How to Choose a Law Review: An Empirical Study

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I. Introduction

American legal scholars make publication decisions in a unique but understudied fashion. As it is widely known, law professors publish most of their work in generalist (called "flagship") and specialized (called "secondary") law reviews, all of them nested at law schools and run by law students. Law schools, in turn, make hiring and tenure decisions based on where authors publish. Although hiring and tenure decisions are based on publications, and courts turn to legal publications in their judgments, little is known about legal scholars' decision-making criteria in choosing where to publish.

This anomaly of American legal academia, compared with other disciplines and legal scholarship in other countries, has generated substantive commentary. However, there is one key aspect that the literature has largely overlooked. Most authors decide which journal to publish in based on the publishing law school's ranking more than they do on metrics widely used in other disciplines, particularly impact factor (IF).² This overlooked fact sets American legal academia

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- There are also a few peer-reviewed journals in law in the United States, but fewer than student-edited law reviews, and they are often interdisciplinary. E.g., the Journal of Legal Studies, Journal of Legal Analysis, Journal of Law & Economics, Journal of Empirical Legal Studies, and American Law & Economics Review.
- 2. Alfred L. Brophy, *The Relationship Between Law Review Citations and Law School Rankings*, 39 CONN. L. REV. 43 (2006); Bryce Clayton Newell, 2016 Meta-Ranking of Flagship US Law Reviews, PRAWFSBLAWG (Apr. 4, 2016), https://prawfsblawg.blogs.com/prawfsblawg/2016/04/2016-meta-ranking-of-flagship-us-law-reviews.html; Anonprof, Comment to 2016 Meta-Ranking of Flagship US Law Reviews, PRAWFSBLAWG (Apr. 5, 2016, 9:16 AM), https://prawfsblawg.blogs.com/prawfsblawg/2016/04/2016-meta-ranking-of-flagship-us-law-reviews.html ("[N]obody is going to look at your pubs and then turn to W/L and see how 'good' they are."); Howard Wasserman, Meta-Ranking of Flagship US Law Reviews, PRAWFSBLAWG (Feb. 22, 2018, 11:44 AM), http://prawfsblawg.blogs.com/prawfsblawg/2018/02/meta-ranking-of-flagship-us-law-reviews.html

apart from any other discipline and from legal academia in other countries. It also has significant implications.

Understanding this feature of legal academia is salient because it plays a direct role in authors' careers and in law schools' hiring and tenure decisions. Existing literature cannot inform authors as to whether choosing a law review based on school ranking is a rational strategy for those seeking to have an impact on either scholarship or courts. Authors are thus left to navigate the tradeoffs between maximizing publication prestige and scholarship exposure without knowing whether (i) there may even be such a tradeoff and (2) which factors ought to be considered as a result, both needed to make an informed decision about where to publish. Authors must make optimization decisions that can have serious effects on their career advancement without empirical evidence on factors to consider in this decision-making. This paper seeks to provide such guidance.

We first uncover the relationships among journal prestige (i.e., publishing school's ranking), impact on scholarship (i.e., journal IF), and a third element that is unique to legal academia: impact on courts (i.e., case citations). A common assumption is that a journal's prestige, determined by the publishing school's ranking, translates into that journal's impact on scholarship. Assuming that editors do a good job of screening and that authors will accept the publication offer from the most prestigious school,³ it is presumed that articles will end up in law reviews that best reflect their content quality. Only an experimental setup with school ranking and journal impact manipulated independently could provide a definitive demonstration of causation. Such an experiment is impossible, but a correlative study such as ours can provide strong support for or against the hypothesis of prestige translating into impact. Indeed, our results partially confirm this assumption.

We uncover yearly correlations among school ranking, journal IF,⁴ and case citations. However, our results also reveal that the relationship between ranking and impact is more complicated than currently believed. Some law reviews significantly outperform or underperform in terms of IF or case citations; interestingly, these differ from the law reviews commonly assumed to do so. In identifying them, our results inform authors' common conjectures. Furthermore,

(including corresponding comment thread). But see the discussion below for the importance of citation counts. Impact factor is commonly used as an indicator of "the relative importance of a journal within its field and to measure the frequency with which the average article in a journal has been cited in a particular time period." Mohit Sharma et al., *Journal Impact Factor: Its Use, Significance and Limitations*, 13 WORLD J. NUCLEAR MED. 146 (2014).

- 3. But see Richard A. Posner, The Future of the Student-Edited Law Review, 47 STAN. L. REV. 1131, 1132-34 (1995) (arguing that law students lack sufficient experience to pick quality scholarship); Albert H. Yoon, Editorial Bias in Legal Academia, 5 J. LEGAL ANALYSIS 309, 321-36 (2013) (showing that students favor faculty from their own school over faculty from other law schools).
- 4. A journal's impact factor is only an imperfect measure of the impact that an article published in such a journal will have, because it is based on the average article it publishes despite the existence of many other non-random factors in play (such as topic and the author's fame). Still, journal impact remains the best proxy available for expected article impact.

we uncover implications for authors who wish to influence case law. Authors who care about being cited by courts face a stronger tradeoff between impact and publication prestige than authors who focus on scholarly impact because, as we show, school ranking translates better into IF than it does into case citations.

Authors can rely only on past data on school ranking and impact to make their publication choices. Therefore, understanding past data is crucial for authors in making optimal choices. We provide such insight for authors by measuring and comparing the predictability of journal IF, case cites, and school ranking. We show that future school ranking can be more easily predicted than future IF ranking. Case cites ranking is the least reliable metric. This means that past data on journal impact (both for IF and case citations) are a worse predictor of future journal impact than past data on school ranking are of future school ranking. We then measure and compare the predictive power of past school ranking for journal impact. One could expect the publishing school's ranking to be a good predictor of future article impact. We show that school ranking is an acceptable predictor of future journal IF but not of future case citations. This indicates that the usual practice of using school ranking as the deciding factor in journal choice is a coarse but useful heuristic that triggers specific tradeoffs. Since our results show better predictability of school ranking compared with impact indexes, we explore various ways of taking IF variability into account. We show that IF values are more variable for top-ranked schools than lower ranked schools, whereas the (ordinal) ranking of journals based on IF shows the opposite trend.

Finally, we discuss these results and explore how authors can aim to have an impact on the field while obtaining career benefits dependent on publication prestige. Depending on authors' job stability and the structure of other external rewards, it may be optimal to maximize publication prestige pre-tenure and academic and court impact post-tenure.

Our results have three broader implications. The first is a policy implication. Law's student-led publication system has recently received significant criticism and, in 2019, the Association of American Law Schools Section on Scholarship's Advisory Committee on Law Journal Reform drafted a proposal to reform law journal publication. Our findings are relevant to identify the tradeoffs that exist when making this reform.

The second implication is for the legal academic job market. While other academic disciplines reward their members for publishing in journals with the highest IF,7 legal academia rewards scholars for publishing in journals nested in

- 5. In the rest of this paper, when we refer to IF ranking, we refer to the journal's position in a ranking based on IF, and when we refer simply to IF, we refer to the journal's IF in a given year. This differentiation is relevant because IF ranking and IF do not always share the same properties. We also differentiate between case citations and case cites ranking.
- Brian Galle, A Proposal for Law Journal Publication Reform, MEDIUM (Dec. 13, 2019), https://medium. com/whatever-source-derived/a-proposal-for-law-journal-publication-reform-bf834958959f.
- See generally Henk F. Moed, The Impact-Factors Debate: The ISI's Uses and Limits, 415 NATURE 731 (2002).

top law schools. One illustration of this mechanic is the effect of publishing in flagship law reviews from top-ranked schools on the entry-level job market. Our results question whether law schools are correct in using law review placement in hiring and tenure decisions. Our findings on the relationship between prestige and impact support the use of placement in high-information-cost environments, such as first-round interviews, but show that, for hiring and tenure decisions, the proxy becomes less useful and has an uneven impact.

The third implication is for the study of exposure bias in academia across disciplines—the idea that papers published in top journals are cited more because they are seen more, independent of their quality. While the nonexperimental nature of the study does not allow one to identify causal mechanisms, we show a strong relationship between prestige and academic impact; hence, our article provides a case study for exposure bias in academia. Exposure bias is pervasive across the scientific literature but difficult to quantify because there is no single measure of academic journals' reputation. Because of the idiosyncrasies we describe, law reviews serve as a good case study to measure exposure bias in publications and its consequences, as law in the United States may be the only field of research in which journal prestige can be quantitatively assessed independent of IF, thanks to the U.S. News school ranking.

The paper proceeds as follows. Section II provides background by explaining related research. Section III describes the data collection performed for our analyses. Section IV shows the relationships among school ranking, journal IF, and case citations. Section V shows that school ranking has predictive power for both future school ranking and future journal IF. Section VI discusses the results' implications. We provide more information on the material, methods, and technical results in three appendices.

