The Politics of Opinion Assignment and Authorship on the US Court of Appeals: Evidence from Sexual Harassment Cases

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ABSTRACT

We evaluate opinion assignment and authorship on the US courts of appeals. We derive theoretical explanations and predictions for opinion assignment that are motivated by the courts of appeals' distinct institutional setting. Using an original data set of sexual harassment cases, we test our predictions and find that female and more liberal judges are substantially more likely to write opinions in sexual harassment cases. We further find that this pattern appears to result not from policy-driven behavior by female and liberal assigners but from an institutional environment in which judges seek out opinions they wish to write. Judicial opinions are the vehicles of judicial policy, and thus these results have important implications for the relationship between legal rules and opinion assignment and for the study of diversity and representation on multimember courts.

1. INTRODUCTION

To write a legal opinion is to exercise a fundamental form of legal power. When judges write legal opinions, they create law and communicate it to other judges, lawyers, and citizens. While appellate courts in the United

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States are multimember, the task of writing a court's majority opinion usually falls to a single judge. Though opinion authors are not unconstrained by their colleagues, the ability to draft an opinion has long been recognized as providing a judge with a critical first-mover advantage to shape an opinion to her liking (Murphy 1964; Maltzman, Spriggs, and Wahlbeck 2000; Lax and Cameron 2007).

While opinion assignment on the US Supreme Court has been studied extensively, it has received relatively scant attention on other appellate courts, including the US courts of appeals. In this paper we present, to the best of our knowledge, the first systematic evaluation of the relationship between judges' characteristics and opinion assignment and authorship on the courts of appeals. No prior scholarship has either theorized about or empirically investigated the relationship between characteristics of courts of appeals judges (such as ideology or gender) and the likelihood that they will more frequently craft doctrine in particular fields of law.

Using an original data set of sexual harassment cases, we find that women and more liberal judges are substantially more likely to write opinions in those cases. This pattern is driven by cases in which sexual harassment plaintiffs prevail, which is where our theoretical framework predicts that women and liberals will seek to write opinions if they wish to develop doctrine congruent with their policy preferences, derive personal satisfaction, or both. While our data do not allow us to definitively adjudicate among competing mechanisms for this result, they suggest that these patterns follow not from the instrumental choices of assigners but rather from an institutional environment in which judges seek out opinions they wish to write. In addition to its novel theoretical predictions and empirical findings, the paper has important implications for the relationship between legal rules and opinion assignment and for the study of diversity and representation on multimember courts.

2. OPINION ASSIGNMENT, AUTHORSHIP, AND INSTITUTIONAL CONTEXT

The literature on opinion assignment has focused almost exclusively on the Supreme Court. A primary explanation investigated is the advancement of policy preferences by the chief justice—who makes the vast majority of assignments—through assignment to himself, to ideologically proximate judges, or to the most moderate justice in a minimum winning coalition (Maltzman and Wahlbeck 1996; Segal and Spaeth 2002). Many scholars have argued that authorship provides the writing judge with sev-

eral advantages over her colleagues that can result in the opinion being closer to her ideal point than if another justice in the majority had written it (see, for example, Maltzman, Spriggs, and Wahlbeck 2000; Lax and Cameron 2007).

By contrast, scholars have paid little attention to opinion assignment on the courts of appeals. The exceptions have been a few studies examining issue specialization, which found that some judges disproportionately write in certain issue areas (Atkins 1974; Howard 1981; Cheng 2008). While illuminating, these macrolevel analyses examine only patterns of authorship statistics by judge and issue area. They do not speak to the microlevel question of how assigning judges choose authors, nor do they assess whether patterns of specialization are associated with more general characteristics of judges, such as ideology or gender.

In developing expectations for how opinion assignment might operate at the federal appellate level, it is important to consider three institutional differences between the Supreme Court and the courts of appeals. First, the same nine justices on the Supreme Court hear each case, with a single judge—the chief justice—making the vast majority of assignments. On the courts of appeals, three judges are selected to panels on a rotating basis, via a process that is more or less random, to hear sets of cases across short periods of time. In general, the senior active judge on the panel is tasked with making the assignment. Thus, judges on the courts of appeals will sometimes be in the assigning role and sometimes in the nonassigning role. In contrast with the Supreme Court, where the assignment power is dominated for long periods by a particular chief justice, this institutional environment is likely to produce assignment norms that incorporate the preferences of nonassigning judges because all judges who wield the assignment power also stand to be subjected to it.

Second, scholars have characterized courts of appeals panels as more collegial than the Supreme Court. The high rate of separate opinions on the Supreme Court suggests that the justices tend to vote sincerely without being influenced by the preferences of their colleagues. In contrast, nearly all opinions on the courts of appeals are both unanimous and unaccompanied by concurrences, which suggests greater deference to opinion authors (see, for example, Cross and Tiller 2008). Furthermore, while Supreme Court justices appear to exert little influence on one another's votes on the merits of cases (Segal and Spaeth 2002), the literature on panel effects on the courts of appeals shows that judges' votes are often associated with the attributes (such as party, gender, and race) of their colleagues (Farhang and Wawro 2004; Cox and Miles 2008; Kastellec

2011). This suggests that courts of appeals judges are more prone to accommodate one another's preferences than are Supreme Court justices. A more consensual approach to opinion assignment on the courts of appeals would comport with a broadly more collegial institutional environment. Indeed, the few scholars who have studied the assignment process on the courts of appeals characterize it as an informal, consensual, and voluntarist process (Howard 1981; Cheng 2008).

Finally, the courts of appeals have a much heavier caseload. A Supreme Court justice will hear 80 or so cases and write about 10 majority opinions in any one year. The courts of appeals currently render over 300 annual dispositions per judge (Levy 2011, p. 324). On the Supreme Court, the relatively light workload means that a justice on the other side can more easily propose a credible counteroffer, which can limit the ability of an author to move an opinion toward her ideal point (Lax and Cameron 2007). On the courts of appeals, the fact that an author's two colleagues have heavy caseloads means that they may be less able to respond effectively to a draft opinion by an author—especially on cases for which she is willing to invest significant time in an opinion. Indeed, appellate judges have observed that it is often not feasible for nonwriting judges to spend the time necessary to engage in detailed oversight of opinions that they join (Coffin 1980, p. 178; Leval 2006, p. 1262).

2.1. Empirical Predictions

With these institutional and contextual factors in mind, we can develop empirical predictions about opinion assignment on the courts of appeals. These predictions are set against the background of a strong norm of rough equity in workload across judges on the courts of appeals (Cheng 2008; Howard 1981), which means that assigners must balance policy goals against a need to distribute opinions across the three judges hearing a set of cases.

One of the distinctions we note between the Supreme Court and the courts of appeals suggests fewer opportunities for assigners on the latter to advance policy goals through assignment. To the extent that the norms of assignment are more consensual and less top-down, there will be less space for policy-driven behavior by assigners. This would not foreclose ideological behavior, of course. Given that courts of appeals judges frequently make legal policy and that who authors an opinion can be important, we would expect to observe some ideologically driven as-

signment behavior. An assigning judge who wishes to move legal policy toward her ideal point may choose to assign the opinion either to herself or to a like-minded judge on the panel. We provide the first test of this prediction.

At the same time, given the institutional features of the courts of appeals discussed above, consensual assignment norms may render the preferences of assignees relevant. Prior research and the published writings of a number of courts of appeals judges suggest that in an environment characterized by collegial norms, the wishes of potential writers are a material factor in determining writing assignments. Potential writers on a panel can either explicitly request or implicitly signal their preference for opportunities to author opinions in areas in which they particularly wish to write. According to qualitative evidence, when the assigning judge assigns opinions for the bank of cases heard by the panel, she often weighs and grants these requests (Schick 1970; Feinberg 1985–86; Oakes 1990; Cheng 2008). In contrast to Supreme Court justices, courts of appeals judges' regular alternation between assigner and assignee likely contributes to this norm, since all judges stand to benefit in the long run from having their preferences taken into account in the distribution of work. (Even the senior active judge on a circuit knows that when she takes senior status, she will receive assignments.)

