I noticed a lack of uniformity in what exactly each database is counting, the terminology used by the databases, and how those terms are defined. Web of Science uses the terms “times cited” and “citing articles” to mean different things, whereas some authors and databases use those terms interchangeably, or only provide one type of counting. On Web of Science, an author’s “times cited” means the total number of citations to that author, whereas “citing articles” means the total number of articles that have cited one or more of an author’s publications. HeinOnline provides “cited by articles” which is defined as “the number of times this author has been cited by other articles in HeinOnline.” If a researcher wants to compare data from Web of Science and HeinOnline, but uses “times cited” from Web of Science and “cited by articles” from HeinOnline, the results are not an apples-to-apples comparison.

Another problem that I had with Web of Science occurred with authors that did not have a beta profile, and involved surprising access limitations. When searching by each non-law publication to find the citation count, the search result page displays the all-time number of citing articles (if any) for that non-law publication, and does not break it down by year. This means that if a study was focused on a specific time period, the researcher must click on the hyperlinked total number of citing articles in order to view the actual list of articles with their full citation counts.
citations. Then, once able to view each article’s publication date, count only the articles from the correct date range. However, due to access limitations, the result list may not include all of the citing articles.

To illustrate this problem, here is an example of a publication search that I conducted when I later expanded the Maurer citation count to include all-time Web of Science citations. I ran a Cited Reference search for title: “Intellectual property protection for plant innovation” and author: Janis. I retrieved the correct article, and the search results showed 13 citing articles. However, when I clicked on the link to view the list of citing articles, only 10 articles appeared. I contacted customer support and they explained that clicking on the linked number to view the list of citing articles will only display the articles for which the user has a subscription. Even though those 13 articles were in the Web of Science Core Collection, and my library subscribes to the Core Collection, subscription depth varies for every institution, and the institution may not have subscription coverage for all years and all databases within the Core Collection. For those 3 articles outside of my library’s subscription, I could not see any information about them, which means if I conducted a date-limited citations study, I would not know if I could count those articles.\(^{182}\) Customer support provided the citations for those 3 missing articles but needing to do that for each faculty member’s non-law publications would be incredibly time-consuming, and there is no guarantee that customer support will provide the missing information in every instance.

I conducted an additional publication and citation count that looked at Maurer faculty work on HeinOnline, Web of Science, Google Scholar, and SSRN. The main issue with Google Scholar was that relatively few Maurer Law faculty had Google Scholar profiles. Of the faculty who did, their citation counts on Google Scholar were much higher than on HeinOnline and Web of Science. The difference in citation counts is because Google Scholar casts a much wider net, including more types of publications, and counting “citations that some administrators might prefer to exclude, e.g., citations in unpublished working papers.”\(^{183}\) Google Scholar contains other errors, such as counting mentions in acknowledgements, crediting editors of volumes the same as chapter authors, and sometimes double counting citations.\(^ {184}\) Additionally, SSRN had a similar limitation as Google Scholar, in that several faculty members did not have profiles or publications on SSRN.

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\(^{182}\) This search was originally conducted in March 2020. Transcript of webchat with Clarivate Customer Support, Mar. 27, 2020, available upon request. As of May 24, 2021, this article currently has 15 citing articles, but I only have access to 12.

\(^{183}\) Lucas, supra note 8, at 172.

\(^{184}\) Id. at 172.
C. Related Ongoing Projects

I conducted the initial Web of Science count for the Maurer Law faculty in December 2019 because the goal was to present the data at the annual faculty retreat in January 2020. The presentation included information about the U.S. News scholarly impact ranking announcement.

The Web of Science citation count generated interest among some of the faculty in individualized citation count data from HeinOnline, and interest from the administration in ongoing citation count monitoring. To address those requests, I created an Excel workbook that can be updated annually by adding a new spreadsheet for each academic year. Each spreadsheet contains the faculty roster as of fall semester of that school year, the number of publications by type (law review article, non-law article, book, etc.) for each faculty member per year, and citation counts (most recent 5 years and lifetime) from HeinOnline and Web of Science. Google Scholar citations and SSRN downloads are included for faculty with those profiles. 185

Total citation count data for the school overall has been updated and shared at additional faculty meetings during the past year. The library has also worked with the school administration on strategies to boost scholarly communication and impact. One strategy has been to introduce ORCID iDs and encourage the faculty to register. An ORCID iD is a unique, persistent, digital identifier to distinguish between researchers and connect them with their scholarship and activities throughout the course of their career. This helps improve recognition, discoverability, and correct attribution of faculty work. ORCID iDs can also save time by enabling easy record management, updating, and sharing. 186

ORCID iDs were selected as a target because of the HeinOnline partnership with ORCID and the integration of ORCID and HeinOnline data. 187 Another reason for our focus on ORCID is the website’s feature of “trusted individuals,” which is an ORCID user that has been granted access as a delegate or proxy for managing another ORCID account. 188 This means that a designated person at the school can be added as a “trusted individual” on each faculty member’s ORCID account, and then manage

185 I gathered publication and citation data for 2019 in late spring of 2020. Data from the spreadsheet is not publicly shared around the school, but individual faculty members can request their own data.
188 ORCID: Add a trusted individual to your account, https://support.orcid.org/hc/en­us/articles/360006973613-Add-a-trusted-individual-to-your-account (last visited May 24, 2021).
the profile on the faculty member’s behalf by adding publications, and linking the ORCID iD with other databases such as HeinOnline, Scopus, and Web of Science.