II. Empirical Scholarship on Law Reviews

To date, commentary on law reviews has focused on the effects of law students selecting publishable work;¹⁰ the practice of simultaneous submission to several

- 8. Joe Patrice, Are Law School Journals Really Better Than Peer-Reviewed Academic Journals?, Above the L. (Sept. 26, 2019, 3:15 PM), https://abovethelaw.com/2019/09/are-law-school-journals-really-better-than-peer-reviewed-academic-journals/.
- 9. Tracey E. George & Albert H. Yoon, The Labor Market for New Law Professors, 11 J. EMPIRICAL LEGAL STUD. 1, 22–36 (2014) (showing a positive effect of publishing in a top-100-ranked law review on receiving a screening interview, callback, tenure-track job offer, and more prestigious job placement, and showing no effect of publishing in a journal ranked 101–300 on the Washington & Lee composite ranking).
- 10. Yoon, Editorial Bias, supra note 3; Jonathan Gingerich, A Call for Blind Review: Student Edited Law Reviews and Bias, 59 J. LEGAL EDUC. 269 (2009); Russell Korobkin, Ranking Journals: Some Thoughts on Theory and Methodology, 26 Fla. State Univ. L. Rev. 851 (1999); Posner, Future, supra note 3; James Lindgren, Reforming the American Law Review, 47 Stan. L. Rev. 1123 (1995).

law reviews;" the non-blind and potentially biased selection process; ¹² and the unique editing process. ¹³

Several papers have addressed the topic of publishing in legal academia empirically. Yoon finds that, when looking at both invited and submitted publications, tenured professors publish more frequently; when looking only at unsolicited publications, tenured professors publish at the same rate and with a drop in journal placement post-tenure. ¹⁴ Similarly, George and Yoon conclude that law schools are willing to consider candidates who lack traditional credentials at the early stages of the hiring process, but these factors kick in later and affect the probability of candidates receiving a job offer. ¹⁵

Studying the other side of the interaction (editors), Christensen and Oseid present data revealing that, in making publication decisions, student editors rely on an author's credentials, the general topic, the article's title, the cover letter, and the abstract.¹⁶ Jonathan Gingerich writes about the impact of perceived prestige on law journals' selection process (called "letterhead bias").¹⁷ Yoon presents evidence of systematic in-school bias in law reviews, with 187 out of the 199 law reviews examined having published their faculty more often than faculty from other schools.¹⁸ Similarly, Yoon also shows that home school-published work has consistently lower citation rates, suggesting that "law reviews' bias in favor of their own faculty comes at the expense of lower quality articles."¹⁹

Regarding citations, Lee Petherbridge and Christopher Cotropia show that having an abstract and a table of contents correlates with receiving more citations. ²⁰ Callahan and Devins suggest a decline in exposure bias since the advent of online databases. Because a few articles in lower-ranked reviews are cited frequently and some articles in top reviews get few citations, they conclude that it is likely that articles in top reviews garner more cites due to article quality, rather than due to journal status. ²¹ Cotropia and Petherbridge suggest

- Dennis J. Callahan & Neal Devins, Law Review Article Placement: Benefit or Beauty Prize?, 56 J. LEGAL EDUC. 374 (2006).
- 12. Yoon, Editorial Bias, supra note 3; Jason P. Nance & Dylan J. Steinberg, The Law Review Article Selection Process: Results from a National Study, 71 Alb. L. Rev. 565 (2008).
- Posner, Future, supra note 3, at 1134-35 (discussing how student editors get submissions ready for publication).
- 14. Albert H. Yoon, Academic Tenure, 13 J. Empirical Legal Stud. 428, 433-49 (2016).
- 15. George & Yoon, supra note 9 at 6, 36.
- Leah M. Christensen & Julie A. Oseid, Navigating the Law Review Article Selection Process: An Empirical Study of Those with all the Power-Student Editors, 59 S.C. L. Rev. 175, 188-212 (2007).
- 17. Gingerich, supra note 10, at 274-75.
- 18. Yoon, Editorial Bias, supra note 3, at 321.
- 19. *Id.* at 310-11, 326-37.
- 20. Lee Petherbridge & Christopher A. Cotropia, Should Your Law Review Article Have an Abstract and Table of Contents?: An Empirical Analysis Peer Review Article, 85 M1ss. L.J. 295, 301-20 (2016).
- 21. Callahan & Devins, *supra* note 11, at 375.

that, on average, female authors write more high-impact articles than their male counterparts.²² Others, however, discuss how top-fifteen law reviews may be biased against female authors.²³ All in all, Ayres and Vars critique citation studies for focusing only on the most-cited articles.²⁴ In a sample from the top three journals independent of article impact, they find that, on average, articles with shorter titles, fewer footnotes, and no equations receive more citations.²⁵

As a response to these considerations, academics have developed and proposed alternative rankings for law reviews that do take IF into account.²⁶ While these rankings are mostly used by non-U.S.-based scholars who publish in the United States,²⁷ alternative rankings have also been developed within the United States.²⁸

Related qualitative work also provides relevant background. For example, Jonathan Mermin discusses how exclusive submission is suboptimal for authors, who are forced to make a strategic calculation about which journal to submit to (e.g., weighing journal prestige against rejection odds) and, therefore, a system of simultaneous submission is better for authors.²⁹ James Lindgren criticizes student-edited law reviews for perverse article selection and suggests that faculty members should take control over law reviews and implement a double-blind

- 22. Christopher A. Cotropia & Lee Petherbridge, Gender Disparity in Law Review Citation Rates, 59 Wm. & Mary L. Rev. 771, 775 (2017).
- 23. E.g., Minna J. Kotkin, Of Authorship and Audacity: An Empirical Study of Gender Disparity and Privilege in the "Top Ten" Law Reviews, 31 WOMEN'S RTS. L. REP. 385 (2010) (performing an empirical study over fifteen journals, although calling it top ten due to ranking disagreements); Gingerich, supra note 10, at 272 (offering a literature review).
- 24. Ian Ayres & Frederick E. Vars, *Determinants of Citations to Articles in Elite Reviews*, 29 J. LEGAL STUD. 427 (2000) (using a sample from 1980 to 1995).
- 25. Id
- E.g., Ronen Perry, The Relative Value of American Law Reviews: Refinement and Implementation, 39 CONN.
 L. REV. 1 (2006); Ronen Perry, Correlation Versus Causality: Further Thoughts on the Law Review/Law School Liaison, 39 CONN.
 L. REV. 77 (2006); Michael Birnhack et al., Ranking Legal Publications: The Israeli Inter-University Committee Report, 15 HAIFA L. REV. 765 (2021).
- 27. E.g., Birnhack et al., supra note 26, at 6, 11-14 (citing, also, other similar efforts at note 12, including the Jerusalem Ranking of Legal Journals, the Bar-Ilan Ranking of Legal Journals, the 2010 Australian Research Council Ranking, and the Australian Business Deans Council's ranking).
- 28. E.g., Fred R. Shapiro, The Most-Cited Law Reviews, 29 J. LEGAL STUD. 389 (2000); Alfred L. Brophy, Law [Review]'s Empire: The Assessment of Law Reviews and Trends in Legal Scholarship Commentary, 39 CONN. L. REV. 101 (2006); Brophy, supra note 2; Paul Caron, 2019 Meta-Ranking of Flagship U.S. Law Reviews, TaxProf Blog (July 25, 2019), https://taxprof.typepad.com/taxprof_blog/2019/07/2019-meta-ranking-of-flagship-us-law-reviews.html; Joe Patrice, Ranking the Top Law Reviews, Above the L. (Apr. 5, 2016), https://abovethelaw.com/2016/04/ranking-the-top-law-reviews/; Bryce Clayton Newell, Law Journal Meta-Ranking, 2020 Edition, , https://blogs.uoregon.edu/bcnewell/meta-ranking/; Newell, Meta-Ranking, supra note 2.
- 29. Jonathan Mermin, Remaking Law Review, 56 RUTGERS L. REV. 603, 614-15 (2004).

selection process.³⁰ In turn, Richard Posner criticizes the law review process, arguing that law students lack sufficient expertise to pick quality scholarship.³¹

That said, IF is far from a perfect metric, and it too has received criticism. Some criticize it for being ill-suited to their particular discipline (in mathematics, for example).³² Across disciplines, IF's informativeness has problems in terms of accounting for journal self-citations, different lengths of citation windows (five years versus eight years), and an asymmetry between their numerator (citable entries) and denominator (all journal entries) that leads some IF metrics to be expressed in different units, making them difficult to compare.³³ More broadly, citations are an imperfect measure of research quality.³⁴ Nonetheless, the metric continues to be widely used worldwide.³⁵

An important limitation of IF is that, being originally designed to measure journals' impact, it is not a useful metric for evaluating individual authors or specific papers.³⁶ IF is a useful proxy for journal impact because it shows the average impact of an article in a given journal (i.e., the expected impact of an article in that journal).³⁷ The key problem with IF, according to this line of criticism, is not its use for journals, but rather its extension to individual papers and authors. Similarly, IF is said to be of limited use in measuring the output of a geographical region or group of researchers.³⁸

Despite the importance of understanding the considerations guiding authors' publication choices—which range from effects on career advancement to hiring to proposals for law review reform—existing literature has so far shied away from this topic. Notably, while most empirical studies of law reviews focus on

- 30. James Lindgren, An Author's Manifesto, 61 U. CHI. L. REV. 527, 535 (1994).
- 31. Posner, Future, supra note 3, at 1132-34.
- 32. E.g., Antonia Ferrer-Sapena et al., The Impact Factor as a Measuring Tool of the Prestige of the Journals in Research Assessment in Mathematics, 25 RSCH. EVAL. 306 (2016).
- 33. Vincent Larivière & Cassidy R. Sugimoto, *The Journal Impact Factor: A Brief History, Critique, and Discussion of Adverse Effects in Springer Handbook of Science and Technology Indicators 3,* 6-17 (Wolfgang Glänzel et al., eds., 2019).
- 34. Dag W. Aksnes et al., Citations, Citation Indicators, and Research Quality: An Overview of Basic Concepts and Theories, 9 SAGE OPEN 1, 11 (2019); Michael R. Dougherty & Zachary Horne, Citation Counts and Journal Impact Factors Do Not Capture Research Quality in the Behavioral and Brain Sciences, 9: 220334 ROYAL SOC'Y PUBL'G 4 (2022).
- 35. Larivière & Sugimoto, supra note 33, at 2-4; Arturo Casadevall & Ferric C. Fang, Causes for the Persistence of Impact Factor Mania, 5 MBIO 1, 1 (2014).
- 36. Ewen Callaway, Publishing Elite Turns Against Controversial Metric, 535 NATURE 210 (2016); Vincent Larivière et al., A Simple Proposal for the Publication of Journal Citation Distributions, BIORXIV I (2016); Erin C. McKiernan et al., Use of the Journal Impact Factor in Academic Review, Promotion, and Tenure Evaluations, 8:e47338 ELIFE I, I-2 (2019); Anna Hatch & Mark Patterson, How Journals and Publishers Can Help to Reform Research Assessment, 42 Sci. Ed. 41 (2019); Khaled Moustafa, The Disaster of the Impact Factor, 21 Sci. Eng. Ethics 139 (2015).
- 37. Sharma et al., supra note 2.
- Maria Bordons et al., Advantages and Limitations in the Use of Impact Factor Measures for the Assessment of Research Performance, 53 SCIENTOMETRICS 195 (2002).

the editor side of the selection process, our article provides empirical research on the understudied author side of the selection process.