Howard (1981, p. 255) suggests that judges may seek to author opinions because of "affinities between particular individuals and subjects," a dynamic he characterizes as "more a matter of informal gravitation than of central design." A consensual assignment norm suggests that opinion assignment presents an opportunity for judges to actively seek opinions in issue areas they regard as particularly important or interesting. While a consensual assignment norm may diminish policy-maximizing opportunities for assigners, it simultaneously introduces such opportunities for nonassigners through active pursuit of authorship. In this institutional environment, it is reasonable to expect judges who care about a particular issue area to be overassigned opinions in such cases—either via self-assignment or through consensual channels. Importantly, we note that while scholars and courts of appeals judges alike have suggested the existence of a consensual assignment norm, none have characterized it as a potential pathway to advance policy goals associated with such judge characteristics as ideology or gender—as distinguished from the idiosyncratic interests of individual judges.

2.2. The Relationship between Dispositions and Authorship

Even within a given area of law, certain cases may serve as better vehicles for either crafting doctrine or giving judges greater personal satisfaction in writing opinions. In this section we present a simple spatial model of doctrinal creation that accounts for the fact that judicial opinions do two things: they announce a disposition (which party wins and which loses), and they articulate a rationale for that decision, or a legal rule. In the model, the desirability of authorship may depend on the direction of the disposition in the case—a proposition that is new to the literature on opinion assignment. We further argue that recent work on the role of psychological utility in judging also supports a link between the desirability of authorship and dispositions.

2.2.1. A Policy-Based Model of Authorship. Consider the following simple one-dimensional case space model of sexual harassment law, which we depict in Figure 1. A case (denoted x) consists of a set of case facts that map into case space, where cases that fall to the right are more harassing, while cases to the left are less harassing. A decision of the court first consists of saying which party wins, which entails deciding whether the case receives the not-harassment or the harassment outcome. In many models of rules, judges are portrayed as writing opinions that completely partition a case space in a single case (Lax 2007; Carrubba and Clark 2012). In this world, a judge could take one case and say which future cases get the harassment outcome and the not-harassment outcome. Instead, following the logic of incremental partitioning of the case space, we assume that judges make law in a more step-by-step fashion (Cameron 1993; Gennaioli and Shleifer 2007; Baker and Mezzetti 2012).

Assume that x_1 is the first sexual harassment case to be decided and that it will render precedent that binds judges in future cases. (Alternatively, the interval depicted in Figure 1 could represent a subset of the overall case space—an interval that has not been settled by previous cases.) A decision of harassment means that all cases to the right of x_1 also receive the harassment classification. This results from a straightforward monotonicity assumption, which is analogous to what Lax (2007) calls a proper rule. Under such a rule, facts that are more extreme than already proscribed activity should receive the harassment outcome, while facts that are less extreme than already accepted activity should receive the not-harassment outcome. If x_1 gives rise to sexual harassment liability, then more harassing facts should as well. But deeming one extreme incident as harassment has no bearing on the adjudication of less extreme

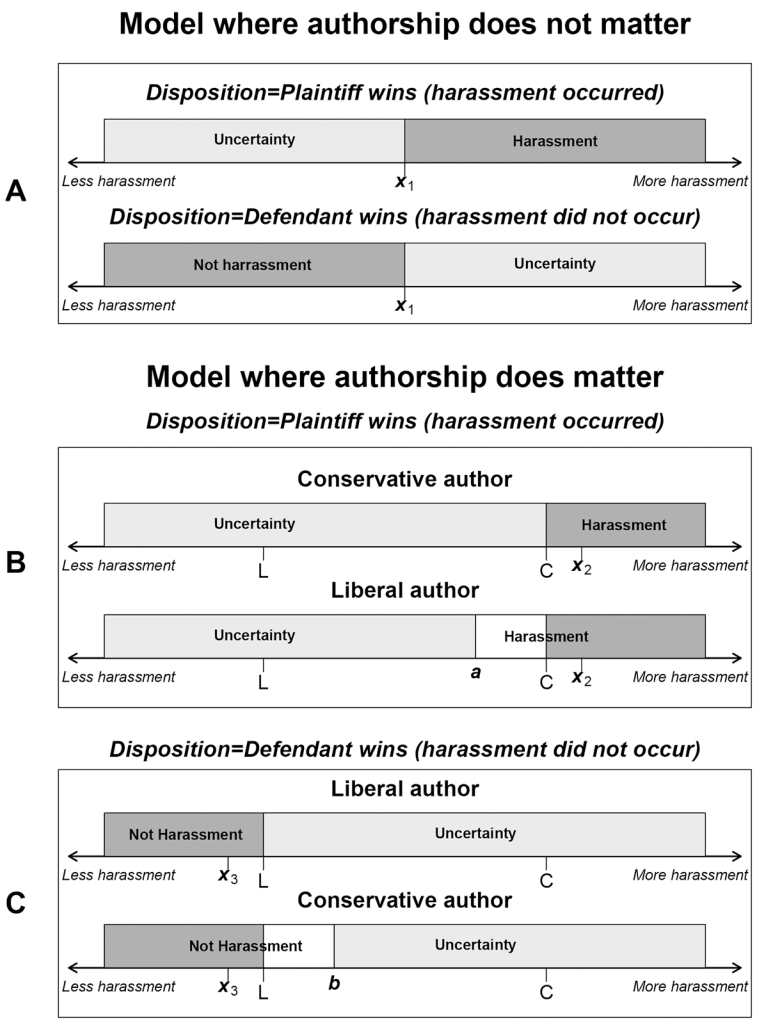

Figure 1. The relationship between case outcomes and the desirability of authorship

incidents, so all facts to the left of x_1 remain in a state of legal uncertainty to be resolved by future courts. Conversely, a decision of not harassment means that all cases to the left also receive the not-harassment classification, while all cases to the right remain in a state of legal uncertainty. These scenarios are depicted in Figure 1*A*.

However, opinions are not always written narrowly around case facts, and authors enjoy some discretion in how broadly to write the doctri-

nal rule in the opinion. The creation of legal doctrine is the way judges classify different sets of case facts for different legal treatment. Doctrinal rules of classification are, by definition, about more than one set of case facts. In Karl Llewellyn's classic formulation, it is among the most elementary aspects of American law that "the court can decide the particular dispute only according to a general rule which covers a whole class of like disputes" (Llewellyn 1930, pp. 42–43). He adds that the task of fashioning the rule raises the "troublesome matter" of "how wide, or how narrow, is the general rule" to be (Llewellyn 1930, p. 42). Judges exercise discretion in deciding how encompassing a doctrinal rule of classification will be, and in doing so they influence the development of law (McAllister 2011).

To be sure, this discretion is bounded. Judges are limited in their ability to partition the case space in a single case, not least because judges in common-law systems are supposed to rule only as broadly as necessary to decide the case at hand; excessively overbroad holdings are more likely to be treated by future courts as nonbinding dicta. Further, on multimember courts, judges may be constrained in the breadth of the doctrine they can write by other members of the majority. At some point of excessive deviation from the case facts, the writer may lose a sufficient number of joiners to constitute a precedential majority, which thus defeats the policy utility of writing—which is to make law. Thus, we posit that judges have bounded discretion in ruling on how cases near x_1 should be treated.

Assume that there are two types of judges: liberal judges (L) and conservative judges (C). While both L and C will sometimes rule for the plaintiff and sometimes for the defendant, we characterize L as having broad policy preferences in favor of a more expansive sexual harassment doctrine under which more conduct is deemed to be harassment (that is, a more pro-plaintiff orientation), and we characterize C as having broad policy preferences in favor of a less expansive doctrine that deems less conduct to be harassment (that is, a more pro-defendant orientation). We assume that the liberal judge is to the left of the conservative judge in doctrine space and that each will seek to move the partition toward her ideal point if she has the discretion to do so. To be clear, we are not modeling the assignment of an opinion to L or C in a given case—rather, our goal is to explore the policy utility gains derived by judges with different preferences across cases with different outcomes.

