2019

Measuring Selection Bias in Publicly Available Judicial Opinions

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ABSTRACT

To have an informed discussion about judicial performance and efficiency, we will sometimes want to explore what judges actually do on an everyday level. But in many ways, courts have not always been paragons of transparency. Often the parties are the only people who are aware of what action a court has taken in a case.

This paper explores that dynamic, in the context of decisions made by federal trial courts at one particular procedural stage—decisions made on motions to dismiss for failure to state a claim—Rule 12(b)(6) motions. There is growing interest in the work of federal trial courts, and to date, most legal researchers have turned to the same resource: commercially available databases. But they have done so conscious of the risk that many district court decisions will never find their way onto Westlaw or LEXIS. If the universe of opinions available on commercially available services is not representative of the entire universe of district court decisions, it is harder to draw conclusions about the work of federal trial courts and therefore more difficult to draw conclusions about judicial performance.

This paper shows that the fear is justifiable: certain kinds of decisions, issued by judges sitting in certain judicial districts hearing particular kinds of cases, are overrepresented in services like Westlaw and LEXIS. This has the potential to affect the kinds of conclusions one might draw from observations gleaned by reviewing decisions available only on commercial databases. More broadly, it has the potential to affect how lawyers and judges argue and adjudicate cases, and therefore to affect the corpus of law itself.

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† Professor of Law, Benjamin N. Cardozo School of Law. I owe thanks to Francesca Acocella, Alison Gross, Vinodh Jayaraman, and Jaimini Vyas for their diligent research assistance. I am also grateful to participants in the Benjamin N. Cardozo School of Law's Faculty Development Workshop Series and to participants in the Review of Litigation's Symposium on Judicial Efficiency for thoughtful suggestions regarding the substance of this Article.

I. THE PROBLEM

Empirical data can be useful in evaluating judicial performance and efficiency. But empirical legal research is driven, in part, by the ease of obtaining data.[1] What we study is not only driven by the importance of the underlying empirical question, but also by the availability of data. In the context of studying courts, there has been great interest in studying the work of appellate and high court judges, but it also happens to be much easier to do so given the advent of comprehensive searchable databases like Westlaw or LEXIS that report all federal appellate and United States Supreme Court decisions.[2] As interest in empirical legal studies has grown,

1. *See* Robert M. Lawless & Elizabeth Warren, *Bankruptcy and Insolvency*, *in* THE OXFORD HANDBOOK OF EMPIRICAL LEGAL RESEARCH 198, 198–99 (Peter Cane & Herbert Kritzer eds., 2010) (describing how empirical study of bankruptcy litigation has been impacted by ease of finding publicly available data); Sharon Roach Anleu & Kathy Mack, *Trial Courts and Adjudication*, *in* THE OXFORD HANDBOOK OF EMPIRICAL LEGAL RESEARCH 545, 549–52 (describing how empirical research has been guided by availability of data); Christopher Hodges, *Collective Actions*, *in* THE OXFORD HANDBOOK OF EMPIRICAL LEGAL RESEARCH 705, 711–12 (describing difficulty of conducting research in class actions depending on extent of publicly available data); Herbert M. Kritzer, *The (Nearly) Forgotten Early Empirical Legal Research*, *in* THE OXFORD HANDBOOK OF EMPIRICAL LEGAL RESEARCH 875, 892 (discussing how empirical legal research over time has been guided by ease of obtaining data); Kimberly D. Krawiec, *Derivatives, Corporate Hedging, and Shareholder Wealth: Modigliani-Miller Forty Years Later*, U. ILL. L. REV. 1039, 1081–82 (1998) (describing limitation of studies of derivatives hedging practices because of the difficulty of obtaining relevant data).

2. While not the focus of this paper, much has been written about appellate decision making. *See e.g.*, Lee Epstein, William M. Landes, & Richard A. Posner,

both within the academy and among lawyers and judges, researchers have been confronted with substantial technical barriers to studying the work of trial courts.[3] For the federal system, there are two principal sources for gathering data regarding the work of district courts: (1) commercially available electronic databases such as Westlaw or LEXIS; and (2) court administered electronic filing systems, or PACER (Public Access to Court Electronic Records).[4]

PACER provides access to every judicial action taken in every case filed in federal court.[5] Although not designed to benefit academic researchers, because PACER provides comprehensive information about every federally-filed case, it is an unparalleled source for empirical studies. Data collection via PACER, on the other hand, is functionally clunky (and this is a generous description).[6] One cannot search across jurisdictions, nor can one

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Inferring the Winning Party in the Supreme Court from the Pattern of Questioning at Oral Argument, 39 J. LEGAL STUD. 433 (2010); Tonja Jacobi & Dylan Schweers, *Justice, Interrupted: The Effect of Gender, Ideology, and Seniority at Supreme Court Oral Arguments*, 103 VA. L. REV. 1379 (2017); Richard L. Revesz, *Environmental Regulation, Ideology, and the D.C. Circuit*, 83 VA. L. REV. 1717 (1997); Katherine Shaw, *Friends of the Court: Evaluating the Supreme Court's Amicus Invitations*, 101 CORNELL L. REV. 1533 (2016).

3. David A. Hoffman, Alan J. Izenmanaal, & Jeffrey R. Lidicker, *Docketology, District Courts, and Doctrine*, 85 WASH. U.L. REV. 681, 684–85 (2007) (explaining that focus on appellate courts is largely a function of the difficulty of studying trial court decisions, but arguing that this justification is losing force with the advent of services like PACER); Elizabeth Y. McCuskey, *Submerged Precedent*, 16 NEV. L.J. 515, 517 (2016) (explaining difficulty of obtaining access to the work of district courts).

4. PACER was created to allow the public to obtain case and docket information online from all federal courts except for the Supreme Court. In 1991, Congress required the federal judiciary to charge "reasonable fees . . . for access to information available through automatic data processing equipment" including PACER records. Judiciary Appropriations Act, Pub. L. No. 101–515, § 404, 104 Stat. 2129, 2132–33 (1991). PACER fees are the subject of ongoing class-action litigation. *See, e.g.*, Nat'l Veterans Legal Servs. Program v. United States, 291 F. Supp. 3d 123 (D.D.C. 2018).

5. Rule 5.2(c) of the Federal Rules of Civil Procedure and Rule 25 of the Federal Rules of Appellate Procedure bar electronic remote access by the public to filings in Social Security appeals and certain types of immigration cases. FED. R. CIV. P. 5.2(c); FED. R. APP. P. 25(a)(5).