To add to this literature, we obtained IF values and case cites numbers from the well-known ranking published on the Washington and Lee (W&L) University Law Library website.³⁹ We recorded IF value and case cites numbers for every generalist journal published in the United States each year between 2004 and 2016. We based law school rankings on the U.S. News "Best Law Schools" ranking,⁴⁰ which is widely considered the dominant ranking in law.⁴¹ For each year between 2006 and 2018, we recorded school ranking for every law school fully accredited by the American Bar Association.

Once we determined school ranking, flagship journals' IF, and number of case citations per year, we matched flagship law reviews with their corresponding publishing school. Out of all journal-school pairs, we retained those pairs for which all data were available—i.e., thirteen-year IF values, case cites values, and ranking values.

III. Relationship Between School Ranking and Law Review Impact

A. Impact Factor Correlates with School Ranking

We first test the common assumption that top law schools publish flagship law reviews with the highest academic impact. We distinguish two ways in which a law review can have an impact: in the academic legal conversation and in courts. To measure the former, we use IF, which is the most accepted proxy in other disciplines. To estimate the latter, we use case citations. We first explore the correlation between IF ranking and school ranking. Intuitively, one would expect the publishing school's ranking, journal IF, and number of case citations to be highly correlated.

We uncover a positive relationship between IF ranking and school ranking: As one would expect, top-ranked schools publish law reviews with a high IF. These results align with Alfred Brophy's prior finding of a correlation coef-

- 39. W&L Law Journal Rankings, Wash. & Lee Sch. of L., https://managementtools4.wlu.edu/LawJournals/Default.aspx (last visited Nov. 14, 2022).
- 2022 Best Law Schools, U.S. NEWS (2022), https://www.usnews.com/best-graduate-schools/ top-law-schools/law-rankings.
- 41. Michael Sauder & Ryon Lancaster, Do Rankings Matter? The Effects of U.S. News & World Report Rankings on the Admissions Process of Law Schools, 40 L. & Soc'Y Rev. 105 (2006); Ben Taylor, Why Law School Rankings Matter More Than Any Other Education Rankings, Forbes (Aug. 14, 2014), https://www.forbes.com/sites/bentaylor/2014/08/14/why-law-school-rankings-matter-more-than-any-other-education-rankings/; Joe Patrice, Why You Absolutely Should Care About Law School Rankings, Above the Law (Aug. 15, 2014), https://abovethelaw.com/2014/08/why-you-absolutely-should-care-about-law-school-rankings/; Staci Zaretsky, The OFFICIAL 2019 U.S. News Law School Rankings Are Here!, Above the Law (May 20, 2018), https://abovethelaw.com/2018/03/the-official-2019-u-s-news-law-school-rankings-are-here/ ("As we wonder year after year, 'Law school deans, are you ready to read your report cards—and possibly lose your jobs over them?").

ficient of 0.89, with a different sample using data from 2004 and 2005.⁴² These results also confirm intuitions from the qualitative literature, where authors have contended that while a marginally better law review placement in terms of publishing school would not yield a noticeable increase in citation counts, a substantively better law review placement might yield this noticeable increase.⁴³

B. School Ranking Translates into Scholarly Impact Better Than into Court Impact

To test whether the correlation between school ranking and journal impact holds over time, we analyze the change in correlation strength among IF ranking, case cite ranking, and school ranking. Our findings are relevant for authors seeking to influence not only legal scholarship but also courts.⁴⁴

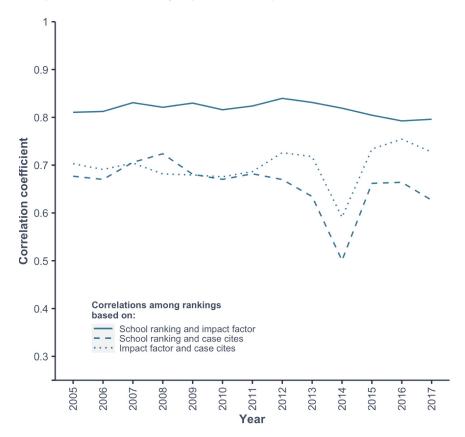


Figure 1: Correlations Among Law Reviews' IF, Case Citations and School Rankings Over Time (using Spearman's Correlation Coefficients)

- 42. Brophy, supra note 2, at 49-55.
- 43. E.g., Callahan & Devins, supra note 11, at 375.
- 44. For existing literature on the relevance of legal scholarship to judicial reasoning, see, e.g., David L. Schwartz & Lee Petherbridge, The Use of Legal Scholarship by the Federal Courts of Appeals: An Empirical Study, 96 CORNELL L. REV 1345 (2011) (finding an increase in the number of citations to law

The figure above illustrates the correlation between each journal's IF ranking and case citations, and their publishing school's ranking. It shows the strength of the correlations as a function of the publication year of indexes. The continuous line represents correlation coefficients between journals' IF and their schools' rankings, for comparison. The dashed line represents correlation coefficients between journals' case cites and their publishing schools' rankings, while the dotted line accounts for correlation coefficients between journals' IF and case cites rankings.

As mentioned above, top-ranked schools unsurprisingly publish law reviews with a higher scholarly impact on average. Such law reviews also have a higher average impact on courts.

However, the relationship between case citation ranking and school ranking is weaker than the relationship between IF ranking and school ranking. This has two implications. First, that scholarly impact is not as good an indicator of impact on courts as it is of publishing schools' ranking. Second—and most important for authors when making publication decisions—that school ranking does not translate into an impact on courts as well as it does into scholarly impact.

These two correlations could be the result of a causal relationship between the publishing school's ranking (journal prestige) and impact. It is unlikely that impact causes school ranking because of how the U.S. News algorithm is designed: journal impact is not included in the algorithm to compute ranking. However, prestige could drive law reviews' impacts on scholarly work and courts. But if this is the case, why then does law review prestige have a consistently greater influence on academia than on courts? This effect could mean that either: (1) exposure bias is stronger for scholars than it is for courts, perhaps because scholars look at some law reviews' issues article by article, for example looking at the table of contents of the printed version, or (2) scholars use law review prestige as a proxy for article quality (making sure to cite articles found in top law reviews over others), whereas judges do not.⁴⁵

journal articles in opinions from the circuit courts of appeals over fifty-nine years); Michael D. McClintock, *The Declining Use of Legal Scholarship by Courts: An Empirical Study*, 51 OKLA. L. REV. 659, 687–88 (1998) (finding evidence that law reviews' influence on the courts has declined but continues nevertheless); Lee Petherbridge & David L. Schwartz, *An Empirical Assessment of the Supreme Court's Use of Legal Scholarship*, 106 Nw. U. L. REV. 995 (2012) (finding that legal scholarship continues to be used often by the U.S. Supreme Court).

 Philip L. Merkel, Scholar or Practitioner: Rethinking Qualifications for Entry-Level Tenure-Track Professors at Fourth-Tier Law Schools, 44 CAP. U. L. REV. 507, 534 (2016) (arguing that legal scholars write for other scholars, not for judges or practitioners); McClintock, supra note 44, at 687-88.

C. Outliers Are Unexpected

Another unexpected finding is the identity of the outliers we found for each year: law reviews that, given their publishing school's ranking, significantly overperform or underperform in terms of IF ranking or case cites ranking. We identify them based on the difference between journal rankings based on IF or on case citations, and the ranking of their publishing schools. Table 1, below, summarizes these findings.

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
IF overperformance													
American U. L. Rev.									+	+		+	+
Brooklyn L. Rev.									+				
Connecticut L. Rev.								+			+	+	
Houston L. Rev.	+	+			+	+							
Lewis & Clark L. Rev.	+	+	+	+							+	+	+
Oregon L. Rev.			+	+									
U. Pittsburgh L. Rev.					+								
U. Richmond L. Rev.						+							
Villanova L. Rev.							+						
William & Mary L. Rev.								+					
Case cites overperformance													
American U. L. Rev.													+
Baylor L. Rev.	+			+	+	+							
Brooklyn L. Rev.					+	+		+	+			+	
Cardozo L. Rev.								+			+	+	+
Hastings L. J.											+		
Houston L. Rev.	+	+	+										
Indiana L. Rev.	+	+	+	+	+	+	+						
Lewis & Clark L. Rev.												+	+
Louisiana L. Rev.	+	+	+	+							+	+	+
Missouri L. Rev.						+	+	+	+				
Oregon L. Rev.										+			
Seton Hall L. Rev.					+								
St. John's L. Rev.										+			
U. Cincinnati L. Rev.									+		+		

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
IF underperformance													
Arizona State L. J.						_	_	_	_	_	_	_	_
Boston U. L. Rev.	_	_	_	_	_	_							
BYU L. Rev.	_	_	_	_	_	_	_	_	_	_	_	_	
GMU L. Rev.						_	_						
Geo. Wash. L. Rev.	_	_	_	_									
GSU L. Rev.									_				
Maryland L. Rev.			_	_	_								
SMU L. Rev.												_	_
U. Chicago L. Rev.									_	_			
Utah L. Rev.	-			_	_	_							
Washington L. Rev.								_					
Case cites underperformance													
Alabama L. Rev.										_			
Duke L. J.									_				
GMU L. Rev.			_	_	_								
Geo. Wash. L. Rev.			_										
Georgia L. Rev.											_		
Maryland L. Rev.			_	_									
Ohio State L. J.												_	
South. California L. Rev.	_	_					_	_				_	_
Utah L. Rev.											_		
Washington L. Rev.								_					
Washington U. L. Rev.				_	_	_	_					_	_

Table I: Law Review Outliers

In the dataset, there were some interesting outliers. As the table above shows, some law reviews have a consistently greater IF and impact on courts than their school ranking would suggest, whereas the opposite is true for others. Some of these law reviews over- or underperform consistently over several

years, but most do so sporadically. 46 We find, for example, that Lewis & Clark consistently overperforms in terms of IF, and that the *Indiana Law Review* and *Louisiana Law Review* consistently overperform in terms of case citations. Similarly, law reviews' performances with regards to their IF and impact on courts are sometimes synchronized when looked at year by year, but this is not always the case. Synchronized overperformance suggests that an above-average law review board may have selected better articles in one year than they did in others, resulting in a high-impact issue. Synchronized underperformance suggests the converse. Synchronized high impacts, however, could also be due to one particularly popular paper being published in a year that drove up the average citation count.