As the faculty services librarian, I am the designated person to manage ORCID iDs.189 My initial focus has been registering ORCID iDs for each faculty member with a HeinOnline author profile because of the integration between the two sites. For each faculty member on my list, I send an email to notify them of the upcoming registration and to expect a verification email from ORCID. I explain that they only need to click on the verification email, and I will take it from there with filling out their ORCID profile based on their CV and library bibliography page. I also set up a temporary password during the registration process, which I include in the email and encourage them to change when they verify their account. During the registration process, I add my ORCID iD as a “trusted individual” under the new record’s account settings, which means that I can begin adding items to their record as soon as the faculty member clicks through the verification email. I also link their ORCID iD with their HeinOnline author profile to enable sharing between the two sites.

Linking the HeinOnline author profile with the ORCID iD also creates an ORCID record tab within the HeinOnline author profile page, displaying items from the ORCID record that are not in the HeinOnline database. This feature can help increase the visibility of faculty works, such as books and interdisciplinary publications, that are not in the HeinOnline collections. I also pull publications into the ORCID record from other databases, such as Scopus, and add publications manually if needed. ORCID’s author profiles feature a section for related links, which is another avenue for promoting access to faculty scholarship, and I add links to the school’s digital repository, and any other scholarly profiles or social media that the faculty member specifies.

The next target for promoting faculty scholarship will be encouraging more faculty members to claim Google Scholar and Web of Science profiles. However, these are more difficult since, unlike ORCID, neither Google Scholar nor Web of Science provide an account delegate option for managing individual faculty profiles.

IV. CONCLUSION

As noted in the Heald and Sichelman study, “the fact that the U.S. News peer assessment score essentially follows the overall ranking—and is not highly correlated to our rankings or the Sisk, et al., rankings—indicates that the survey respondents ranking faculty reputation are largely unaware of the separate trends in faculty

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189 One must first register for their own ORCID iD in order to serve as a “trusted individual.” Margaret Kiel-Morse, ORCID iD: https://orcid.org/0000-0001-5342-6441 (last visited May 24, 2021).
research that presumably should be a major factor in the peer assessment score.”

Furthermore, since there were differences in the methodology and data sets used by the Sisk, et al., studies and the Heald and Sichelman study, but the rankings of those studies were still highly correlated, that “indicates that reliable and reproducible quantitative rankings can fairly accurately provide measures of faculty impact at the school-level.”

Even though the studies were highly correlated, Heald and Sichelman recognized that citation counts have limitations and “are simply meant to provide an indication beyond the U.S. News peer assessment score of faculty reputation and to improve upon previous scholarly rankings.” While these studies can be useful for faculty candidates and some prospective students when weighing the pros and cons of working for or attending a particular school, Eisenberg and Wells also cautioned in their study that readers should only consider the reported numbers “as indices of performance and not regard them as measuring absolute levels of performance.”

While no citation count study is perfect, “objective proxies serve a useful purpose and provide a modest reality check on subjective opinion.” As Leiter suggests, since both reputational surveys and objective proxies have limitations, combining them will enable the benefits and drawbacks of each to balance out and produce “a credible hierarchy of schools as defined by the academic distinction of their faculties.” Although citation studies are not perfect, “an imperfect measure may still be an adequate measure, and that might appear to be true of citation rates as a proxy for impact as a proxy for reputation or quality.”

Ruhl, et al., noted in their study that “comparisons with Leiter-Sisk, U.S. News, and SSRN download rankings suggest that the Interdisciplinary Scholarly Impact Score provides a valuable supplement to the other rankings.” Their study illustrated that “[a]n exclusive focus on law journal citations generates incomplete and potentially skewed scholarly impact assessments of individual scholars and faculties.” In duplicating the Ruhl, et al., methodology with the Maurer Law faculty, I observed firsthand that focusing only on citations in legal publications leaves out an important area of faculty scholarship that could have serious implications for a school’s scholarly impact score, and by extension, the school’s ranking.

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190 Heald & Sichelman, supra note 4, at 6.
191 Id. at 39.
192 Id. at 37.
193 Eisenberg & Wells, supra note 2, at 386.
194 Leiter, supra note 2, at 456.
195 Id. at 457.
196 Id. at 470.
197 Ruhl, et al., supra note 19, at 36.
198 Id. at 37.
As Ruhl, et al., and others have observed, interdisciplinary scholarship has many benefits. These benefits include reaching wider audiences, peer-review, problem identification and reframing issues both in and out of the legal field, gap-filling with factual or theoretical questions and answers, challenging dominant theories and encouraging new approaches, and cross-pollination of legal and non-legal concepts across different disciplines. Given the benefits of interdisciplinary scholarship and the results of studies of interdisciplinary citation counts, it is reasonable to suggest that those publications are of increasing value in the legal field and should be added to the combination of measures to create a truly complete picture of scholarly impact.

199 Id. at 10–11.