6. Bloomberg Law has emerged as an amalgam of these two resources, providing some of the advanced search capability of Westlaw and LEXIS with the docket-based comprehensiveness of PACER. The jury is out on whether Bloomberg Law can reliably provide the best of both. *See, e.g.*, Mark Iris, *Illegal Searches in Chicago: The Outcomes of 42 U.S.C. § 1983 Litigation*, 32 ST. LOUIS U. PUB. L. REV. 123, 125 (2012) (reporting potential gaps in Bloomberg research);

conduct searches with any kind of nuance. To find a judicial decision of interest, one must first identify a case, then view the docket, find the docket entry for the decision, and view it on a pdf browser. There is no way, through PACER, to conduct any mass text-based search for particular judicial opinions.[7] But PACER, unlike commercial databases, contains the entire universe of judicial opinions (at least since courts began using electronic filing systems in the last 20 years).

Commercial databases have functional advantages: one can conduct extremely advanced searches across multiple jurisdictions, with direct access to the judicial opinions that researchers are interested in studying. But it is widely acknowledged that commercial databases are vulnerable to serious selection biases; we know that many judicial opinions are excluded by Westlaw and LEXIS. One recent study estimated that two percent of all district court orders appear on commercial databases,[8] but this figure includes the universe of all orders, from routine scheduling matters to lengthy opinions resolving dispositive motions. More critically, from a research perspective, when judges decide dispositive motions and the like, there is evidence that many opinions are excluded from commercial databases and that certain kinds of decisions or cases are overrepresented in those databases.[9]

Juscelino F. Colares, Kosta Ristovski, *Pleading Patterns and the Role of Litigation As A Driver of Federal Climate Change Legislation*, 54 JURIMETRICS J. 329, 341 (2014) (reporting unspecific "gaps" in Bloomberg Law database).

7. It should be acknowledged that PACER was never meant to function as a research tool. Although PACER is meant to provide remote public access to court filings, its architecture is largely a function of the closely related electronic filing system maintained by federal courts, created to make litigating cases more efficient for parties and courts.

8. *See* Hoffman, et al., *supra* note 3, at 727 (finding that only three percent of all district court orders appear on Westlaw or LEXIS); *see also* Peter Siegelman & John J. Donohue III, *Studying the Iceberg from Its Tip: A Comparison of Published and Unpublished Employment Discrimination Cases*, 24 LAW & SOC'Y REV. 1133, 1137 (1990) (noting that approximately twenty percent of employment discrimination cases result in the publication of a district court opinion).

9. There is evidence of variation in what is published, based on district of origin, type of case, and outcome of decision. Elizabeth McCuskey, studying a small sample of district court decisions adjudicating federal question removals in ERISA case, found that a significant percentage of remand decisions did not appear on Westlaw, and that the decisions that appeared on Westlaw were less likely than unpublished opinions to remand to state court. *See* McCuskey, *supra* note 3, at 517–18. In a similar vein, Brian Lizotte, studying 607 cases terminated by a grant of summary judgment, has documented variation in the publication rate of summary judgment decisions by district of origin and prevailing party, and

Empirical researchers, then, face a difficult choice. Research via commercially available databases is quick, cheap, and can be wide-ranging, but by definition, it will reveal only "published" opinions.[10] PACER-based research will be expensive and time consuming, but it is comprehensive. The dilemma is particularly difficult if one wishes to research the work of district courts because all appellate opinions are published in some form on commercially-available databases.

Precisely because of PACER's cost and clunk, many researchers have relied on Westlaw and PACER to conduct empirical research.[11] Acknowledging the potential for selection bias, these researchers reason that some data are better than nothing. Some researchers have taken on PACER-based empirical research, and their studies confirm the difficulty and reward of conducting PACER-based empirical research.[12]

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overall found that only forty-one percent of summary judgment grants were available on Westlaw or LEXIS. *See* Brian N. Lizotte, *Publish or Perish: The Electronic Availability of Summary Judgments by Eight District Courts*, 2007 WIS. L. REV. 107, 109 (2007).

10. I use the term "published" here to refer to whether an opinion appears either in Westlaw or LEXIS, or in hard copy, such as West's Federal Supplement or Federal Rules Decisions. This is in contrast to the debate between "published" and "unpublished" decisions in the federal appellate courts. *See* Hillel Y. Levin, *Making the Law: Unpublication in the District Courts*, 53 VILL. L. REV. 973, 999 (2008) (canvassing debate in appellate courts). That debate concerned not the availability of such decisions (the electronic databases now make available all federal appellate court decisions), but their precedential weight. Arthur J. Jacobson, *Publishing Dissent*, 62 WASH. & LEE L. REV. 1607 (2005) (criticizing appellate designation of opinions as nonprecedential). With the advent of Federal Rule of Appellate Procedure 32.1, adopted in 2006, litigants may now cite to unpublished federal appellate opinions. FED. R. APP. P. 32.1.

11. *See, e.g.*, Raymond H. Brescia, *The* Iqbal *Effect: The Impact of New Pleading Standards in Employment and Housing Discrimination Litigation*, 100 KY. L.J. 235, 239–41 (2012) (relying on Westlaw and LEXIS to study dismissal rates in housing and employment discrimination cases); Scott Dodson, *A New Look: Dismissal Rates of Federal Civil Claims*, 96 JUDICATURE 127, 131–32 (2012) (relying in part on Westlaw to study dismissal rates of specific claims); Patricia W. Hatamyar, *The Tao of Pleading: Do* Twombly *and* Iqbal *Matter Empirically?*, 59 AM. U. L. REV. 553, 556 (2010) (estimating, based on Westlaw, that motions to dismiss were four times more likely to be granted after Iqbal as they were during the Conley era, after controlling for relevant variables).

12. *See, e.g.*, Joe S. Cecil et al, *Motions to Dismiss for Failure to State a Claim After* Iqbal, FED. JUD. CTR. (2011), http://www.fjc.gov/public/pdf.nsf/lookup/motioniqbal.pdf/$file/motioniqbal.pdf; William H.J. Hubbard, *Testing for Change in Procedural Standards, with Application to* Bell Atlantic v. Twombly, 42 J. LEGAL STUD. 35 (2013) (using data

The question put to the side, however, has been just how much selection bias exists in commercially-available databases. A few studies have suggested substantial bias based on limited sample sets.[13] This paper presents data based on a much larger sample based on an analysis of publication rates among more than 5,000 district court opinions resolving motions to dismiss decided in 2006 and 2010. The data show that there is indeed selection bias in commercially available databases and that it is correlated with many important variables. These variables include: (1) the outcome of a motion (grants are more likely to be published than denials); (2) type of case; (3) district in which the case is being litigated; and (4) judicial ideology.