For law reviews that have a lower IF than their school ranking, there may be ideological issues at play. There is evidence that law reviews disproportionately accept publications from professors of their school, suggesting that law schools occasionally use their law review to publish articles that their faculty were unable to place in a higher-ranked outlet.⁴⁷ Additionally, the lowest-quality scholarship from professors of some institutions might be less likely to be cited than the lowest-quality scholarship from professors from other institutions because of ideological issues (independent of the schools' ranking). For example, if Derrida Law School professors produce a lot of Derrida-related legal scholarship, and if judges and other scholars do not have a taste for Derrida, then their scholarship that does not place elsewhere and is published in the Derrida Law Review is unlikely to be cited. The reception of school ideology by courts and other academics would, in this way, affect IF without affecting school ranking. If law reviews disproportionately publish professors of their home institutions, they will therefore underperform in terms of IF, compared with their school ranking. Political discrimination shown to exist in article selection processes—conservative student editors favor conservative articles and liberal editors favor liberal articles—would amplify this effect for less popular ideologies.⁴⁸

It is a commonly held belief that, for one reason or another, some law reviews outperform their school's ranking. The law reviews that are believed to do so tend to coincide with schools in desirable cities with a reputation of holding more productive faculty than other schools with equivalent ranking. At least anecdotally, some law reviews believed to outperform their publishing school's ranking in this way are the *Fordham Law Journal*, *Hastings Law Journal*, and *Cardozo*

- 46. For some of the sporadic differences, the explanation may be a shock in the school's placement in U.S. news. If a school drastically increases or reduces its placement in the ranking (for example, by increasing or reducing its J.D. class size), its journal may eventually catch up but would move slower.
- 47. Yoon, *Editorial Bias, supra* note 3, at 330 (showing that papers published by faculty members in the journal of their own school tend to be their least-cited papers).
- Adam S. Chilton et al., Political Discrimination in the Law Review Selection Process, COASE-SANDOR INST. FOR L. & ECON., RESEARCH PAPER NO. 832 (2018), https://chicagounbound.uchicago. edu/cgi/viewcontent.cgi?article=2519&context=law_and_economics.

Law Review. However, the law reviews we found to consistently outperform their school ranking differ from those often assumed to do so.⁴⁹

IV. Variable Predictability

A. School Ranking Is More Stable Than Law Review Impact

It is important to understand not just the relationship between the criteria used by law professors to pick a law review for publication, but also the usefulness of looking at such criteria in the first place. We test whether one can reliably predict future IF, case citations, and school ranking based on the current values of these indexes.

Our results indicate that all three indexes are somewhat predictable. Unsurprisingly, predictability decreases over time but remains acceptable over time lags up to ten years.

More relevant to the context of our study—i.e., the criteria used by authors to pick a law review—are the differences in predictability between indexes. School ranking is the most predictable of all indexes, especially over long periods. IF is highly predictable over periods shorter than five years, but its predictability decreases steadily over time. Case cites are the least predictable, with a sharp decrease in predictability over short periods.

Over periods shorter than five years, both IF and school ranking are highly predictable. This means that an author choosing between two law reviews to publish in will have equally good information about the law reviews' IF ranking and the schools' ranking over the next five years. However, law reviews' IF is less predictable over a longer period than is their publishing school's ranking.

IF's lower predictability could come from high yearly variability in the quality of the articles published in a given journal. Interannual variability in quality would translate into variability in impact, thereby creating noise and weakening predictability. Such variability could result either from high stochasticity in the quality of articles that are submitted to a law review or from high variability in the quality of its editorial board from one year to another.

School rankings' high predictability, in turn, is likely to result from the significant weight that U.S. News attributes to schools' quality assessment by peers, lawyers, and judges.⁵⁰ U.S. News relies heavily on program ratings by individuals who are influenced by the school's reputation acquired over the preceding years, thus introducing inertia into the ranking.⁵¹ As a consequence, over large time lags, a law review's current IF is a worse predictor of its future IF than the current school ranking is of future school ranking.

- 49. McClintock, supra note 44, at 685 (noting "surprises" in lists of the law reviews most cited by the federal courts and state supreme courts, including the Minnesota Law Review, the Iowa Law Review, and the Georgia Law Review).
- 50. This subjective quality assessment accounts for 40% of the final school ranking.
- 51. Richard Schmalbeck, The Durability of Law School Reputation, 48 J. LEGAL EDUC. 568, 586-87 (1998).

Case citations present the lowest predictability of all, meaning that a journal's impact on courts is difficult to predict based on past performances. This could reflect the fact that relevancy for courts is shorter lived than relevancy for academia: Cases are more dynamic on average. This difference between IF and case citations could also result from the way each index is calculated. Each case cites calculation is based on one year of article publication and citation, whereas each IF calculation uses eight years of data. This discrepancy adds a buffering effect to yearly IF variations that does not exist for case cites variation. These two explanations do not exclude each other.

B. School Ranking Is Acceptable to Predict Future Impact

We then test what many legal scholars may be interested in knowing when making a law review choice based on school ranking: whether current school ranking indicates future scholarly impact and future impact on courts. We discussed above how it is a unique feature of American legal academia that most law professors in the United States look at school ranking rather than IF. To determine whether this is a rational strategy conditional on seeking impact, one should know whether school ranking is a good predictor of future IF.

Our results indicate that school ranking is a good predictor of future IF, but it is not a good predictor of future case citations.

We find that past IF and past case citations are better predictors of future IF and future case citations, respectively, than is past school ranking. This finding implies that an author choosing between two law reviews for publication could approximate the future impact of her article based solely on school ranking, but she would do better to consider past impact indexes. This is especially true for impact on courts.

Whether a publishing school's ranking influences its law review's impact remains an open question. On the one hand, one could expect the best-ranked schools to attract the best students, whose ability to choose high-quality scholarship and editorial work quality could translate into law review quality. On the other hand, it seems reasonable to assume that authors rely on the readily available school ranking as a heuristic for law review quality. Law reviews published by top-ranked schools would benefit from exposure bias, regardless of the mechanistic relationship between reputation and quality.⁵² Although the best way to determine causality between school prestige and law review impact would be an experiment (where school reputation and law review impact could be treated independently), such an experiment is impossible. In the absence of an experiment, a correlational study such as ours still provides empirical support (and nuance) for the intuition that school prestige translates into journal impact.

52. Although, as discussed above, Callahan and Devins find this effect to decrease over time. Callahan & Devins, *supra* note 11, at 385-86.

C. Top Law Reviews Vary More in Impact but Less in Impact-Based Ranking

When faced with publication offers from law reviews from similarly ranked schools, an author can assess the future scholarly impact of her article (to optimize such impact) either by the absolute IF value or by the relative IF ranking between law reviews. We explore the differences in IF variation and IF ranking variation between law reviews depending on the ranking of their publishing schools.

We highlight a difference between law reviews depending on their school ranking: for top-ranked schools, IF ranking is more predictable (while absolute IF is more variable), whereas lower ranked schools show the opposite trend (absolute IF value is more predictable and IF ranking is variable). This is another way in which a school's U.S. News ranking is informative of its journal.

We hypothesize that these results arise from higher temporal stochasticity in the publication of exceptionally high-impact articles, while overall law review impact is predictably influenced by the ranking of publishing schools. In other words, we hypothesize that law reviews from top-ranked schools belong to a less homogeneous pool (regarding IF) than law reviews from lower ranked schools: few journals make most of the impact, perhaps because of exposure bias. Coupled with editors' physical inability to screen all articles carefully given the high number of submissions, 53 this would explain a greater disparity in article impact published by reviews from top-ranked schools. This could also partly be a result of editors' positive bias toward articles authored by their schools' own faculty members: "law reviews publish more articles from faculty at their own institution than from faculty at other law schools...law faculty publish their lesser-cited articles in their own law review relative to their articles published in other law reviews." 54

Our finding confirms previous intuitions in the literature: that marginally higher school ranking does not yield a noticeable increase in citation counts, while substantively better law review placement may yield a noticeable increase. Indeed, Yoon finds that "[t]he ranking of law schools and law journals are negatively correlated with citation count, meaning the lower the rank of the law review or the school, the fewer the citations." 55 Yoon demonstrates that, while lower-ranked law reviews are cited less frequently on average than higher-ranked reviews, this distribution is relatively flat: outside of the top law reviews, differences between one law review and another in terms of number of citations are not very pronounced. 56

- 53. Lawrence M. Friedman, Law Reviews and Legal Scholarship: Some Comments, 75 DENV. U. L. REV. 661, 664 (1998) (explaining that top journals get as many as 1,200 annual submissions); Dan Subotnik & Glen Lazar, Deconstructing the Rejection Letter: A Look at Elitism in Article Selection, 49 J. LEGAL EDUC. 601, 611 (1999) (estimating that the Harvard Law Review receives around 2,000 submissions per year).
- 54. Yoon, Editorial Bias, supra note 3, at 309.
- 55. *Id.* at 315.
- 56. Id.