Consider, first, the case in which x_2 is decided in favor of the plaintiff, which is depicted in Figure 1*B*. Because x_2 falls to the right of both L and C, the judges agree that it should be decided for the plaintiff. Whoever

writes, all cases to the right of x_2 must be classified as harassment under the monotonicity assumption; this is the dark shaded region. A conservative author will write the opinion at her ideal point, just to the left of x_2. All cases to the right of C will fall under the harassment classification, but the full region of the case space to the left of C remains uncertain and will be resolved in future cases. However, a liberal author can craft her opinion more broadly in an attempt to widen the scope of her ruling, sweeping in some cases to the left of C up to point *a;* the expanded scope of the opinion is depicted by the white region. We assume that the liberal author cannot push the opinion beyond *a* because to do so would result in the opinion being treated as excessive dicta or lose sufficient support to be the majority opinion of the panel.

The key asymmetry here is that in a case in which a plaintiff wins, the rule of liability can be stretched beyond x_2 toward more liability but not toward less liability. Given some case facts, when a plaintiff wins, the statement of the doctrinal rule of classification used to assess liability can be made more encompassing (liberal) than the case at bar but not less encompassing. A more encompassing rule of liability than x_2 would logically embrace the case at x_2 by justifying the defendant's liability but extend beyond it to less harassing case facts. However, a less encompassing rule of liability than x_2 could not logically provide a justification for the defendant's liability in a case at x_2.[1]

Figure 1*C* illustrates the symmetric scenario for a case in which the defendant wins. Because x_3 falls to the right of L and C, both agree that it should be decided for the defendant. A liberal author will write the decision at her ideal point, and everything to the right of L remains uncertain. A conservative author can craft her opinion to stretch the scope of the not-harassment region to point *b*. The asymmetry here has the same structure as before, but now the question can be thought of as how encompassing the doctrinal rule of classification should be for determining nonliability. In a case in which the defendant wins, the rule to justify a defendant's nonliability may be more conservative than the case at bar, extending beyond it to more harassing case facts. However, the rule of

1. One possible objection is that we treat case facts as transparent and fixed, whereas the judge in a case in which the plaintiff (defendant) wins can move x_2 to the left (right), which would counteract the asymmetry. However, this is not the case, provided that the zone of possible manipulation is symmetrical around x_2. In this event, the case at x_2 becomes a zone of feasible characterizations of the facts that are a set of contiguous points on the line with x_2 in the center. If that interval is substituted for point x_2, the asymmetric result holds.

nonliability cannot be less encompassing than the case at bar. A less encompassing rule of nonliability than x_3 could not logically provide a justification for the defendant's nonliability in a case at x_3.

Thus, to summarize the key predictions of the model, we assume that judges will place a higher value on writing opinions that yield them more policy utility and that they do so in the face of a budget constraint on the total number of writing assignments from the pool of cases on which they sit. The constraint arises both from a norm of roughly equal distribution of work and from judges' limited resources to devote to writing. Under the model, on average liberal judges can derive greater utility from writing opinions when plaintiffs win, while conservative judges can derive greater utility from writing when defendants win. In a case in which the plaintiff (defendant) wins, the liberal (conservative) judge captures an interval with certainty; when a defendant (plaintiff) wins, she preserves an equal-sized interval in the zone of uncertainty, with its ultimate fate to be determined in future cases.

Of course, judges will sometimes wish to secure authorship in cases that are not congruent with their broad preferences and may even join opinions with which they disagree in an attempt to gain authorship and limit what they see as bad doctrine. This, however, does not contradict our theory, which is not a theory of every case. Rather, we theorize that, ceteris paribus, under a budget constraint on authorship opportunities, on average judges will derive greater policy utility by authoring in cases with outcomes congruent with their broad policy preferences.[2]

2.2.2. Psychological Utility. In addition, we note that recent work on judicial behavior drawing on social psychology emphasizes that judges are also importantly guided by the pursuit of personal psychological utility (Epstein, Landes, and Posner 2013; Baum 2006, 2010). This work maintains that psychological utility can be an important explanation for judicial behavior, including how judges approach authorship of opinions. It suggests that judges will derive greater satisfaction from writing opinions that are congruent with their broad preferences and self-definitional ideological attitudes and beliefs and that will be celebrated by elite groups and segments of the public whose adulation they desire. To a self-identified champion of civil rights, for example, authoring opinions articulating

2. In the online appendix, we illustrate the logic of the model with a well-known sex discrimination case, *United States v. Virginia* (518 U.S. 515 [1996]), in which the Supreme Court ruled unconstitutional the Virginia Military Institute's male-only admissions policy.

the vindication of those rights will be more consistent with her self-definitional attitudes and beliefs and will please her favored audiences. Of course, even such judges will sometimes regard a plaintiff's claim as weak and rule for the defendant without hesitation. But the point is that, on average, they will derive less satisfaction from writing such opinions. This psychological utility perspective provides an alternative and independent basis to predict that judges will disproportionately seek authorship in cases with outcomes aligned with their broad policy preferences.

3. EXAMINING SEXUAL HARASSMENT CASES

With these predictions in hand, we now turn to examining opinion assignment and authorship in sexual harassment cases. Given the norm of approximate workload equity and the corresponding budget constraint on the number of opinions that a judge will write, if assignment and authorship decisions are affected by the desire of judges to influence the law, these effects will likely be concentrated in salient cases. Judges on appellate panels seeking to shape law cannot write opinions for all the cases on which they sit, and thus they will prioritize authorship in the cases they regard as most important. When seeking to identify cases likely to be regarded as salient, researchers often study civil rights cases (for example, Brenner 1984; Hettinger, Lindquist, and Martinek 2006). In each study showing disproportionate authorship by courts of appeals judges in particular issue areas, civil rights is an area in which such disproportionality has been found (Howard 1981; Atkins 1974; Cheng 2008). Accordingly, we focus on sexual harassment cases, which are a subset of civil rights cases.

In addition to salience, this area of law gives us added empirical traction along several dimensions. First, sexual harassment constitutes a coherent body of law, which eliminates the possibility that heterogeneity across case types will confound our empirical inferences. Second, there is a clear ideological divide in sexual harassment law, with liberals historically favoring greater expansion of sexual harassment protections and remedies and conservatives favoring a less expansive doctrine (Peresie 2005; Moyer and Tankersley 2012). Third, even controlling for ideology, we would expect women to view sexual harassment cases as more salient than men, and we discuss research below that supports this expectation.

Our expectations regarding the effects of gender on assignment and authorship derive from the existing literature and our theoretical pre-

dictions. Many scholars argue that female judges have a distinctive perspective, grounded in their life experiences, which makes them more concerned with claims of discrimination in general and sexual harassment in particular (Sherry 1986; Martin 1990; Feenan 2009). Numerous female judges have expressed the same view (Panel at the American Judicature Society Annual Meeting 1990; Tobias 1990; Wald 2005). Moreover, it has been found that female judges on the courts of appeals have a greater probability of both ruling for the plaintiff in sexual harassment claims (Peresie 2005) and adopting pro-plaintiff legal doctrines (Moyer and Tankersley 2012).

Our expectations regarding the effects of ideology on assignment and authorship are less clear. As contrasted with gender, we have no firm basis to conclude that judges' perceptions of the salience of sexual harassment cases, relative to others, are associated with ideology. We do know that these cases are ideologically divisive. Studies have found that liberal judges on the courts of appeals are more likely to vote for the plaintiff in job discrimination cases in general and sexual harassment cases in particular (Farhang and Wawro 2004; Sunstein et al. 2006). Accordingly, returning to our conditional predictions based on case outcome, we can expect that in sexual harassment cases more liberal judges will be more likely to seek a disproportionate role in authoring opinions in cases decided for the plaintiff, and more conservative judges will seek a disproportionate role in authoring opinions in cases decided for the defendant.