These data are valuable for several reasons. First, they confirm the caution that other researchers have expressed regarding empirical studies based solely on commercially available opinions. Second, they provide a window into the role that change in legal doctrine might have in rates of publication. And finally, aside from the relationship to legal research, they also are important to the state of the law. For it is important to remember that publication rates matter for lawyers and judges as well as researchers. If the publicly available opinions are biased towards certain outcomes, as these data suggest, it will affect judges' and lawyers' perceptions of the lay of the legal landscape and the raw material they may use to (respectively) render opinions or make legal arguments.[14] For lawyers and judges, like researchers, generally only have available to them the opinions that appear in commercially available electronic databases or hard copy. If certain dispositions from certain geographic districts are systematically over or underrepresented in publicly available material, it will influence the types of legal arguments that can be made and (in all likelihood) the success of those arguments.

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from Administrative Office of U.S. Courts); Alexander A. Reinert, *Measuring the Impact of Plausibility Pleading*, 101 VA. L. REV. 2117, 2183 (2015) (studying dismissal rates using PACER); Joanna C. Schwartz, *How Qualified Immunity Fails*, 127 YALE L.J. 2 (2017) (using PACER to study impact of qualified immunity).

13. *See, e.g.*, McCuskey, *supra* note 3, at 517–18 (finding that opinions ordering a remand in ERISA cases were overrepresented in commercial databases); Lizotte, *supra* note 9, at 146 (describing bias in publication of summary judgment decisions in randomly selected dockets of eight federal district courts).

14. Edward K. Cheng, *Detection and Correction of Case-Publication Bias*, 47 J. LEGAL STUD. 151 (2018).

II. STUDY METHODOLOGY

In previous work,[15] I reported data regarding the resolution of motions to dismiss in fifteen representative district courts that span the country during the years 2006 and 2010. For that work, I hand-coded more than 5,000 judicial decisions downloaded from PACER, analyzing more than 70 different variables. Because the data were gathered from court dockets, the potential selection bias associated with commercially available databases was not an issue.

To conduct the current study, I and my research assistants[16] conducted additional coding for each judicial decision included in my previous study. The new coding was directed towards identifying whether a judicial decision on a motion to dismiss was published. We considered an opinion to be published if it was present on Westlaw and/or LEXIS or was included in the bound federal case reporters published by West (the Federal Supplement, or "F. Supp.," and the Federal Rules Decisions, or "F.R.D.").[17] The results follow.

III. RESULTS

A. Rates of Publication and the Impact of Legal Change

As a general matter, it should not be surprising that in this dataset only some proportion of judicial decisions revolving a motion to dismiss ultimately became publicly available. Table 1 reports the publication rate overall in the data by year of decision and by whether the plaintiff was represented by counsel or proceeding *pro se*.

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15. *See generally*, Reinert, *supra* note 12.

16. I owe a debt of gratitude to Francesca Acocella, Alison Gross, Vinodh Jayaraman, and Jaimini Vyas for their assistance in coding.

17. To be sure, any opinion included in the F. Supp. or F.R.D. would also be included in an electronic database. But West has suggested specific criteria for district judges to consider when deciding whether to designate an opinion for publication in a bound case reporter: whether the case deals with an issue of first impression, modifies or explains a rule of law, or reviews or criticizes a body of law. Lizotte, *supra* note 9, at 139–41. There is thus a perception among judges and lawyers that cases published in the bound case reporters are more "important" to the development of the law. *See, e.g.*, Ross E. Davies, *Supreme Court Sluggers: Samuel A. Alito of the Philadelphia Phillies and Marvin Miller of the MLBPA*, 3 J.L.: PERIODICAL LABORATORY OF LEG. SCHOLARSHIP 77, 82–83 (2013) (discussing attempts to measure "influence" of Supreme Court Justices by counting how often they are cited by name in bound case reporters).

Table 1. Summary of Publication Rates

	Unpublished	Published	Total
Overall	1,874 (34.1%)	3,620 (65.9%)	5494
2006 Decision	985 (42.5%)	1,332 (57.5%)	2,317
2010 Decision	889 (28%)	2,288 (72%)	3,177
Counseled Plaintiff	1,450 (34.9%)	2,702 (65.1%)	4,152
Pro Se Plaintiff	424 (31.6%)	918 (68.4%)	1,342

Three observations are striking about these data. First, about one-third of all decisions on dispositive motions to dismiss were available only on PACER. Second, the counseled status of the plaintiff does not appear to be highly correlated with the rate of publication.[18] If one expected courts to use publication as a proxy for importance and if one assumed that *pro se* cases tend to be more straightforward and to involve less significant or novel legal issues (perhaps a dubious assumption), one might expect fewer of the opinions in *pro se* cases to be published.

Finally, there was a significant difference between publication rates in 2006 and 2010.[19] One might hypothesize several explanations for this difference, many of which can be tested. First, it is possible, although unlikely, that some judges are continuing to adjust to electronic databases, and we might, therefore, expect judges to increase their publication rate over time. One way to test this hypothesis while reducing other potential confounders is to look at publication rate by nominating president (with the nominating president serving as a proxy for years of service).

Table 2 provides publication rates for counseled cases[20] in 2006 and 2010, sorted by nominating president. These data suggest two conclusions. First, although there is substantial variation in publication rates depending on nominating president, it does not appear, in the aggregate, that years of service is positively correlated

18. There is a statistically significant difference in the publication rate for cases involving pro se plaintiffs and cases involving counseled plaintiffs ($p<0.05$), but the magnitude of the difference in absolute publication rate is minimal.

19. The difference was statistically significant ($p<0.001$).

20. For the remainder of this paper, data analysis will focus primarily on decisions in counseled cases.

with making a decision publicly available. Instead, there is at least some suggestion of a connection between presumed judicial ideology and rates of publication (particularly in the 2010 subset of data, where judges nominated by Democratic presidents tended to have higher publication rates). Second, between 2006 and 2010, there was a consistent increase in publication rate among each cohort of judges (except for judges nominated by President Ford, but the sample size is very small). This suggests that separate and apart from years of service, year of decision is correlated with the likelihood of publication.