Finally, articles published in law reviews from top-ranked schools are likely to benefit from a positive exposure bias: they have a broader audience that cites them because they have a broader audience that reads them. Articles published in more obscure law reviews might never be read or might be read less often, despite being of high quality. The main driver of article impact might thus be quality when published in prestigious law reviews, and luck when published in less famous law reviews. However, the exposure difference has been steadily decreasing since the beginning of the online-search era, leading to a more meritocratic citation pattern.⁵⁷ We therefore expect the correlations between school ranking and IF / IF ranking to be stronger in pre-Westlaw times and to continue to weaken in the future.⁵⁸

V. Discussion

A. Impact Factor vs. Prestige Tradeoff

Authors often face difficult choices when presented with multiple publication offers by law reviews.⁵⁹ However, to date, they lack information about the different factors to consider in deciding on where to publish. When an author receives a publication offer from a law review that has a higher IF but a lower publishing school's ranking and another offer from a law review with a lower IF but higher publishing school's ranking, the author is forced to choose between maximizing the prestige of their publication and maximizing its expected impact. While getting published in a prestigious law review is key in a law professor's career,⁶⁰ individual citation counts—independent of an article's placement—are sometimes used as a measure of an article's quality as well.⁶¹

Assuming that an author is aware of such a tradeoff, she can rely only on historical data about the publishing school's ranking and the law review's IF: Current data on rank (i.e., prestige) and impact are unavailable at the moment of making the decision. Therefore, knowing the predictive power of historical data is crucial for authors looking to make optimal choices. We show that, because IF

- 57. Callahan & Devins, *supra* note 11, at 385 (explaining the decrease in the citation bias toward high prestige reviews since the beginning of the online research era).
- 58. Unfortunately, we cannot know this from the data, as we are limited by IF's not having been measured before 2004.
- 59. E.g., Submission Angsting Spring 2021, PRAWFSBLOG (Jan. 29, 2021), https://prawfsblawg.blogs.com/prawfsblawg/2021/01/submission-angsting-spring-2021.html; Submission Angsting Fall 2020, PRAWFSBLOG (July 25, 2020), https://prawfsblawg.blogs.com/prawfsblawg/2020/07/submission-angsting-fall-2020.html (including 904 comments); Submission Angsting Spring 2020, PRAWFSBLOG (Feb. 1, 2020), https://prawfsblawg.blogs.com/prawfsblawg/2020/02/submission-angsting-spring-2020.html (including 869 comments).
- 60. George & Yoon, supra note 9, at 22-36.
- 61. Yoon, Editorial Bias, supra note 3, at 330; Barry Friedman, Fixing Law Reviews, 67 DUKE L.J. 1297 (2017); Richard A. Posner, An Economic Analysis of the Use of Citations in the Law, 2 Am. L. Econ. Rev. 381 (2000); William M. Landes & Richard A. Posner, The Influence of Economics on Law: A Quantitative Study, 36 J. L. & Econ. 385, 389 (1993).

ranking is more variable than school ranking, future school ranking can be more easily predicted than future IF ranking. These results might indicate a rational choice explanation for assessing only school ranking rather than law review IF: The choice between prestige and impact is one made under uncertainty, and choosing prestige is a safer bet. Therefore, even when facing similar expected values between prestige and impact when choosing between two law reviews, a risk-averse author should lean toward prestige. But, by lowering information acquisition costs about the expected impact and its relationship with prestige, the author could do better.

Since our results show that prestige is more predictable than impact, we explore different ways in which authors can take IF variability into account. When faced with publication offers from law reviews from similarly prestigious schools, an author could maximize her article's impact (i.e., maximize the absolute IF value) by choosing the law review with the highest IF ranking. We show that journals from top-ranked schools have more variability in their IF, but lower variability in their IF ranking. In other words, the predictability of these two impact measurements is dependent on school ranking. For this reason, if an author facing a prestige-versus-impact decision is deciding between two high-ranked law reviews, betting on impact is less risky for her than it would be if she had to choose between two low-ranked law reviews. "Sacrificing" prestige for a law review with a higher impact is a safer bet when its impact is more predictable. Therefore, risk aversion should play a larger role in choosing prestige over impact when dealing with low-ranked law reviews than when dealing with high-ranked law reviews.

Moreover, given that the payoffs involved in higher-ranked law reviews are larger (both in terms of prestige and impact), but information-acquisition costs are the same independent of ranking, it pays off to incur information-acquisition costs if one is publishing in higher-ranked law reviews. As a heuristic, one might conjecture that an author with standard incentives and preferences may pay equal attention to journals' IF and prestige if she is choosing among law reviews from schools ranked in the top fifty. However, for law reviews from schools ranked below fifty, she may want to focus on school ranking, as school ranking might be a good-enough proxy—in light of the higher variability in IF ranking and the lower payoff of the choice in terms of smaller IF difference.

From our finding that IF and school ranking are strongly correlated, one could see school ranking as a decent proxy for IF. Thus, one could ask whether looking at school ranking rather than IF might be a rational strategy for authors. While the next section addresses this question, our preliminary answer is that it depends on the author's career stage.

This finding has implications not only for authors but also for law schools making hiring and tenure decisions based on which law review(s) candidates have placed their articles in. While we have shown that law review prestige is an acceptable proxy for scholarly impact, this institutional choice disadvantages two groups of authors: first, authors whose scholarship focuses on influencing courts; second, authors who may not have been advised by peers or mentors

about where best to publish and about the importance of journal placement for the academic job market. If one believes that authors from non-elite schools are more likely to do applied work and are likely to have less access to mentorship than their elite-school counterparts, both of these consequences of focusing on placement further disadvantage candidates from non-elite schools.

The optimal choice for law schools may be different for first-round interviews, hiring decisions, and tenure decisions. The number of candidates would make the cost of moving away from the placement proxy significantly higher for hiring and tenure than for first-round interviews. Conversely, the cost of false positives and false negatives is higher for tenure than it is for hiring, and much higher for both than it is for interviews. Therefore, if law schools use placement to gauge article quality and not simply as a metric of faculty prestige, they could continue using article placement as a relevant factor for first-round interviews but should not do so for hiring or tenure decisions.

B. Publishing and Career Advancement

Building on the literature on law publishing and law reviews, our results have implications for authors' optimization decisions. Our results can explain why those seeking to join legal academia aim to publish in prestigious law reviews and when, after joining academia, such strategic placement may change because the incentives to publish are different before and after tenure. It has previously been shown that "legal academics continue to produce after tenure, but channel more of their efforts toward less competitive outlets."62 Since competitiveness is defined in terms of outlet prestige, this means that legal academics publish in more prestigious outlets pre-tenure than they do post-tenure. 63 The literature currently lacks explanations as to why this may be. Absent our results, the fact that legal academics publish in more prestigious journals pre-tenure should be surprising not only because one would expect people to be able to continue to produce at least equally high-quality scholarship (if not better) later in their careers, but also because the article selection structure of law reviews prizes those who are later in their careers, meaning work of equal quality is expected to place higher if an author has greater seniority.⁶⁴

This might simply be explained by a lower effort in publishing, but this explanation would contradict the finding that faculty also increase their publication rate by an average of 19% post-tenure—in top-ten law schools, 35%. ⁶⁵ However, it could also be taken as a corroboration of the tradeoff we identified above, and a different strategy pre-tenure versus post-tenure. If risk aversion plays a role in selecting law reviews, one could expect tenure-track academics

- 62. Yoon, Academic Tenure, supra note 14, at 428.
- 63. Post-tenure law professors were shown to have a fifteen percent "decrease in journal score" under the W&L composite metric, conditional on publishing articles, and to lean toward more solicited publications. *Id.* at 449.
- 64. Id. at 450.
- 65. *Id.* at 443.

to be more risk averse than their post-tenure counterparts because of their lack of job security. In other words, it would be rational for authors to lean, on average, toward prestige pre-tenure, and toward "gambling" on impact post-tenure (i.e., choosing law reviews because they may yield higher impact even if they are perceived as less competitive by the profession).

This intuition of leaning further toward impact post-tenure provides a potential explanation for Yoon's finding of post-tenure faculty publishing more pieces but placing them in less prestigious outlets. In other words, Yoon's paper sets up a dilemma that our paper helps solve. Yoon finds that tenured professors tend to publish in lower-ranked law reviews. ⁶⁶ Our paper offers a possible answer: Authors face a tradeoff between maximizing impact and prestige; which strategy to pursue may depend on one's risk aversion, which in turn depends on one's career stage. It is rational for tenure-track scholars to focus on law review prestige, as that may be a determinant of their tenure, and for senior academics to focus on impact. Similarly, a recent survey indicates that nontenured academics across disciplines value prestige metrics more than do their tenured colleagues. ⁶⁷

This insight also relates to Christensen and Oseid's work, which attempts to help new authors navigate the law review submission process by pointing out that they should expect to face questions about which law review to choose in simultaneous submissions. ⁶⁸ Christensen and Oseid suggest that their survey results be used to find the best placements for authors' articles. ⁶⁹ Our article contributes to this body of suggestions by providing further insight for authors to familiarize themselves with the implications of their choices, as our results reveal that these choices may be more complicated than expected.

Here a reader might ask: What about the demand side of article publishing? Law reviews themselves might also play a role in the lower importance that IF has for law when compared with other disciplines. Law reviews do not advertise their IF as peer-reviewed law journals do.⁷⁰ Considering the market, there might not be incentives for law reviews to consider IF at all.