To test these predictions, we collected an original data set. We started with the universe of published and unpublished sexual harassment cases decided under Title VII of the Civil Rights Act of 1964 that are contained in the Westlaw database from 1977 (the first year a relevant case was decided) to 2006; our search protocol is described in detail in the online appendix. For our analyses, we focus exclusively on published cases because they make binding circuit law, whereas unpublished cases do not. Only about one-quarter of all courts of appeals decisions are published, and judges accordingly view them, on average, as much more salient than unpublished cases (Law 2005). More important, because unpublished opinions carry no precedential weight, their main function is to report the disposition, which makes authorship much less consequential in these cases. Our search rendered 570 usable published cases in which we could analyze the assignment decisions.

Since we use published cases to test theories about the relationship between judges' attributes (gender and ideology) and authorship, we are

mindful of the potential problem of endogeneity. This would arise if the decision to publish depended on the gender or ideology of the author. Using both the unpublished and published cases in our data, we examined a battery of models predicting publication and found no evidence that gender or ideology is associated with the decision to publish. Relatedly, three circuits—the Fifth, Sixth, and Ninth Circuits—use a process whereby one judge is assigned responsibility to prepare a preargument bench memo for the panel on each case; and given that investment of labor, that judge may be disproportionately likely to be assigned authorship if in the majority (we know of no empirical studies of the bench memo process). If the bench memo tends to influence the direction of the court on outcome, this could lead to disproportionate author influence, exercised before formal assignment of authorship. Such influence could have implications for the interpretation of our model's subset by outcome. Excluding these three circuits, however, does not affect the results statistically or substantively. We present the models addressing these endogeneity concerns in the online appendix (Table A4).

In each case in our data, two or three judges are available to receive the assignment, including through self-assignment. We removed dissenting judges from the data since they cannot be assigned to write the majority opinion (dissents occurred in only 6 percent of cases), which left us with 1,680 possible assignees across the set of 570 cases. Following the Sunstein et al. (2006) protocol, we coded the case outcomes as liberal whenever the plaintiff was granted any relief and conservative otherwise. For each judge, we collected a battery of demographic information, including gender, the date the judge took the bench, the party of the appointing president, and ideology. With respect to the judges' characteristics, the key variables in our analysis are FEMALE and LIBERALISM, for which we reverse the ideology scores of Giles, Hettinger, and Peppers (2001) so that higher scores denote more liberal judges; we measure LIBERALISM in terms of deviations from the sample mean to make it easier to interpret coefficients. While we use the dichotomous party variable to facilitate visual representation of the data when presenting descriptive statistics, for our models we prefer a continuous measure of ideology to distinguish moderates from those at the ideological poles and to construct more accurate measures of the distance from assigners to potential assignees. We also code whether each judge was the assigning judge under the rules of the circuit in which the case was decided, which is generally the senior active judge on the panel; the variable ASSIGNER takes on

the value of one when a judge is the assigner and zero otherwise. (See the online appendix for details about assignment rules.)[3]

3.1. Results

We begin our analysis with a descriptive look at who writes opinions. Figure 2 separates the judges in our data, first by party and gender and then by each of the four party-gender combinations. For all outcomes, the points indicate the number of cases each type of judge has authored divided by the number of cases heard, which reflects the rate of authorship. The vertical lines occur at .33. If opinion assignment is not associated with the gender or party of assignees, all the points would be clustered at that line. Instead, we see that female judges are most likely to write opinions, followed by Democratic appointees; Democratic women write the most opinions, on average. In addition, Figure 2 reveals that this pattern is not simply due to the fact that women are more likely to be Democratic appointees, as Republican women author opinions at a rate comparable to that of Democratic men.

Figure 2 also looks at cases by whether the plaintiff or the defendant wins. Strikingly, we see that the relationships between gender, party, and authorship are much more pronounced when the plaintiff wins. In such cases, Democratic women write opinions at a rate of nearly 50 percent, compared with less than 30 percent for Republican men. When the defendant wins, by contrast, the respective rates are about 40 percent and 33 percent. Overall, men are slightly more likely to write opinions when the defendant wins than when the plaintiff wins—but that difference is seen only in Republican men.

Of course, just looking at authorship cannot shed light on who assigns to whom. Modeling assignment choice at the individual level pres-

3. Before we present the results, it is worth discussing how our empirical approach is related to the existence of panel effects in the cases we study. That is, in addition to individual differences across gender and ideology, a number of studies find that men are more likely to vote in favor of plaintiffs when they sit with a woman judge, while Republicans are more likely to vote in favor of the plaintiff when they sit with Democratic appointees (and vice versa) (Farhang and Wawro 2004; Peresie 2005; Kastellec 2011). Our empirical model takes the outcome of the case, in which panel effects might occur, as given and does not endogenize the outcome with respect to the decision to assign the opinion. This is justifiable since panel members must vote before they know who the candidates are to write the opinion. In other words, on a given case, the judges vote first, and then the assignment decision is made. Thus, it seems reasonable to treat the outcome as predetermined with respect to the assignment choice. A more sophisticated approach that explores possible interplay between judges' votes and assignment decisions would be an interesting extension of our work.

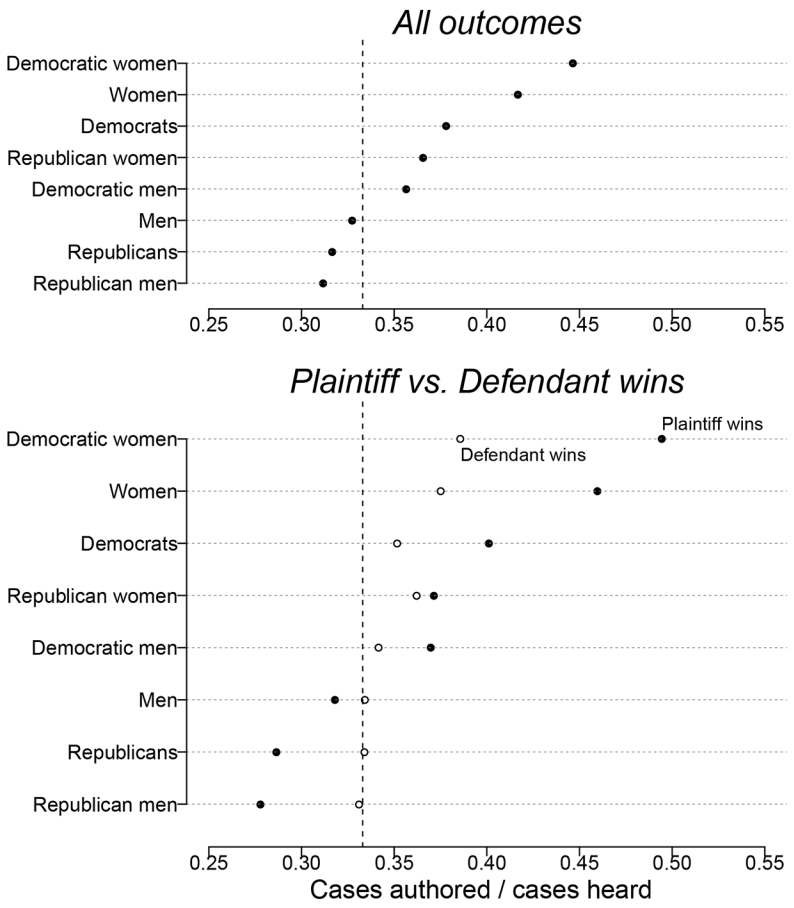

Figure 2. Authorship rates by party and gender

ents some unique challenges. The judge who is assigning the opinion can assign it to only one judge on a given panel. If we use judges as the unit of analysis and measure the assignment choice as a dichotomous variable (one if assigned to write; zero otherwise), only one judge on a panel can have the value of one; the values for the other judges are by definition equal to zero. Thus, our analysis requires a model that imposes restrictions on the values that the dependent variable can take across judges serving on the same panel, which renders a linear probability model or simple dichotomous logit model inappropriate because those models pool judges across panels and treat them as independent of each other. While a categorical choice model is appropriate, another challenge is that the

choice set for each chooser (that is, the assigning judge) varies across panels, since each panel involves a different set of judges. McFadden's (1974) conditional logit model can accommodate these data peculiarities, although for the most part it limits us to including explicitly in the model only choice-specific characteristics—in this case, variables that vary by judge.[4] Nevertheless, as we demonstrate mathematically in the online appendix, the model implicitly accounts for any factors that do not vary within a case (essentially holding them constant) even though we do not explicitly estimate parameters for such variables. In this sense, the model accounts for case characteristics (like case quality) and circuit characteristics (like workload). Since the conditional logit model identifies the effects of characteristics on assignment choice using only within-case variation, we can divide our data by case outcome and assess differences across subsets of the data to explore whether effects vary by case outcome.