Table 2. Publication Rate by Nominating President, Counseled Cases

Nominating President	2006 Publication Rate	2010 Publication Rate	p-value
Nixon	44.9%	47.37%	0.847
Ford	100% [only 10 cases]	79%	0.268
Carter	65.9%	84.3%	0.008
Reagan	59.7%	68.0%	0.076
Bush, George H.W.	45.9%	59.4%	<0.001
Clinton	59.5%	76.1%	<0.001
Bush, George W.	63.9%	67.9%	0.164
Obama	N/A	76.9%	N/A
ALL Rep.-nominated	55.2%	64.4%	<0.001
ALL Dem.-nominated	59.7%%	76.6%	<0.001

A second possibility is that, because these data only include resolutions of motions to dismiss, the difference in publication rates between 2006 and 2010 is related to the change in legal doctrine regarding pleadings. This is no news flash, but between 2006 and 2010 federal pleading standards changed[21]—the extent of that change

21. The Supreme Court announced two pleading decisions between 2006 and 2010. *See* Ashcroft v. Iqbal, 556 U.S. 662 (2009); Bell Atl. v. Twombly, 550 U.S. 544 (2007). These decisions together "retired" certain aspects of the notice

has been a matter of much debate among academics and others.[22] One way to evaluate the possibility that changed legal doctrine is associated with a change in publication rates is to examine publication rates among judicial decisions that make reference to *Iqbal* or *Twombly*. Table 3 presents these data from 2010, including unwritten decisions, while Table 4 presents the same data excluding unwritten decisions.

Table 3. Publication Rate by Reference to Twombly or Iqbal, 2010 Decisions, Counseled Cases

	Unpublished	Published	Total
No Twombly/ Iqbal Ref	284 (61.9%)	175 (38.13%)	459
Twombly/ Iqbal Ref	405 (21.3%)	1,500 (78.7%)	1905
Total	437	1,861	2,364

P<0.001

Table 4. Publication Rate by Reference to Twombly or Iqbal, 2010 Decisions, Counseled Cases, Written Decisions Only

	Unpublished	Published	Total
No Twombly/ Iqbal Ref	120 (41%)	173 (59%)	293
Twombly/ Iqbal Ref	397 (20.9%)	1,500 (79.1%)	1,897
Total	517	1,673	2,190

P<0.001

Taken together, these data suggest that there is a correlation between publication rates and change in underlying pleading doctrine. For researchers studying the impact of changes in legal doctrine, this is significant because it suggests that relying solely on commercially available databases to study the impact of legal change

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pleading standard that had been in existence for more than 50 years, introduced a "plausibility" pleading standard, and either revolutionized or corrected pleading doctrine, depending on one's perspective. Since its announcement, *Iqbal* has been cited by more than 130,000 opinions published on Westlaw and more than 1,700 law review articles. With a two-year head start, *Twombly* has been cited in more than 155,000 opinions published on Westlaw and more than 2,100 law review articles.

22. *See* Reinert, *supra* note 12, at 2130–34 (discussing literature).

will be fraught. In the case of pleading, for example, my prior work showed that opinions that discuss *Iqbal* and *Twombly* in 2010 were more likely to be decisions that resulted in a grant of the motion to dismiss.[23] If those decisions also are more likely to be found in commercially available databases, a researcher studying the impact of the decisions through those databases will be looking at a sample of cases that overrepresents the extent to which claims are dismissed. I address this dynamic in greater detail below.

There is one final avenue to pursue before turning to more specific data on publication rates: availability in hard-copy case reporters such as West's Federal Supplement ("F. Supp.") or Federal Rules Decisions ("F.R.D."). According to West's publishing guidelines, decisions that are selected to appear in bound case reporters should be more "important"; they should deal with an issue of first impression, modify or explain a rule of law, or review or criticize a body of law.[24] And some local district court rules impose greater logistical burdens on lawyers who cite to opinions that are unpublished or available only in electronic databases, creating an incentive to cite to decisions that appear in hard-copy case reporters.[25]

These editorial guidelines suggest one additional way to examine the increase in publication rates between 2006 and 2010 in decisions on motions to dismiss: perceived importance of the decisions. The selection filter for publication in Westlaw or LEXIS is weaker than the filter for publication in F. Supp. or F.R.D.,[26] but one nonetheless would expect judges to select more "important"

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23. Reinert, *supra* note 12, at 2144–45. This is intuitive: Judges who write a decision without citing *Iqbal* or *Twombly* are more likely to be resistant to the changes introduced by those decisions, and therefore more likely to decide the case more consistently with *Conley*-era, and plaintiff friendly, pleading standards.

24. Lizotte, *supra* note 9, at 139–40. Karen Swenson has found similar factors influence the decision of judges to publish their decisions. Karen Swenson, *Federal District Court Judges and the Decision to Publish*, 25 JUST. SYS. J. 121, 122 (2004).

25. *See* D. Utah Civ. R. 7-2 (defining requirements with respect to citing unpublished opinions); N.D.N.Y R. 7.1(a)(1) (requiring that *pro se* litigants be provided with copy of opinions available only on electronic database); *See* S.D.N.Y. R. 7.1(a) & E.D.N.Y R. 7.1(a) (same); Local Civil Rules for the M.D. Pa. 7.8(a) (requiring copies of unpublished opinions); D. Colo. Civ. R. 7.1(e) (requiring that any unrepresented party be provided with a copy of unpublished decisions).

26. In some districts, Westlaw and LEXIS conduct a "sweep" of all decisions which merit a written opinion, even though they do not ultimately include every decision in their databases. *See* Lizotte, *supra* note 9, at 132.

decisions for publication on Westlaw or LEXIS. To test (albeit indirectly) whether decisions in 2010 were perceived as more important by judges, I examined changes in the rates at which opinions appeared in F. Supp. or F.R.D. Table 5 presents hard copy publication rates as a percentage of the total decisions made per year. Table 6 presents the same data but as a percentage of total publicly available decisions.