- 66. Id
- Meredith T. Niles et al., Why We Publish Where We Do: Faculty Publishing Values and Their Relationship to Review, Promotion and Tenure Expectations, 15: e022891 PLOS ONE 1, 5 (2020).
- 68. Christensen & Oseid, supra note 16, at 209.
- 69. *Id*
- 70. See, for example, the three journals universally considered to be the highest quality: the Harvard Law Review, Stanford Law Review and Yale Law Journal. About, HARV. L. REV. (2022), https://harvardlawreview.org/about/; About the Stanford Law Review, STAN. L. REV. (2022), https://www.stanfordlawreview.org/about/; About the Yale Law Journal, THE YALE L.J. (2022), https://www.yalelawjournal.org/about-the-yale-law-journal. None of them indicates IF or reference to impact in any way. The Yale Law Journal's description states that "[f]or over a century, the Yale Law Journal has been at the forefront of legal scholarship" without relating it with IF or impact generally. About the Yale Law Journal, THE YALE L.J. (2022), https://www.yalelawjournal.org/about-the-yale-law-journal. Compare this with the Journal of Empirical Legal Studies and the Journal of Legal Analysis, both disclosing IF on the website's front page. Journal of Empirical Legal Studies:

While citations function as a market force in most disciplines (whose journals therefore care about maximizing IF), they do not in law because IF is not a key consideration for authors in deciding where to publish, or for readers in deciding which journals to read. If peer-reviewed journals drop in IF, they might lose high-quality scholarship to other journals and might lose readership, further reducing their IF because of exposure bias. In other disciplines, if a journal has a terrible IF at the end of the year, it might eventually close down. But that is unlikely to be the case for any law review.

The absence of this market force is illustrated in some of the prior literature. Posner, for example, discusses the high turnover of law review editors as a pitfall to student-edited law reviews. ⁷² Our article suggests that law review IF rankings changed significantly more over the years than their publishing school's ranking. This may be because the type of article bias among the editors changes from editorial board to editorial board given yearly turnover. Similarly, our finding that the highest-ranked journals have higher interannual IF variation than lower-ranked journals relates to Callahan and Devins' finding that citation has been in flux for top journals since the advent of online databases, with a decline in citation bias toward more prestigious journals. ⁷³

The only actor who might care about IF, therefore, is a risk-averse author. No other agent has incentives to look at impact. This allows authors to publish pieces that have a low expected impact. This might explain why, under one estimation, 43% of law review articles are not cited at all.⁷⁴

The loose connection between scholarly impact and court impact could partially explain why IF is not used in law as much as it is elsewhere. Shapiro and Pearse, when discussing the "real-world" impact of legal scholarship on practice, determine that there is a weak relationship between scholarly and court impact. They also analyze the data from all-time ranking to determine a school's contribution to legal scholarship over a longer period and find that there is now a wider distribution of highly cited articles among law reviews

About the Journal, Wiley Online Libr. (2022), https://onlinelibrary.wiley.com/journal/17401461; Journal of Legal Analysis: About the Journal, Oxford Acad. (2022), https://academic.oup.com/jla.

- 71. Posner, Future, supra note 3, at 1132, 1135 (showing that no market forces exist for law reviews' content; for example, frequently published student-written notes on constitutional topics have no readership at all); John Doyle, The Law Reviews: Do Their Paths of Glory Lead but to the Grave, 10 J. APP. PRAC. & PROCESS 179, 183 (2009) ("for prestige to function strongly, it does not have to be tied to anything sensible; in large part prestige is self-reinforcing.").
- 72. Posner, Future, supra note 3, at 1132.
- 73. Callahan & Devins, supra note 11, at 385.
- 74. Thomas A. Smith, The Web of Law, 44 SAN DIEGO L. REV. 309, 336 (2007).
- 75. Fred R. Shapiro & Michelle Pearse, *The Most-Cited Law Review Articles of all Time*, 110 MICH. L. REV. 1483, 1513-14 (2012) ("Impact among scholars . . . do[es] not necessarily correlate with how much the courts rely on these articles"). *See also* McClintock, *supra* note 44, at 687-88 (suggesting that legal scholarship is "losing touch with the practice of law").

than there was before.⁷⁶ Our article complements these findings by showing that the IF ranking and school ranking correlation varies temporally and, in particular, that authors can estimate the impact that their article will have by looking at school ranking. Our article also shows that school ranking translates into scholarly impact better than it does into impact on courts, which would be surprising if one believed that the imperfect correlation between school ranking and IF was explained by law professors' aiming to influence courts.

C. Law Review Editorial Boards

As we mentioned, most studies of the law review process focus on paper selection by editors. Our article looks at the other side of the coin: It contributes to the body of empirical research on the factors authors turn to when engaging in law review selection. While prior literature has discussed the article selection process from editors' point of view, our article explores the law review selection process from contributors' point of view. However, our first results, on the correlation between school ranking and IF, do have some implications for this literature.

Our results do not support qualitative criticisms, such as Posner's and Lindgren's, that student editors are unable to identify good scholarship.⁷⁷ If this were the case, one should see mostly noise in the data, with a high number of high-impact articles being rejected from top law reviews and a high number of low-impact articles being accepted. This is true, of course, only if citations are not driven by citation bias, with articles being cited more because of where they were published—not because of their quality. While our results are not informative of the magnitude of citation bias, quantitative literature indicates that, since the advent of citation databases, citation bias is relatively low.⁷⁸

This finding has implications for proposals for law review reform, such as the one currently being considered by the Association of American Law Schools.⁷⁹ Our results indicate that the main problem of the current publication system does not seem to be students' inability to choose good scholarship. Perhaps counterintuitively, we have shown that students (who will mostly become lawyers, not law professors) are better at predicting which articles scholars will find useful than they are at predicting which articles judges will find useful. The main problem to address in scholarship placement could thus be authors' ability to select journals for publishing, rather than students' ability to screen submissions.

VI. Conclusion

We uncover the relationship between prestige and ranking in legal academia. Having a better understanding of this relationship is important because these are the very factors considered by authors in choosing where to publish—a choice

- 76. Shapiro & Pearse, supra note 75, at 1505.
- 77. Lindgren, supra note 30, at 527; Posner, Future, supra note 3, at 1132-34.
- 78. Callahan & Devins, supra note 11, at 385.
- 79. Galle, supra note 6.

that significantly impacts authors' careers down the line. Law school ranking is a relatively stable and predictable metric that can be used as a proxy for flagship law reviews' current and future scholarly impact, but less so for impact on courts. Higher-ranked law schools publish law reviews that are more reliably influential in classrooms than in courts. However, because of homogeneity in law reviews from lower-ranked schools, the predictive power of scholarly impact by school ranking itself depends on each school's ranking. Law reviews from top-ranked schools have high variability in impact factor but are quite stable in IF-based ranking, while law reviews from lower-ranked schools show the opposite trend.

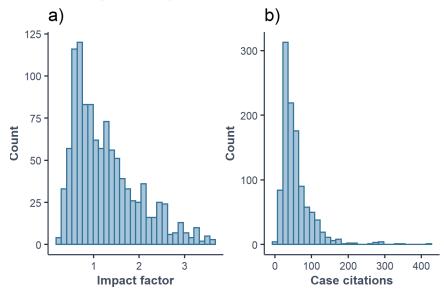
The optimal decision strategy for choosing where to publish ultimately depends on what a law professor aims to maximize (her prestige or her impact in the discipline) and how risk averse she is: Conditional on wanting impact, more risk-averse scholars should look at school ranking, and more risk-seeking scholars should look at impact factor. We expect these levels of risk aversion to vary pre- and post-tenure.

Our results also have broader implications. First, they can inform current and future law publication reform proposals. Law students can generally distinguish good scholarship, but authors are put in a suboptimal position when choosing among publication offers. Second, they are useful to law schools making hiring and promotion decisions, as they show that law schools are correct in using law review placement as a proxy for scholarship quality but only if they are alert to the significant limitations of doing so in terms of predictable systemic biases. Third, our results are informative for studying exposure bias in academic publications generally, as this article offers a unique case study where journal prestige can be measured independently of impact factor to better examine the relationship between them.

In fall 2022, six law schools withdrew from the U.S. News journal ranking. Our results seem to indicate that one should expect their journals' reputation to follow, with a delay, each of these school's informal reputation, as it increases or decreases after the decision. This impacts journal choice. If U.S. News continues to include these schools, their ranking is likely to become a less accurate proxy of journal IF and case citations to the extent that school reputation departs from ranking. Authors will have two options: either shift their proxy of journal quality to informal indices such as school reputation or use journal IF to choose among them. If they do the latter, and other schools follow through, legal academics may become closer to their counterparts at other departments in their journal choices.

Appendix 1: Ranking and Citations Data collection

We obtained IF values and case cites numbers by downloading them from the well-known ranking published on the Washington and Lee (W&L) University Law Library website. Briefly, a journal's IF is calculated as the median of the number of citing articles in the Westlaw JLR database divided by the number of articles published by this journal over the past eight years. IF metrics also include self-citations. They measure the number of articles that cited an article regardless of the number of times they did so in the same article. The fact that the metric is based on the Westlaw JLR database means that many foreign citations are not included. Case citations are the number of times articles were cited in court case decisions since their publication. We recorded IF value and case cite numbers for every generalist journal published in the USA each year between 2004 and 2016. We excluded specialized journals to study a group of journals with comparable scopes.



Distribution of Impact Factor and Case Citations Over the Sample

This figure represents the distribution of impact factors and case citations in our sample. Each figure is an aggregate of the thirteen yearly values we collected for the 84 journals we focused on. On the left, panel a presents the distribution of Impact factors, and on the right, panel b presents the distribution of case citations.

- W&L Law Journal Rankings, WASH. & LEE SCH. L., https://managementtools4.wlu.edu/Law-Journals/Default.aspx (last visited Nov. 15, 2022).
- 81. Note that the Washington and Lee University Law Library uses a broad definition of "article" that includes student notes and book reviews. As a consequence, as stated on the website, IF is "biased against journals that publish a larger number of shorter articles, such as book reviews." W&L Journal Rankings, *Impact Factor*, WASH. & LEE SCH. L., https://management-tools4.wlu.edu/LawJournals/Default5.aspx (last visited Nov. 15, 2022).

We based law school rankings on the U.S. News' "Best Law Schools" ranking, ⁸² which is widely considered the dominant ranking in law. ⁸³ U.S. News rankings are based on a weighted average of different measures. For law schools, these measures belong to four broad categories: quality assessment, selectivity, placement success and faculty resources, which account for 40%, 25%, 20%, and 15% of the final ranking score, respectively. Minor changes occurred over the years in how placement success is assessed and factored in the ranking. Although the exact algorithm to determine the U.S. News ranking is a trade secret, we were able to document and qualitatively assess these changes.