In addition, inferences in the conditional logit framework are not affected by time trends in the ideological or gender composition of courts of appeals. Since probabilities of being chosen to write are estimated in the model relative to the choice set for each case, estimates of those probabilities are not corrupted by longitudinal changes in the composition of the courts of appeals. This is also true with respect to time trends in the outcome of cases. Thus, for example, growth over time in the number of women on the bench alongside an increase over time in the rate of plaintiff wins would not result in the model reporting a spuriously significant association between gender and authorship in cases in which the plaintiff wins. And, in fact, while the number of women on the federal bench has increased over time, the rate at which plaintiffs win in sexual harassment cases has declined. Thus, even if the conditional logit model was compromised by time trends, we expect that the trends in our data would bias against finding support for our gender predictions.[5]

To evaluate our theoretical predictions, we include the terms FEMALE and LIBERALISM in our models. We also include the interactions FEMALE × ASSIGNER and LIBERALISM × ASSIGNER; the former takes on the value of one for female assigners and zero otherwise, while the

4. We can identify coefficients on variables that do not vary by judge (for example, case facts) only by interacting them with variables that do. But even then we can encounter collinearity or curse-of-dimensionality problems if we do not have sufficient variation in the values of the interaction terms.

5. To demonstrate the robustness of our results, the online appendix reports results from alternative estimators, including ordinary least squares. These results are statistically and substantively the same as those we obtain with the conditional logit model. See Tables A5 and A6 in the online appendix.

latter takes the value of the assigner's liberalism score and is zero for nonassigners. We also evaluate whether assigners are more likely to assign to more proximate judges in terms of ideology. We include a variable that captures the ideological distance between the assigner and other judges in the majority, measured as the absolute value of the difference of their liberalism scores. These variables enable us to assess whether assigners, or particular types of assigners, are more likely to assign to themselves than to others, whether assigners tend to assign opinions to more proximate judges, and whether gender and ideology are associated with authorship.

Past research on the Supreme Court has found a positive association between the frequency of a justice's writing experience in an area and her subsequent likelihood of being assigned to write in that area, which suggests that issue specialization may serve the institutional goals of rendering higher-quality opinions with less work (Maltzman and Wahlbeck 1996, 2004). For each judge in each case, we compute the number of published sexual harassment opinions that the judge has authored; we call this variable EXPERIENCE. This is a critical control in our evaluation of hypotheses relating to associations of authorship with gender and ideology. For example, to the extent that women write frequently in sexual harassment cases, it is plausible that their writing experience would increase the probability of receiving additional assignments, independent of any role that gender plays. In that event, not controlling for experience may lead to spurious inferences about the effects of gender on authorship.

Previous work also suggests that judges with longer tenures on the bench may have greater influence with colleagues that makes them more likely to secure opinion authorship in salient cases and that they may be more efficient writers owing to experience, which leads them to carry more of the workload (Howard 1981, pp. 232–58). We thus include the variable SENIORITY to reflect the length of service for courts of appeals judges at the time of a given case.[6] Finally, we include an indicator variable, OUTSIDE JUDGE, that is coded one if a judge is a member of the circuit where the case was heard versus a court of appeals judge visiting from another court or a district judge sitting by designation. This accounts for the possibility that members of the circuit hearing the case, as compared with outside judges, will be more likely to write in salient cases.

6. This variable is measured in terms of years: we count the total number of days from appointment date until the date of the case and divide by 365. We give this variable a value of 0 for district judges and non–Article III specialized judges sitting by designation. We then add 1 to all of the values and take the natural log. While one might anticipate problems of collinearity with EXPERIENCE and SENIORITY, the correlation between these variables is a relatively modest .32.

In alternative specifications, we dropped all cases with outside judges (as defined above), and the statistical significance and substantive impact of other variables in the model did not change materially. Descriptive statistics are presented in the online appendix (Table A2).

Table 1 presents results from three conditional logit models: one for all cases, one for cases decided for the defendant, and one for cases decided for the plaintiff. In the discussion of the results, we first focus on the role of gender in assignment and then turn to ideology.

3.1.1. Gender. There are four gender-assigner types: male assigners, female assigners, male nonassigners, and female nonassigners. Male nonassigners serve as a reference category, because of the inclusion of FEMALE, ASSIGNER, and their interaction in the model; thus, we interpret relationships among these variables with respect to this class of judge. In the all-cases model, the coefficient on FEMALE is positive and statistically significant, as is the coefficient on LIBERALISM. Because of the inclusion of the interaction LIBERALISM × ASSIGNER and the fact that LIBERALISM is demeaned, ASSIGNER is interpreted with respect to a male judge with a liberalism score of 0. The coefficient is statistically insignificant, which indicates that male assigners are no more likely than male nonassigners to author opinions. Finally, the interaction FEMALE × ASSIGNER indicates the change in the probability that female assigners write opinions, relative to the female main effect. The coefficient on this interaction is not statistically distinguishable from 0, which means that female assigners do not have a different probability of writing than female nonassigners.

To assess the substantive importance of the variables with statistically significant coefficients, we simulate probabilities by creating a representative panel comprising judges who have sample median values for the variables in the model, except that one of the judges is designated to be the assigner. We then manipulate the values of explanatory variables of interest to see how this changes the predicted probability that a given judge is assigned to write an opinion. While we focus on statistically significant results for our key variables, the full set of predicted probabilities is reported in online appendix Table A1.

Beginning first with all cases, we find that female judges are about 9 percentage points more likely to write relative to male judges; the probability that women write opinions is .41 with a 95 percent confidence interval (CI) of [.33, .50], compared with .32 [.28, .35] for men. The 95 percent CI for the difference between men and women [.01, .18] does not include 0.

Table 1. Opinion Assignment in Sexual Harassment Cases with Published Opinions: Conditional Logit Results

	All Cases	Defendant Wins	Plaintiff Wins
FEMALE	.33*	.03	.67**
	(.15)	(.21)	(.22)
LIBERALISM	.38**	.18	.62**
	(.15)	(.2)	(.23)
ASSIGNER	.12	.16	.13
	(.11)	(.15)	(.18)
FEMALE × ASSIGNER	–.18	.29	–.79*
	(.25)	(.34)	(.38)
LIBERALISM × ASSIGNER	–.13	–.21	.14
	(.24)	(.33)	(.38)
IDEOLOGICAL DISTANCE	–.12	–.14	.04
	(.18)	(.25)	(.29)
EXPERIENCE	.02	.02	.02
	(.02)	(.03)	(.04)
ln(SENIORITY)	–.11	–.18^{+}	–.02
	(.07)	(.09)	(.11)
OUTSIDE JUDGE	–.51*	–.37	–.6^{+}
	(.22)	(.229)	(.32)
N	1,680	961	719
Deviance	1,209	695	502
Likelihood ratio test	19	8	23
Model χ^2	$p = .03$	$p = .58$	$p = .01$

Note. Standard errors are in parentheses.
$^{+}p \leq .1$.
$^{*}p \leq .05$.
$^{**}p \leq .01$.