Table 5. Presence in F. Supp. or F.R.D., Total Counseled Decisions, by Year

Presence in Bound Vol	Not Published in Bound Vol	Published in Bound Volume	Total
2006	1,585 (88.9%)	197 (11.1%)	1,782
2010	2,059 (86.9%)	311 (13.1%)	2370
Total	3,644	508	4,152

P=0.045

Table 6. Presence in F. Supp. or F.R.D., Total Published Counseled Decisions, by Year

Presence in Bound Vol	Not Published in Bound Vol	Published in Bound Volume	
2006	829 (80.8%)	197 (19.2%)	1,026
2010	1,365 (81.4%)	311 (18.6%)	1,676
Total	2,194	508	2,702

P=0.685

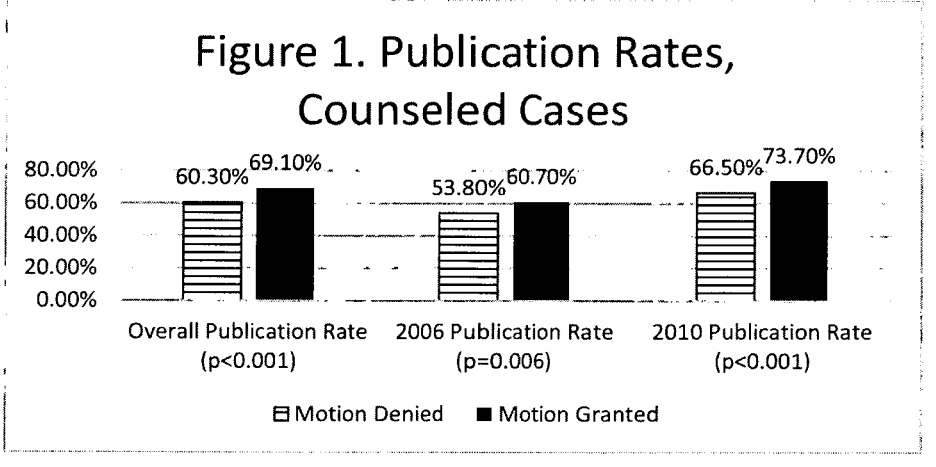
These tables suggest that even as the rate of publicly available decisions increased between 2006 and 2010, the rate at which such decisions were selected for inclusion in bound volumes remained substantially unchanged. If selection for bound volumes is a proxy for importance or significance,[27] this suggests that the increase between 2006 and 2010 in the rate at which opinions were made publicly available is not a function of perceived greater importance or significance.[28]

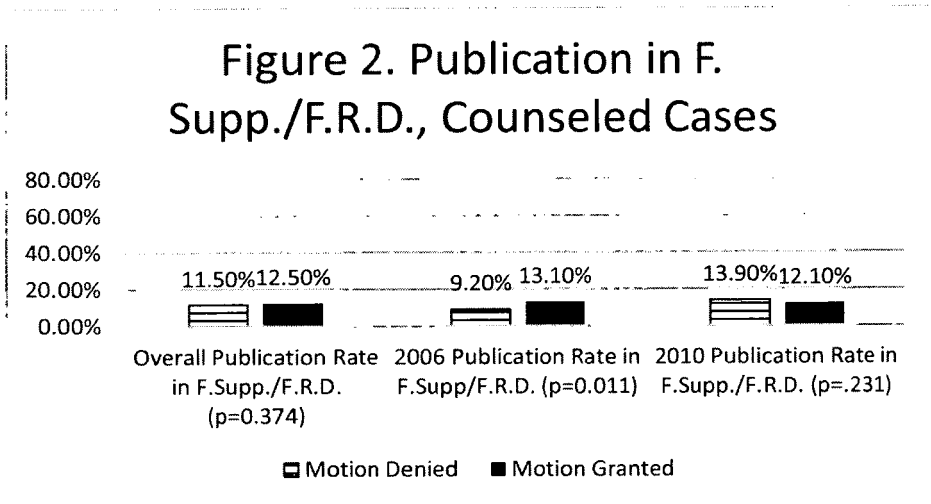
27. *See, e.g., id.*, at 139–40.

28. It also is noteworthy that decisions in pro se cases were rarely published in hard bound volumes (4.6% of all published decisions in 2006 and 8.5% in 2010), well below the rates of publication on commercial databases.

B. Rates of Publication and Outcome of Judicial Decision-Making

Bias in the selection of decisions for availability on Westlaw or LEXIS, or in bound volumes of the official reporters, could be especially problematic if it interacted with the specific issue being studied. For instance, in the dataset reported here, if public availability were correlated with particular kinds of outcomes of motions to dismiss, it could undermine the reliability of publicly available databases as a source of data. In the context of studies of the impact of legal change on outcomes of motions to dismiss, this is important because the vast majority of studies have relied on opinions found only on Westlaw or LEXIS and not on data gathered from PACER. Figure 1 presents rates of publication among counseled cases according to the substantive outcome of motions to dismiss for all cases and then disaggregated by year of decision. Figure 2 presents the same data, looking only at decisions found in bound volumes such as F. Supp. or F.R.D.





Together, these figures show that published decisions available on commercial databases, in both 2006 and 2010, were likely to overstate the percentages of decisions that resulted in a grant of a motion to dismiss. Decisions available in hard volume in 2006 were likely to slightly overstate the percentage of decisions that resulted in a grant of a motion to dismiss, while decisions in 2010 were (very slightly) likely to overstate the percentage of decisions that resulted in a denial of a motion to dismiss. In other words, there is selection bias in publicly available decisions, which tends to cut in the same direction (towards overemphasizing grants of motions to dismiss). This selection bias could have an impact on conclusions one might draw from data collected solely from electronic databases. Table 7 breaks down that potential impact across multiple dimensions by providing examples of different rates of change one might observe depending on which source one uses to cull cases (all decisions; publicly available decisions; decisions found within bound volumes). Because researchers in this area have also focused on particular kinds of case types, Table 7 also breaks down the data according to case type.

Table 7. Potential Impact of Selection Bias, Counseled Cases, by Case Type and Year

	2006 Grant Rate	2010 Grant Rate	Difference	p-value
All Cases				
• PACER	37.3%	51.7%	+14.4%	<0.001
• Public	40.4%	54.5%	+14.1%	<0.001
• Bound	46.4%	48.6%	+2.2%	0.704
Tort				
• PACER	36.8%	46.8%	+10%	.151
• Public	37.0%	44.0%	+7%	.486
• Bound	38.5%	50.0%	+11.5%	0.728
Contract				
• PACER	30.8%	41.4%	+10.6%	0.002
• Public	33.3%	44.9%	+11.6%	0.015
• Bound	54.3%	56.2%	+1.9%	1.00
Employment Discrim				
• PACER	35.8%	51.7%	+15.9%	0.001
• Public	36.9%	53.8%	+16.9%	0.009
• Bound	27.8%	50%	+22.2%	0.220
Prison				
• PACER	35.0%	45.6%	+10.6%	0.263
• Public	42.3%	48.9%	+6.6%	0.631
• Bound	**[insuff data]	**[insuff data]		
Civil Rights				
• PACER	47.1%	65.9%	+18.8%	<0.001
• Public	50.6%	69.5%	+18.9%	<0.001
• Bound	50.9%	63.3%	+12.4%	0.192
Financial Instruments				
• PACER	48.2%	69.7%	+21.5%	0.030
• Public	47.1%	68.4%	+21.3%	0.110
• Bound	**[insuff data]	**[insuff data]		
Other				