Summary of Changes Over the Years in the U.S. News Algorithm:

Minor change implemented in 2006: Employment rates at graduation and nine months after graduation have weights of four percent and fourteen percent, respectively, in the final prestige score (compared with six percent and twelve percent in the past).

Major change implemented in 2008: For the nine-month employment rate, twenty-five percent of those whose status is unknown are counted as employed. Those graduates who are unemployed and not seeking employment are counted as being unemployed, although they were excluded from past calculations.

Major change implemented in 2009: Reverts to how unemployment rates were calculated before 2008.

Major change implemented in 2011: Only those graduates who are working full- or part-time in a legal or nonlegal job are considered employed. In the past, graduates pursuing additional graduate school education were also counted as employed. Also, unemployed graduates who are not seeking employment are counted as part of the total number of graduates, although they were not in the past.

Major change implemented in 2013: As a result of the ABA requiring more detailed job placement information from law schools, placement success now considers the duration and the nature of the employment. Various weights are assigned to these data when factored in the algorithm, the highest weights being assigned to long-term full-time jobs requiring bar passage.

Minor change implemented in 2015: Law school-funded and universityfunded jobs are discounted, and not fully weighted anymore in the calculation.

Minor change implemeted in 2016: Employment status is measured ten months after graduation, in comparison with nine months in the past.

^{82.} Best Law Schools, U.S. News & World Rep., https://www.usnews.com/best-graduate-schools/top-law-schools/law-rankings.

^{83.} See supra note 41 and accompanying text.

We used the website "The Wayback Machine" from the Internet Archive⁸⁴ to obtain historical data from the U.S. News website. For each year between 2006 and 2018, we recorded school ranking for every law school fully accredited by the American Bar Association.

Once we determined school ranking, flagship journal's IF, and number of case citations per year, we matched flagship law reviews with their corresponding publishing school. Out of the 193 journal-school pairs, we retained only the eighty-four pairs for which all data were available—i.e., thirteen IF values, thirteen case cites values, and thirteen ranking values (one per year for the thirteen years covered). We dropped those schools that were missing data for different reasons, the most frequent ones being: recent merger or recent split (e.g., Mitchell Hamline was formed by the combining of William Mitchell College of Law and Hamline University School of Law, so Mitchell Hamline was missing data pre-merger while William Mitchell College of Law and Hamline University School of Law were missing data post-merger); or not being in the top 100 for the first five years (from 2006 to 2011, U.S. News published the rankings of only the top 100 schools). This last criterion allowed us to preserve the same sample size across years and to directly compare absolute ranking values in one year with the same value in another year. We recognize that this procedure biased sampling against low-ranking schools with high yearly variance, and in that respect our results can be deemed most representative of the one-third top-ranked schools. However, for the purpose of our study, one could argue that authors face a less consequential dilemma when choosing between two low-ranking and low-impact journals.

For each given year, we ranked law reviews from 1 to 84 based on their IF values, with the first rank being attributed to the journal with the highest IF value. We considered law reviews with the same IF as being tied and thus gave them the same rank. We also produced a yearly ranking of law reviews from 1 to 84 according to the law reviews' case cites numbers (the journal with the highest number of case citations ranking first). Similarly, we re-ranked the schools for which complete data were available from 1 to 84 based on their position in the U.S. News ranking. All the analyses presented in the main text were run on rankings to allow for an intuitive interpretation of correlations: a correlation coefficient of 1 would mean that journals always have the same rank as their publishing school. Moreover, we used nonparametric rank tests, which are agnostic to data distribution. Therefore, our results hold equally for raw data as for rank data. This is illustrated in Appendix 3.

Note that each year the latest IF values and case citations published by W&L are officially designated by the previous year, whereas the latest rankings published by U.S. News are designated by the following year. Despite these different naming conventions, indexes published concomitantly are based on data from the same year. For example, in 2017, W&L published the "IF 2016" list and U.S. News published its "Ranking 2018," but both used data from 2016. To account for this nominal discrepancy, we compare rankings based on

^{84.} Internet Archive: Wayback Machine, http://archive.org/web/.

data from the same year and refer to them by publication year. For example, we compare the rankings published in 2017 based on data from 2016, which W&L calls 2016 and U.S. News calls 2018.

We conducted all statistical analyses in R version 3.4.1 RC. R Core Team. 85 We used the graphical user interface RStudio version 1.0.153. 86 We drew all illustrations using the package ggplot2. 87

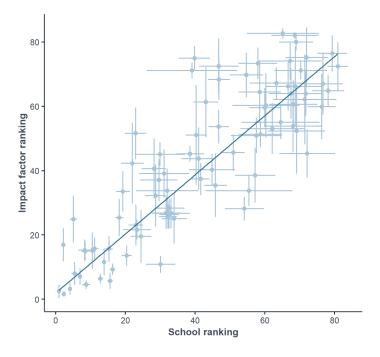
- 85. R Foundation for Statistical Computing, R: A Language and Environment for Statistical Computing [2017].
- 86. RStudio Team, RStudio: integrated development environment for R [2015]. We drew all illustrations using the package ggplot2.
- 87. H. Wickham, ggplot2: Elegant Graphics for Data Analysis [2009].

Appendix 2: Relationship Between School Ranking and Law Review Impact

A. Impact Factor Correlates with School Ranking

For each year, we perform a correlation test on the 84 journal-school pairs using Spearman's rank-order correlation, which measures the strength and direction of the association between two variables. This method is commonly used for studying ordinal variables that do not follow a normal distribution, which is the case for our data. We obtain one value of Spearman's correlation coefficient per year. Spearman's correlation coefficient measures the strength and direction of the monotonic relationship between IF ranking and prestige ranking. A value higher than zero accounts for a positive correlation, a negative value for a negative correlation, and a value of zero for the absence of correlation.

We perform correlation tests, not regressions, because we focus on covariation; we refrain from implying any causal relationship between variations in one index and variations in the other, as only an experimental study would allow for such a conclusion.



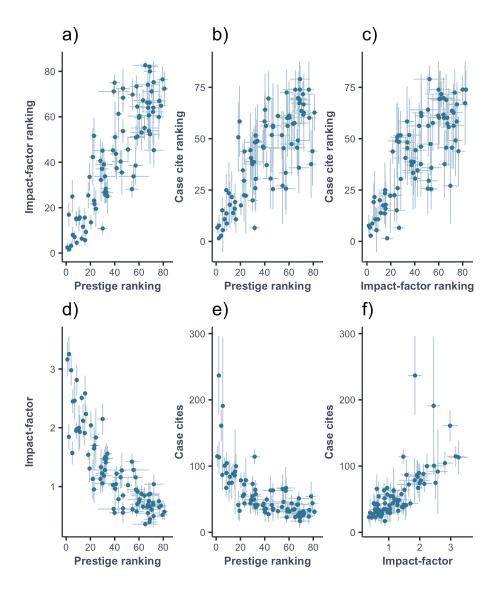
Relationship Between Law Reviews' IF and School Ranking

88. Qualitatively comparable results are obtained when calculating Pearson's correlation coefficient. However, since our data do not follow a bivariate normal distribution, the distribution of Pearson's coefficient may not be normal, and statistical significance cannot be determined, making Spearman's more appropriate.

This figure illustrates the correlation between each journal's IF ranking and its publishing school's ranking. Dots account for mean IF rankings and mean school rankings of journal-school pairs over thirteen years (between 2005 and 2017). The vertical bars represent standard errors of mean IF rankings, while the horizontal bars represent standard errors of mean school rankings. The oblique line represents a quantile regression, for representation purposes only. Quantile regression, an extension of linear regression that is well suited for non-Gaussian variables, illustrates the linear relationship between prestige ranking and IF ranking through the estimation of the conditional median of IF ranking.

For the entire period of thirteen years, the correlation coefficient is positive and significantly different from zero. The mean school-IF correlation coefficient ± standard deviation was 0.82±0.01, with p-values < 0.001. This indicates a positive relationship between IF ranking and school ranking: As one would expect, top-ranked schools publish law reviews with a high IF.

We also investigated every pairwise correlation among IF ranking, case cites ranking, and prestige ranking, as well as among IF, case cites, and prestige ranking.



Correlations Between Law School Ranking, IF Ranking, IF, Case Cite Ranking, and Case Citations

The first row presents correlations among each journal's IF ranking, case cites ranking and its publishing school's ranking. The second row presents correlations among each journal's IF, case citations and its publishing school's ranking. Dots account for mean values of journal-school pairs over thirteen years. The vertical bars and horizontal bars represent standard errors of these values. Note that panel a is the same as the previous figure. Correlations between rankings (panels a, b, and c) are all positive and statistically significant (mean Spearman's correlation coefficients ± standard deviations between: school ranking

and IF ranking: 0.82 ± 0.01 ; school ranking and case cites ranking: 0.66 ± 0.05 ; IF ranking and case cites ranking: 0.70 ± 0.04 ; all p-values < 0.001), meaning that top-ranked schools publish law reviews that rank among the first for IF and case citations.

Unsurprisingly, correlations between school rankings and impact indexes (panels d and e) are negative and statistically significant (mean Spearman's correlation coefficients \pm standard deviations between: school ranking and IF: -0.82 \pm 0.01; school ranking and case cites ranking: -0.66 \pm 0.05; all p-values < 0.001), meaning that top-ranked schools publish law reviews with higher IF and case citations. Finally, the correlation between IF and case citations was positive and statistically significant (mean Spearman's correlation coefficient \pm standard deviation: 0.70 \pm 0.04; p-value < 0.001), meaning that law reviews with a high impact among scholars also have a high impact on courts.

Note that the absolute values of Spearman's coefficients from correlations based on rankings are the same as the absolute values of Spearman's coefficients from correlations based on raw impact indexes. This is because Spearman's correlation test is itself a rank test assessing monotonic relationships between variables.