Turning next to the defendant-wins model, we find that all of the gender-related variables are statistically insignificant. Indeed, all the variables in this model except for seniority have insignificant coefficients, and a likelihood ratio test indicates that the explanatory variables do not improve the fit of the model over a null model.

However, when we examine the plaintiff-wins model, the results are striking and strongly support the theory's predictions. The coefficient on FEMALE has a much smaller *p*-value ($p = .002$) even though we have fewer than half the observations than in the model for all cases, and its substantive effect increases sharply in magnitude. In cases in which plaintiffs win, women are significantly more likely to write opinions than are men. The substantive magnitude of this difference is quite large: the predicted probabilities indicate that women are 20 percentage points more likely to write than are men; the probability that women write opinions

is .52 with a 95 percent CI of [.40, .65], compared with .32 [.26, .37] for men. The 95 percent CI for the difference between men and women is [.08, .34]. Thus, the gender effect here is both statistically and substantively significant. Finally, the ASSIGNER main effect remains statistically insignificant. The interaction FEMALE × ASSIGNER is statistically significant and negative. However, the difference in predicted probabilities between female assigners and nonassigners is estimated very imprecisely—its CI is wide and includes 0—which leaves us hesitant to make much of this result.

3.1.2. Ideology. Turning next to the role of ideology, we see that the three models reveal a pattern parallel to that of gender. The coefficient on LIBERALISM in the all-cases model is positive and statistically significant, which indicates that among nonassigning judges, more liberal judges are more likely to receive the assignment to write an opinion. None of the ideology-related variables have statistically significant coefficients in the defendant-wins model. The theory's prediction that conservative judges are more likely to write opinions when the defendant wins is not supported by the data. By contrast, in the plaintiff-wins model, the coefficient on LIBERALISM is positive and significant, which supports the theory's predictions.

To convey the ideology effects in a meaningful way, we assess the difference in probability of writing between judges with the average liberalism score among Democratic appointees (liberals) and among Republican appointees (conservatives). The predicted probabilities indicate that liberals are about 6 percentage points more likely to write opinions than are conservative judges, although the CI for this difference nearly includes 0. The predicted probabilities indicate that liberals are 9 percentage points more likely to write than conservatives when plaintiffs win; the probability that liberals write is .41 [.33, .50], compared with .32 [.26, .37] for conservatives (with a 95 percent CI of [.01, .18] for the difference). It is evident that the liberalism effects associated with authorship are driven by cases in which the plaintiff wins (as with gender). The interaction LIBERALISM × ASSIGNER is statistically insignificant across all types of cases.

3.1.3. Other Predictors. With regard to the remaining predictors, we find no evidence that assigning judges are more likely to assign to ideologically proximate judges. The coefficient on EXPERIENCE, which measures the frequency of writing experience in sexual harassment cases, is statistically insignificant in every model. While women and liberals write

more frequently, neither a judge's seniority nor frequency of writing in general are associated with assignments, with the above-noted exception for seniority in cases in which the defendant wins. Among these covariates, only outside-judge status appears to be consistently associated with probability of assignment, with outside judges having a lower probability of writing opinions in all cases and in cases in which the plaintiff wins.

3.2. Evaluation of Results

With these results in hand, we can now evaluate our empirical predictions. In contrast to studies of the Supreme Court, our results provide no support for the proposition that judges on the courts of appeals wield the assignment power in a manner that is calculated to maximize the realization of policy goals. First, we find no evidence that judges on the courts of appeals are more likely to assign to ideologically proximate colleagues. Second, we find no evidence that judges use self-assignment to disproportionately control opinions.

Taken together, the results are most consistent with women and liberals—but not conservatives—using the norms of consensual assignment on the courts of appeals to obtain more assignments than they would under a system of random assignments. To be sure, the evidence is indirect, as we cannot observe the interactions of assigners and assignees on three-judge panels and thus have to make inferences based on correlations between panel composition, dispositions, and assignments. We believe that the weight of evidence supports the consensual assignment explanation, because the characteristics of judges as a whole (measured by ideology and gender) predict assignment, whereas the characteristics of assigners do not. Further, the preferences of judges who tend to be more pro-plaintiff robustly predict assignment only in cases in which the plaintiff wins; this is precisely where our theory predicts that, if consensual assignment were operative, they would seek authorship in order to maximize policy or personal utility or both. Female and more liberal judges, regardless of whether they are the assigner and regardless of the identity of the assigner, write opinions more frequently than do men and conservatives, respectively, in cases in which plaintiffs win. At the same time, we find no significant relationship between gender, ideology, and assignment in cases in which the defendant wins. Thus, the data only partially support the asymmetric predictions from our theory.

With respect to the gender effects, we note that one alternative interpretation may be that male assigning judges perceive women, regardless of writing experience, as more appropriate recipients of an assignment.

It has been argued that courts of appeals judges may show greater deference on matters of law to colleagues whom they perceive to be more competent, a dynamic that Klein (2002) characterizes as "cue taking." In attempting to explain gender panel effects in civil rights cases, in which male appellate judges vote more liberally when they serve with female colleagues, some have suggested that male judges may exhibit cue-taking deference to female judges (Peresie 2005; Boyd, Epstein, and Martin 2010). If this cue-taking dynamic is present when panels apply sexual harassment law, then male assigning judges may perceive their female colleagues to be more capable authors and thus may be more likely to assign to them. While this explanation cannot be ruled out by the data, our results argue against it in two ways. First, to the extent that disproportionate female authorship is driven by perceptions among (predominantly male) assigners that women are more competent in this field, then one would expect to see the effects in both cases in which the plaintiff wins and those in which the defendant wins. The suggestion has never been made in the literature on perceived expertise or cue taking that a judge may be regarded as especially competent only when one party or the other wins. Second, with respect to ideology, we regard it as implausible that more conservative judges regard more liberal judges as possessing superior judicial ability. The close parallel in the ideology and gender results thus points away from assigners' perceptions of women as the sole explanation.

What are some potential explanations for the null results we find for conservative authorship in cases in which the defendant wins? Given the heavy and roughly equally distributed workload on the courts of appeals, we stress that our hypotheses are sensible only in issue areas regarded as salient by judges. One possibility is that sexual harassment law is more salient for liberal than conservative judges, just as it appears to be for female than for male judges. Baum (2010) argues that issue salience may vary across types of judges. It is, moreover, a familiar idea in political science that different political parties focus on and emphasize distinct sets of issues as salient to their core partisan identities and the success of their parties, and that the mass electorate also has distinct rankings of issue salience associated with party. This work has identified civil rights and nondiscrimination issues as more likely to be regarded as salient by the Democratic Party and its constituents (Petrocik, Benoit, and Hansen 2003–4). We do not claim that issue salience operates in the same way for federal judges in relation to party or ideology as it does for elected officials or the mass electorate. Still, this work suggests the possibility that issue salience

is not fixed across ideology. The asymmetric results across liberals and conservatives in our data are consistent with the possibility (though not dispositive) that more conservative judges do not regard published sexual harassment cases as sufficiently salient, relative to other cases on the courts of appeals' docket, to pursue authorship of them.

4. CONCLUSION

This paper presents the first systematic evidence that particular types of judges are more likely to author opinions on the courts of appeals in a given area of the law. Our results demonstrate that women and liberal judges are more likely to write opinions in federal sexual harassment cases in which plaintiffs win. At the same time, we find no relationship between gender, ideology, and who writes opinions when the defendant wins. The association between gender, ideology, and the authorship of opinions is mainly important in establishing when harassment occurs, not in saying when it does not. Such a conditional effect that varies by case outcome is new to the literature on opinion assignment. In addition, while we cannot decisively adjudicate among competing mechanisms for these results, the weight of evidence suggests that norms of consensual assignment allow judges with a desire to secure disproportionate opportunities to write opinions in this area. Finally, even in the absence of pinning down the mechanism, the results we find are striking, as women are 20 percentage points more likely than men to write opinions in cases in which the plaintiff wins, and liberals are 9 percentage points more likely to write than are conservatives.