• PACER	33.1%	44.9%	+11.8%	<0.001
• Public	37.0%	48.4%	+11.4%	0.003
• Bound	47.9%	38.5%	-9.4%	0.366

On one hand, these data show that, among all cases, and across almost all case types, publicly available opinions are biased in favor of granting motions to dismiss. Thus, looking only at publicly available opinions will tend to overstate the rate at which motions to dismiss are granted. This is intuitive: if a judge were to deny a motion to dismiss, she may do so orally or in a very brief minute order that would not justify publication. If, however, a judge were to grant a motion to dismiss, she would be more likely to write a substantive decision that, accordingly, would be more likely to be a candidate for publication. In short, decisions that result in judicial action being taken are more likely to be justified in writing, and therefore more likely to be placed in publicly available sources. These data confirm this expectation in the context of motions to dismiss, but one would expect the same pattern to emerge in decisions involving other significant motion practice. As such, it confirms many of the fears about the selection bias inherent in reliance solely on commercially available databases to conduct empirical legal research.

At the same time, although published material tends to be biased in favor of reporting successful motions to dismiss, it appears that, because this was true in both 2006 and 2010, the overall rate of observed change in disposition rate between 2006 and 2010 is not significantly different, whether one relies on all decisions or only on those decisions that can be found only in publicly available sources. Thus, although there appears to be selection bias in publicly available opinions, it is not obvious that the selection bias, at least in this dataset, would substantially affect the observed rate of change in the particular area of pleading doctrine. Nonetheless, there are certain categories of cases in which the selection bias in commercial databases appears to have a greater potential to affect bottom-line conclusions regarding the impact of change in pleading doctrine: in torts and prison cases, the observed change in grant rate is underestimated when one examines only publicly available decisions.

Selection bias is more concerning if one were to examine decisions found only in bound volumes of the F. Supp. and F.R.D. This is unlikely to have a significant impact on academic research, as I am aware of no scholar who has, in the last two decades, attempted

to study the impact of legal change by examining only hard-copy case reports. But for lawyers and judges, who may view publication in a bound volume as suggestive of importance or prestige, these data may indicate that selection bias in those volumes could have an impact on legal argumentation and development of the law.

It is possible that selection bias might have a different influence depending on subtle coding decisions. For example, in research regarding motions to dismiss and the impact of *Iqbal* and *Twombly*, researchers have sometimes used different definitions for what constitutes a grant and what constitutes a denial. Most critically, researchers have disagreed about how to code decisions in which the judge grants a motion to dismiss in part and denies it in part. Table 7 uses the definition of grant and denial that I used in my prior study: a full denial counts as a denial; a full grant counts as a grant; a partial grant or partial denial will count as a denial or grant depending on how many claims were dismissed (if more claims survive than are dismissed, I coded it as a denial; if more claims were dismissed than survived, I counted it as a grant).[29] My particular coding decision was unique. One could imagine counting all situations in which a motion was granted in part as a grant (as most prior researchers have done) or construing all such motions as a denial. Tables 8 and 9 recreate Table 7 according to these different iterations (and excluding reporting of data for decisions included in bound volumes). These analyses suggest additional potential for the selection bias in commercially available databases affecting bottom-line conclusions.

Table 8. Potential Impact of Selection Bias, Counseled Cases, by Case Type and Year, Partial Grants/Denials Coded as Grants

	2006 Grant Rate	2010 Grant Rate	Difference	p-value
All Cases				
• PACER	50.4%	61.5%	+11.1%	<0.001
• Public	55.9%	64.6%	+8.7%	<0.001
Tort				
• PACER	48.7%	55.0%	+6.3%	0.320

29. I described the justification for this coding decision in my prior work. *See* Reinert, *supra* note 12, at 2140. In essence, I believe it most accurately captures the data for the purposes of the questions I was trying to answer.

• Public	55.2%	54.9%	-0.3%	1.000
Contract				
• PACER	42.3%	51.3%	+9.0%	0.010
• Public	47.3%	55.1%	+7.8%	0.092
Employment Discrim				
• PACER	51.1%	63.2%	+12.1%	0.008
• Public	57.1%	66.9%	+9.8%	0.091
Prison				
• PACER	52.4%	62.9%	+10.5%	0.279
• Public	65.5%	66.7%	+1.2%	1.000
Civil Rights				
• PACER	62.3%	74.1%	+11.8%	<0.001
• Public	68.0%	77.6%	+9.6%	0.010
Financial Instruments				
• PACER	61.3%	77.8%	+16.5%	0.070
• Public	57.9%	77.6%	+19.7%	0.087
Other				
• PACER	44.4%	55.2%	+10.8%	<0.001
• Public	49.2%	58.6%	+9.4%	0.011

Table 9. Potential Impact of Selection Bias, Counseled Cases, by Case Type and Year, Partial Grants/Denials Coded as Denials

	2006 Grant Rate	**2010 Grant Rate**	**Difference**	**p-value**
All Cases				
• PACER	30.0%	41.2%	+11.2%	<0.001
• Public	31.9%	42.2%	+10.3%	<0.001
Tort				
• PACER	33.3%	39.7%	+6.4%	0.303
• Public	34.5%	36.3%	+1.8%	0.865
Contract				
• PACER	24.8%	34.5%	+9.7%	0.003
• Public	25.6%	36.7%	+11.1%	0.008
Employment Discrim				

• PACER	25.9%	40.4%	+14.5%	0.001
• Public	27.8%	40.1%	+12.3%	0.036
Prison				
• PACER	27.0%	35.5%	+8.5%	0.339
• Public	31.0%	37.3%	+6.3%	0.632
Civil Rights				
• PACER	37.1%	50.3%	+13.2%	<0.001
• Public	39.8%	52.8%	+13.0%	0.001
Financial Instruments				
• PACER	35.5%	54.3%	+18.8%	0.056
• Public	31.6%	51.3%	+19.7%	0.145
Other				
• PACER	27.8%	36.5%	+8.7%	0.002
• Public	29.2%	37.9%	+8.7%	0.016

These raw numbers only tell part of the story, however. As researchers have demonstrated, many variables might contribute to whether a motion to dismiss is granted or denied, including the district of origin of the case, the presumed ideology of the judge, whether the plaintiff has filed an amended complaint, the institutional status of a plaintiff or defendant, and so on.[30] To address these different variables, researchers use multiple logistic regression to focus on the variable of interest. In the context of motions to dismiss, researchers have recently sought to determine whether the pleading standard introduced by the Supreme Court's decisions in *Iqbal* and *Twombly* have had an impact on the outcome of motions to dismiss.[31] Table 10 reproduces regression tables that reflect coefficients and p-values for different variables, for all decisions and only for those decisions published on Westlaw or LEXIS.