B. School Ranking Translates into Scholarly Impact Better Than into Court Impact

To test whether the correlation between school ranking and journal impact holds over time, we analyze the change in correlation strength among IF ranking, case cite ranking, and school ranking. As described above, we performed a correlation test on the journal-school pairs using Spearman's rank-order correlation.

The strength of the correlation between IF ranking and school ranking varies slightly from year to year, with a maximum of 0.84 in 2012 and a minimum of 0.79 in 2016: In 2012, one could predict the impact that one's article would have by looking at the school's ranking slightly better than one could in 2016. Note that the correlation dropped in 2014 for school ranking and case citations (dashed line) and for IF and case citations (dotted line). This variation illustrates changes in IF independent from school ranking and from changes in school rankings, which did not affect the impact of published articles. Although this drop coincided with a major change in the U.S. News algorithm, ⁸⁹ it does not

89. Placement success accounts for twenty percent of the final ranking score, and the correlation strength drop starting in 2013 coincides with a major change in the way placement rate was calculated. The U.S. News ranking is based on a weighted average of measures of quality. Although the weights themselves changed only once, slightly, in 2006, the way that placement success is considered has evolved substantially over the years. As a result of a long-standing controversy over the veracity of some schools' placement data, the American Bar Association required more detailed job placement data from schools. This more granular data were factored into the U.S. News ranking algorithm for the first time in 2013 and still are. Sam Flanigan & Robert Morse, Methodology: 2015 Best Law School Rankings, U.S. NEWS (March 10, 2014), https://www.usnews.com/education/best-graduate-schools/top-law-schools/articles/2014/03/10/methodology-2015-best-law-schools-rankings%20. As we expect U.S. News to change its algorithm in the future, variation of a larger magnitude in the correlation between IF ranking and school ranking is to be expected.

correspond to a dip in the solid line (school-IF correlation); therefore, the effect was likely driven by an anomaly in court citations—not by a change in school ranking.

Mean correlation coefficients \pm standard deviations are 0.66 \pm 0.05 for correlations between a school's ranking and its law review's case citations, and 0.70 \pm 0.04 between law review IF and case citations, all with p-values < 0.001: Top-ranked schools publish law reviews with higher scholarly impact and higher impact on courts, on average.

C. Outliers Are Unexpected

To identify outliers, we calculated the difference between journal rankings based on IF or on case citations, and the ranking of their publishing schools. We defined outliers as the law reviews for which the ranking difference is away from the average difference by two standard deviations. Such a difference is expected to follow a normal distribution every year, which means that the outliers fall in the 5% most extreme values in our dataset.

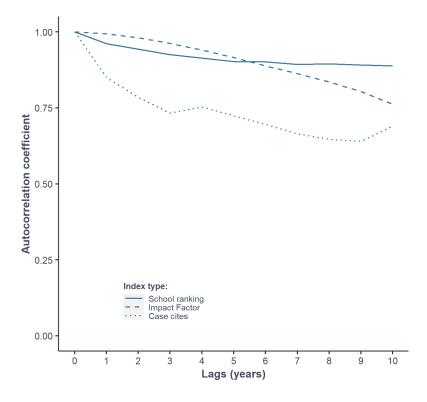
Appendix 3: Variable Predictability

A. School Ranking Is More Predictable Than Law Review Impact

We test whether one can reliably predict future IF, case citations, and school ranking based on the current values of these indexes. We calculate their temporal autocorrelation over ten years.

The temporal autocorrelation estimates the relationship between successive values (i.e., lags) of the same variable. We chose a maximum lag of ten years to have a minimum of three observations for each time lag. By time lag, we mean the first and last year of any given period of time.

Autocorrelation strength is indicative of past data reliability, while differences in interannual change of autocorrelation strength mean differences in the predictive power of impact and school ranking. Autocorrelation coefficients are bound between zero and one: The more predictable a variable is over any given time lag, the higher its autocorrelation coefficient is for this lag. The figure below illustrates the results of such temporal autocorrelations.



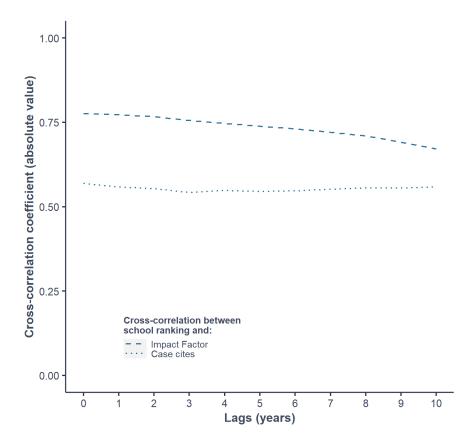
Autocorrelation Plot of School Ranking, Impact Factor, and Case Citations

We find that autocorrelation coefficients are high (consistently above 0.6), although they decrease with time. This result indicates that all three indexes are somewhat predictable for time lags of up to ten years and that prediction accuracy is better for small time lags. This decrease in predictability over time is hardly surprising, as it is a common feature of the vast majority of noncyclic autocorrelated phenomena.

School ranking autocorrelation coefficients remain high over the whole period. They stabilize around 0.9 and are the highest of the three indexes after a five-year lag. IF autocorrelation coefficients are the highest at the beginning, but they decrease steadily with time and, after a five-year lag, they become lower than the autocorrelation coefficient for school ranking. It is the only one of the three that continues to decrease over time. Case cites autocorrelation coefficients are the lowest; they decrease sharply over a two- to three-year lag and tend to stabilize around a 0.7 value for larger lags. Over periods shorter than five years, both IF and school ranking are highly predictable.

B. School Ranking Is an Acceptable Predictor of Future Impact

We then test whether current school ranking indicates future scholarly impact and future impact on courts. We calculate the temporal cross-correlation between school ranking and IF and case citations over ten years. Cross-correlations estimate the relationship between one variable and successive values (i.e., lags) of another variable. We also chose a maximum lag of ten years to have a minimum of three observations for each time lag. Cross-correlation coefficients are bound between zero and one: The more predictable a variable is over any given time lag knowing school ranking, the higher the cross-correlation coefficient for this lag is. The figure below illustrates the results of such temporal cross-correlations.



Cross-Correlation Plot of School Ranking with Impact Factor and Case Citations

We find that cross-correlation coefficients behave differently for IF than for case citations. Cross-correlation coefficients for IF are consistently higher than for case citations (over 0.7 for lags shorter than seven years), although they decrease steadily over time. Cross-correlation coefficients or case citations remain stable at around 0.55.

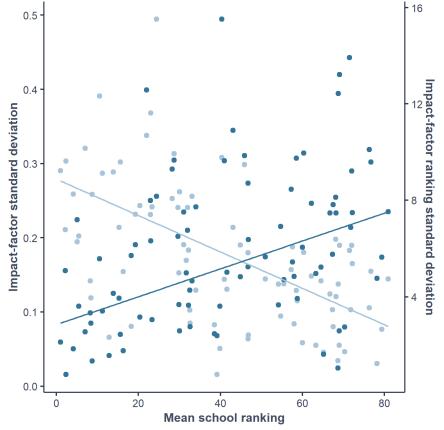
These results indicate that school ranking is a good predictor of future IF but not a good predictor of future case citations.

Unsurprisingly, we find that cross-correlation coefficients were never higher than the corresponding autocorrelation coefficient. In other words, past IF and past case citations are better predictors of future IF and future case citations, respectively, than is past school ranking.

C. Top Law Reviews Vary More in Impact but Less in Impact-Based Ranking

We explore the differences in IF variation and IF ranking variation between law reviews depending on the ranking of their publishing schools. We perform two correlation tests on the 84 journal-school pairs using Spearman's rankorder correlation: one to test for a correlation between school ranking and IF standard deviation, and one to test for a correlation between school ranking and IF ranking standard deviation.

The figure below illustrates these two correlations. Each point represents a journal-school pair and each oblique line represents a quantile regression. Dark blue and light blue account for data including IF ranking standard deviation and data including IF standard deviation, respectively. Both correlations were statistically significant (with p-values < 0.001). While we did not include case citations in this analysis because of the unpredictability of this index, as highlighted over the past two sections, we computed the correlations and obtained qualitatively similar results. Note that a lower ranking value means a higher school rank or a higher IF.

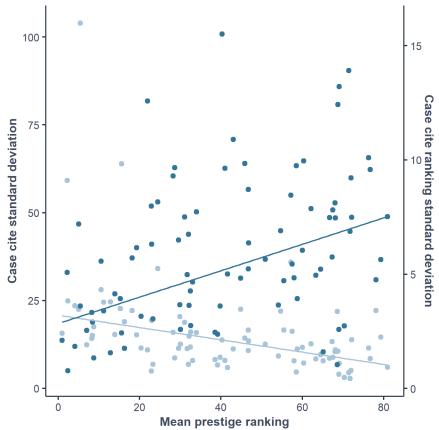


Variation of IF and IF Ranking as a Function of Publishing School's Ranking

As this figure shows, the predictability of these two measures is different: IF standard deviation is higher for law reviews published by top-ranked schools,

while IF ranking standard deviation is higher for law reviews published by lower-ranked schools.

We also explore the differences in case cites variation and case cites ranking variation among law reviews depending on the ranking of their publishing schools.



Variation in Impact on Courts as a Function of Publishing School's Ranking

This figure illustrates two correlations: the correlation between school ranking and case cites standard deviation, and the correlation between school ranking and case cites ranking standard deviation. Each point represents a journal-school pair, and each oblique line represents a quantile regression, for representation purposes only. Dark blue and light blue account for data including case cites ranking standard deviation and data including case cites standard deviation respectively. Both correlations were statistically significant (with p-values < 0.001). As observed for IF, the correlation signs were different: Case cites standard deviation was higher for law reviews published by prestigious schools, while case cites ranking standard deviation was higher for law reviews published by less prestigious schools.