A logical next step for future research would be to study opinion assignment on the courts of appeals in other issue areas. Since our study is the first to test our hypotheses on the courts of appeals, we stress that other researchers may reach different findings with a different set of cases. For instance, our null results for self-assignment and ideological distance certainly do not rule out the possibility of instrumental use of the assignment power in other policy areas. Similarly, we would not expect the gender effects we document to exist in cases whose salience does not vary across gender lines. However, the theory of authorship and dispositions we develop potentially applies to any issue with a salient ideological dimension and is testable across the multitude of policy areas where judges with different ideologies tend to differ in their approach to law. Finally, we have studied only the assignment decision, not how the con-

tent of opinions may vary across different author types. This suggests an opportunity for further work. Research designs that could capture differences in the substance of opinions would allow study of whether different types of judges, having secured disproportionate authorship, leverage that power to shape law.

Beyond their interesting theoretical and empirical implications, our results also speak to the literature on the relationship between diversity and representation on appellate courts (Cox and Miles 2008; Kastellec 2013). Recent studies show that the random assignment of a woman to a three-judge panel in employment discrimination cases significantly increases the likelihood that men will support plaintiffs; that is, there exist gender-based panel effects on three-judge panels (Farhang and Wawro 2004; Boyd, Epstein, and Martin 2010; Peresie 2005). While women are significantly underrepresented on the courts of appeals in comparison with their numbers in the general population, random assignment combined with such panel effects means that their influence exceeds what their relatively small numbers on the federal bench would suggest. Our results advance this story a step further, focusing on an aspect of lawmaking on the courts of appeals that is missed by analyses that focus only on judicial votes and case outcomes. Not only can the presence of a woman on a panel increase the likelihood that the plaintiff will prevail in civil rights cases, but in our data, women are disproportionately likely to write the opinion in published cases in which they prevail. Thus, the random assignment of a woman (or women) to a panel may well have a substantial multiplier effect in terms of women's influence on both case outcomes and doctrine in an important area of the law.

REFERENCES

Atkins, Burton M. 1974. Opinion Assignments on the United States Courts of Appeals: The Question of Issue Specialization. *Western Political Quarterly* 27:409–28.

Baker, Scott, and Claudio Mezzetti. 2012. A Theory of Rational Jurisprudence. *Journal of Political Economy* 120:513–51.

Baum, Lawrence. 2006. *Judges and Their Audiences: A Perspective on Judicial Behavior*. Princeton, NJ: Princeton University Press.

———. 2010. Motivation and Judicial Behavior: Expanding the Scope of Inquiry. Pp. 3–26 in *The Psychology of Judicial Decision-Making*, edited by David E. Klein and Gregory Mitchell. New York: Oxford University Press.

Boyd, Christina L., Lee Epstein, and Andrew D. Martin. 2010. Untangling the Causal Effects of Sex on Judging. *American Journal of Political Science* 54: 389–411.

Brenner, Saul. 1984. Issue Specialization as a Variable in Opinion Assignment on the US Supreme Court. *Journal of Politics* 46:1217–18.

Cameron, Charles M. 1993. New Avenues for Modeling Judicial Politics. Paper presented at the Conference on the Political Economy of Public Law, Rochester, NY, October 15–16.

Carrubba, Clifford J., and Tom S. Clark. 2012. Rule Creation in a Political Hierarchy. *American Political Science Review* 106:622–43.

Cheng, Edward K. 2008. The Myth of the Generalist Judge. *Stanford Law Review* 61:519–72.

Coffin, Frank M. 1980. *The Ways of a Judge: Reflections from the Federal Appellate Bench*. New York: Houghton Mifflin.

Cox, Adam B., and Thomas J. Miles. 2008. Judging the Voting Rights Act. *Columbia Law Review* 108:1–54.

Cross, Frank B., and Emerson H. Tiller. 2008. Understanding Collegiality on the Court. *University of Pennsylvania Journal of Constitutional Law* 10:257–71.

Epstein, Lee, William M. Landes, and Richard A. Posner. 2013. *The Behavior of Federal Judges: A Theoretical and Empirical Study of Rational Choice*. Cambridge, MA: Harvard University Press.

Farhang, Sean, and Gregory Wawro. 2004. Institutional Dynamics on the U.S. Court of Appeals: Minority Representation under Panel Decision Making. *Journal of Law, Economics, and Organization* 20:299–330.

Feenan, Dermot. 2009. Women and Judging. *Feminist Legal Studies* 17:1–9.

Feinberg, Wilfred. 1985–86. Unique Customs and Practices of the Second Circuit. *Hofstra Law Review* 14:297–317.

Gennaioli, Nicola, and Andrei Shleifer. 2007. The Evolution of Common Law. *Journal of Political Economy* 115:43–68.

Giles, Michael W., Virginia A. Hettinger, and Todd Peppers. 2001. Picking Federal Judges: A Note on Policy and Partisan Selection Agendas. *Political Research Quarterly* 54:623–41.

Hettinger, Virginia A., Virginia A. Lindquist, and Wendy L. Martinek. 2006. *Judging on a Collegial Court: Influences on Federal Appellate Decision Making*. Charlottesville: University of Virginia Press.

Howard, J. Woodford, Jr. 1981. *Courts of Appeals in the Federal Judicial System*. Princeton, NJ: Princeton University Press.

Kastellec, Jonathan P. 2011. Hierarchical and Collegial Politics on the U.S. Courts of Appeals. *Journal of Politics* 73:345–61.

———. 2013. Racial Diversity and Judicial Influence on Appellate Courts. *American Journal of Political Science* 57:167–83.

Klein, David E. 2002. *Making Law in the United States Courts of Appeals*. New York: Cambridge University Press.

Law, David S. 2005. Strategic Judicial Lawmaking: Ideology, Publication, and

Asylum Law in the Ninth Circuit. *University of Cincinnati Law Review* 73: 817–65.

Lax, Jeffrey R. 2007. Constructing Legal Rules on Appellate Courts. *American Political Science Review* 101:591–604.

Lax, Jeffrey R., and Charles M. Cameron. 2007. Bargaining and Opinion Assignment on the U.S. Supreme Court. *Journal of Law, Economics, and Organization* 23:276–302.

Leval, Pierre N. 2006. Judging under the Constitution: Dicta about Dicta. *New York University Law Review* 81:1249–82.

Levy, Marin K. 2011. The Mechanics of Federal Appeals: Uniformity and Case Management in the Circuit Courts. *Duke Law Journal* 61:315–91.

Llewellyn, Karl N. 1930. *The Bramble Bush: On Our Law and Its Study*. Dobbs Ferry, NY: Oceana.

Maltzman, Forrest, James F. Spriggs II, and Paul J. Wahlbeck. 2000. *Crafting Law on the Supreme Court: The Collegial Game*. New York: Cambridge University Press.

Maltzman, Forrest, and Paul J. Wahlbeck. 1996. May It Please the Chief? Opinion Assignments in the Rehnquist Court. *American Journal of Political Science* 40:421–43.

———. 2004. A Conditional Model of Opinion Assignment on the Supreme Court. *Political Research Quarterly* 57:551–63.

Martin, Elaine. 1990. Men and Women on the Bench: Vive la Difference? *Judicature* 73:204–8.

McAllister, Marc. 2011. Dicta Redefined. *Willamette Law Review* 47:161–210.

McFadden, Daniel. 1974. Conditional Logit Analysis of Qualitative Choice Behavior. Pp. 105–42 in *Frontiers in Econometrics*, edited by Paul Zarembka. New York: Academic Press.

Moyer, Laura P., and Holley Tankersley. 2012. Judicial Innovation and Sexual Harassment Doctrine in the U.S. Court of Appeals. *Political Research Quarterly* 65:784–98.