These show that a researcher focusing only on decisions available on Westlaw or LEXIS may have concluded that some variables were more correlated with grants of motions to dismiss than is supportable by the universe of decisions. And although I will not reproduce additional regression tables here, similar patterns are found when one looks at particular types of cases, such as employment discrimination or civil rights cases—published opinions

30. *See* Reinert, *supra* note 12, at 2153–56.
31. *See generally*, *supra* note 11.

differ in some important respects from the universe of available opinions.

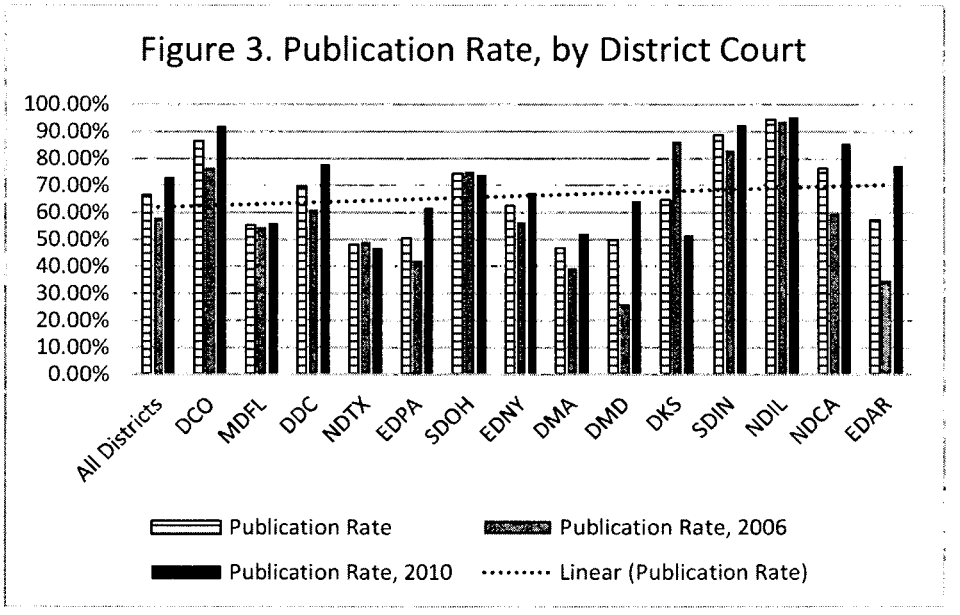
Table 10. Logistic Regression of Counseled Cases

	All Decisions		Publicly Available Decisions	
Variable	**Coef.**	**P>z**	**Coef.**	**P>z**
Decision in 2010	.5786472	0.000	.5345936	0.000
Dem. Nom.	.0155876	0.831	-.0348109	0.703
Male judge	-.097563	0.208	-.1581743	0.098
White judge	.0269899	0.767	.1610008	0.175
SDOH	-.0199806	0.939	.206143	0.530
SDIN	-.1395139	0.663	-.1492177	0.688
NDIL	-.541765	0.015	-.5161002	0.065
NDTX	-.7579226	0.007	-.6591373	0.090
EDPA	-.6808858	0.003	-.2623575	0.378
DMA	-.2744779	0.276	-.132913	0.696
EDNY	-.1404937	0.550	-.0824475	0.786
EDAR	-.6156671	0.037	-.8019491	0.040
NDCA	.5258692	0.019	.6090798	0.033
DRI	-.8421498	0.112	-1.248158	0.084
MDFL	-.3558868	0.107	-.1944424	0.503
DDC	-.1913906	0.437	.0862165	0.784
DMD	.2700917	0.244	.3707898	0.234
DCO	-.0715189	0.784	.0674371	0.832
Decision in Jan to June	.0325925	0.638	.1408389	0.103
Presence of Amended Complaint	.0078348	0.911	.0081768	0.925

In sum, these data suggest that there is evidence of significant selection bias in the universe of decisions that are publicly available to researchers. In the context of studying the impact of pleading doctrine, this results in observed grant rates being higher in publicly available decisions as compared to the universe of all decisions on motions to dismiss. But, these data also suggest that if one were to focus solely on the rate of change between 2006 and 2010, the selection bias may not significantly alter one's conclusions.

C. Rates of Publication and District of Origin

Other studies have suggested that there is wide variation among districts in publication rates.[32] The data collected here are consistent with this observation, as shown in Figure 3.



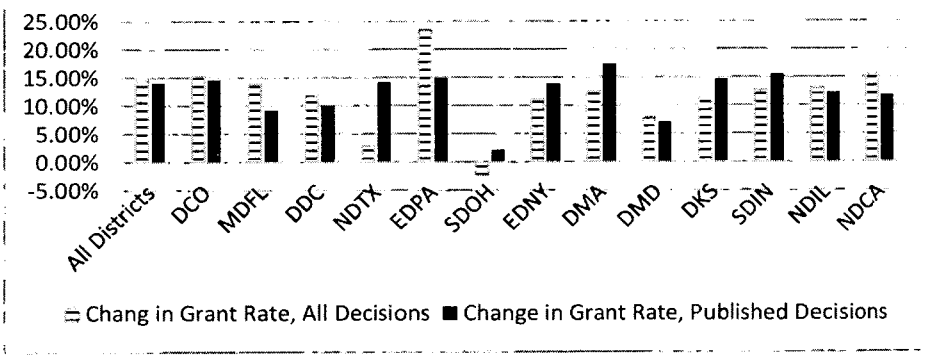
Three districts are consistently above-average in their publication rates across all categories (District of Colorado, Southern District of Indiana, and Northern District of Illinois). Three additional districts are nearly always above-average in their publication rates (District of DC, Southern District of Ohio, and Northern District of California). Four of these districts were also among those districts that observed the highest and statistically significant increases in dismissal rate between 2006 and 2010.33 I will not burden the reader with even more tables, but there is also variation among the districts when one examines publication rate by whether a motion to dismiss is granted or denied.

One can imagine how this variation in publication rate could affect research across judicial districts. Figure 4 shows how, within each judicial district studied, the observed change in rates of dismissal between 2006 and 2010 can sometimes be markedly

32. *See, e.g.*, Lizotte, *supra* note 9, at 143–46.
33. *See* Reinert, *supra* note 12, at 2153 n.143.

different depending on whether one uses all decisions as a baseline or only published decisions.

Figure 4. Change in Grant Rate Across Districts, 2006-2010



All this is to say that if researchers are trying to compare judicial behavior across districts by relying on publicly available decisions, there is ample reason to worry over the selection bias present in the commercially available databases. In addition, because there is significant cross-pollination between districts, particularly for issues on which appellate courts have provided little guidance (e.g., discovery), the variance in publication rates may have the effect of increasing the influence of district courts with higher rates of publication. Future research might shed light on this dynamic, but it is beyond the scope of this paper

D. Rates of Publication and Case Type

Selection bias is also present according to case type. Publication rates vary significantly by the type of case at issue and by how the motion is resolved. In 2006, decisions granting a motion to dismiss were overrepresented in published decisions for Civil Rights, Prison, Financial Instruments, and Other cases. In 2010, decisions granting a motion to dismiss were overrepresented in published decisions for Civil Rights, Prison, Contract, and Other cases. Without more analysis, it is difficult to know if these results are consistent with other research which has suggested that decisions in complex cases are more likely to be published.[34]

34. Lizotte, *supra* note 9, at 139–41.

From a research perspective, this could affect conclusions if one is comparing outcomes in different case types. But perhaps more importantly, an overrepresentation of publicly available cases resulting in dismissal in these categories of cases could impact the future resolution of these kinds of cases as well, as parties seeking dismissal will have greater ammunition to use as support for a given motion.

E. Implications Beyond Empirical Legal Research

To this point, I have presented data focused primarily on whether selection bias in published decisions exists and, if so, what impact that might have on empirical legal research. But these data have implications that might be of interest beyond card-carrying subscribers to the Journal of Empirical Legal Studies.

First, as I have adverted to at times above, the public availability of judicial decisions can have an impact on how arguments are made and how the law is shaped. District court decisions, while not precedential, are influential, particularly in specific areas in which appellate decision-making is less likely to provide binding authority or useful guidance. Pleading—the subject matter of the decisions studied in the data presented here—could be one of these areas. Denials of motions to dismiss are rarely appealed because they are not final and for the most part there is no interlocutory jurisdiction over them. Grants of motions to dismiss are appealable, and courts of appeals can guide district court decision-making through reviewing those decisions, but pleading is fact-intensive and there often will be ample room for district courts to look for guidance elsewhere, including to other district courts. As then-Judge Nancy Gertner observed in a different context, "[s]o much of the bedrock enterprise of judging involves trying to understand the context in which a decision should be made, to compare or contrast precedent, to adopt or distinguish other situations."[35]

If there is a bias towards certain kinds of opinions on motions to dismiss being publicly available, in certain kinds of cases, from particular district judges on particular district courts, the raw material for judges and lawyers to adjudicate and argue motions to dismiss can be slanted in a particular direction. And this could have the

35. Judge Nancy Gertner, *The Globalized District Court*, 26 U. HAW. L. REV. 351, 355 (2004).

impact of moving the law in a particular direction simply through momentum. Edward Cheng has modeled how this kind of bias could influence actual decision-making, using decisions regarding the admissibility of evidence as an example.[36] And David Zaring has described anecdotally how, in institutional reform cases, federal law can spread horizontally from trial court to trial court.[37] Selection bias in the publication of district court decisions could affect this process of law-making.[38]

Second, rates of publication can reveal something about judicial behavior and attitudes. If decisions to publish are related to judicial perception of "importance," then variation in publication rates could reveal important information about which kinds of decisions are important. Other research has suggested that judges might be more likely to publish decisions in which large law firms or well-resourced litigants are participants,[39] but more analysis of these data is needed before one can draw a similar conclusion here, especially given the potential confounding variables. Along similar lines, if judges are less likely to publish opinions involving state law claims, which some of the data reported here suggest, that might reveal concerns about federalism seeping into decisions about publication.[40]

Finally, other scholars have noted the relationship between the publication of decisions and judicial transparency and accountability.[41] Indeed, some have gone beyond this "thin" accountability to argue that judges have an ethical obligation, as trustees of the law, to publish their opinions.[42] Whether one ascribes to "thin" or "thick" judicial accountability,[43] opinions that exist only for the benefit of the parties and that are practically unavailable to the public do not sit well with the premise of open courts, nor does it build legitimacy and faith in an independent judiciary. This is not simply a problem for public understanding of the judiciary, but even

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36. *See* Cheng, *supra* note 14.

37. *See* David Zaring, *National Rulemaking Through Trial Courts: The Big Case and Institutional Reform*, 51 U.C.L.A. L. REV. 1015, 1016 (2004).

38. Levin, *supra* note 10, at 993–94.

39. *See* Swenson, *supra* note 24, at 135.

40. Lizotte, *supra* note 9, at 143–46.

41. Levin, *supra* note 10, at 981–82.

42. Sarah M.R. Cravens, *Judges As Trustees: A Duty to Account and an Opportunity for Virtue*, 62 WASH. & LEE L. REV. 1637, 1640–41 (2005).

43. These are Sarah Cravens's terms. *See id.* at 1641.

for projects such as the Restatement, which seek to "restate" (if not codify)[44] what common law judges do in actual cases.[45]

CONCLUSION

The data presented here confirm one observation that already has been made in the literature: many opinions by judges are not publicly available in any meaningful way. It builds on this observation by suggesting there is selection bias in what is published: published opinions tend to include opinions that result in particular outcomes, that come from particular judges in particular judicial districts, and that involve particular kinds of cases. This has important implications for legal research, legal practice, and the development of the law.

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44. Wayne R. Barnes, *Contemplating A Civil Law Paradigm for A Future International Commercial Code*, 65 LA. L. REV. 677, 766 (2005) (noting that Restatements can be precursors to codifications of common law).

45. Levin, *supra* note 10, at 989.