Murphy, Walter F. 1964. *Elements of Judicial Strategy*. Chicago: University of Chicago Press.

Oakes, James L. 1990. In Memoriam: Harold R. Medina. *Columbia Law Review* 90:1459–62.

Panel at the American Judicature Society Annual Meeting. 1990. Different Voices, Different Choices? The Impact of More Women Lawyers and Judges on the Justice System. *Judicature* 74:138–46.

Peresie, Jennifer L. 2005. Female Judges Matter: Gender and Collegial Decision Making in the Federal Appellate Courts. *Yale Law Journal* 114:1759–90.

Petrocik, John R., William L. Benoit, and Glen J. Hansen. 2003–4. Issue Ownership and Presidential Campaigning, 1952–2000. *Political Science Quarterly* 118:599–626.

Schick, Marvin. 1970. *Learned Hand's Court*. Baltimore: Johns Hopkins University Press.

Segal, Jeffrey A. and Harold J. Spaeth. 2002. *The Supreme Court and the Attitudinal Model Revisited*. New York: Cambridge University Press.

Sherry, Suzanna. 1986. Civic Virtue and the Feminine Voice in Constitutional Adjudication. *Virginia Law Review* 72:543–616.

Sunstein, Cass R., David Schkade, Lisa M. Ellman, and Andres Sawicki. 2006. *Are Judges Political? An Empirical Analysis of the Federal Judiciary*. Washington, DC: Brookings Institution Press.

Tobias, Carl. 1990. The Gender Gap on the Federal Bench. *Hofstra Law Review* 19:171–84.

Wald, Patricia M. 2005. Six Not-So-Easy Pieces: One Woman Judge's Journey to the Bench and Beyond. *University of Toledo Law Review* 36:979–94.

Supplementary Appendix for "The Politics of Opinion Assignment and Authorship on the U.S. Court of Appeals: Evidence from Sexual Harassment Cases"

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Journal of Legal Studies

In this Appendix we report variety of supplemental information, including:

- complete results for predicted probabilities based on the estimates reported in Table 1;
- more information on our data collection procedures;
- descriptive statistics;
- rules for coding assigners;
- more information on the conditional logits;
- evaluation of potential endogeneity from using published cases and cases in circuits with bench memos;
- additional robustness checks of our empirical model;
- an illustration of the spatial model presented in the paper.

A-1 Predicted Probabilities for Authorship

Table A1 presents the full set of predicted probabilities discussed in Section 3.1.

A-2 Data collection

To obtain our dataset of sexual harassment cases in the Courts of Appeals, we conducted the following keyword search in Westlaw: (SEX! /5 HARASS!) (HOSTILE /5 ENVIRONMENT) (WOM! /5 HARASS!) (FEM! /5 HARASS!) (MALE /5 HARASS!) (MAN /5 HARASS!) (MEN /5 HARASS!) (GEN! /5 HARASS!). Coders then went through all cases and kept only cases in which the court had a complaint before it with a sexual harassment claim under Title VII of the Civil Rights Act of 1964. We did not include education sexual

Table A1: Predicted Probabilities for Authoring Opinions

All Cases						
	Male	Female	Difference	Conservative	Liberal	Difference
Non-assigning judge	0.32	0.40	0.09	0.32	0.37	0.06
	[0.28 , 0.35]	[0.33 , 0.49]	[0.01 , 0.17]	[0.28 , 0.35]	[0.31 , 0.44]	[0.00 , 0.11]
Assigning judge	0.37	0.41	0.04	0.37	0.37	0.01
	[0.30 , 0.44]	[0.30 , 0.53]	[-0.07 , 0.15]	[0.30 , 0.44]	[0.30 , 0.46]	[-0.07 , 0.08]
Difference	0.05	0.01		0.05	0.00	
	[-0.05 , 0.16]	[-0.14 , 0.15]		[-0.05 , 0.16]	[-0.11 , 0.13]	
Cases Decided for the Defendant						
	Male	Female	Difference	Conservative	Liberal	Difference
Non-assigning judge	0.31	0.32	0.01	0.31	0.33	0.02
	[0.27 , 0.35]	[0.22 , 0.44]	[-0.09 , 0.12]	[0.27 , 0.35]	[0.26 , 0.42]	[-0.05 , 0.10]
Assigning judge	0.38	0.46	0.07	0.38	0.36	-0.02
	[0.30 , 0.47]	[0.31 , 0.62]	[-0.07 , 0.23]	[0.30 , 0.47]	[0.26 , 0.48]	[-0.13 , 0.09]
Difference	0.07	0.14		0.07	0.03	
	[-0.05 , 0.20]	[-0.06 , 0.34]		[-0.05 , 0.20]	[-0.14 , 0.20]	
Cases Decided for the Plaintiff						
	Male	Female	Difference	Conservative	Liberal	Difference
Non-assigning judge	0.32	0.52	0.20	0.32	0.41	0.09
	[0.26 , 0.38]	[0.40 , 0.66]	[0.07 , 0.33]	[0.26 , 0.38]	[0.33 , 0.51]	[0.01 , 0.17]
Assigning judge	0.36	0.38	0.02	0.36	0.41	0.06
	[0.25 , 0.48]	[0.22 , 0.56]	[-0.14 , 0.19]	[0.25 , 0.48]	[0.30 , 0.53]	[-0.07 , 0.17]
Difference	0.03	-0.15		0.03	-0.00	
	[-0.13 , 0.22]	[-0.34 , 0.07]		[-0.13 , 0.22]	[-0.17 , 0.18]	

Notes: Table entries are predicted probabilities with 95% confidence intervals in brackets. The values are based on 1000 draws from the estimated distributions of the coefficient estimates.

Table A2: Descriptive statistics for opinion assignment in sexual harassment cases, 1977–2006

	Mean	Median	Std. Dev.	Min.	Max.
Author	0.34	0.00	0.47	0.00	1.00
Female	0.15	0.00	0.36	0.00	1.00
Liberalism	-0.00	-0.07	0.37	-0.53	0.68
Assigner	0.34	0.00	0.47	0.00	1.00
Female × assigner	0.05	0.00	0.22	0.00	1.00
Liberalism × assigner	-0.00	0.00	0.21	-0.52	0.68
Ideological distance	0.25	0.10	0.31	0.00	1.15
Experience	1.75	1.00	2.55	0.00	16.00
ln(Seniority)	2.16	2.42	0.98	0.00	3.70
Outside judge	0.10	0.00	0.30	0.00	1.00

N =1680; number of cases = 570.
Note that Liberalism is measured in terms of deviations from the mean.

harassment claims, or employment sexual harassment under state law only. We also did not keep Title VII claims of retaliation for having complained of sexual harassment if there was not a sexual harassment claim before the court. This can happen if someone makes a sexual harassment complaint to an employer, is retaliated against, does not pursue legal action on the sexual harassment claim, but does pursue a claim of illegal retaliation. Thus, our data only comprises cases where there was actually a Title VII sexual harassment claim before the court.

This search left us with 577 published cases. There were seven published sexual harassment cases that were not used because the assigner was in dissent (below we discuss rules governing assigning from dissent). In the conditional logit framework that we use to analyze the data, the assigner must be within the set of potential recipients of the assignment, and therefore these seven cases were dropped from our analysis. Thus, there were 570 usable cases for analysis. Table A2 reports descriptive statistics for these cases.

A-3 Rules for coding assigners

28 U.S.C. § 45 provides that "presiding judge" status on a panel is conferred in the following order of priority: (1) the chief if sitting, (2) the senior judge "in regular active service," with seniority determined by commission date, and (3) in the event of a tie for senior active judge, the judge senior in age. The language "in regular active service" was added in 1982, becoming effective October 1st of that year. Prior to that, being in active service was not a condition of presiding. We coded presiding judges according to the forgoing rules. In all circuits other than the Fourth, either the presiding judge on the panel, or the presiding judge in the majority, assigns (Cheng 2008, 526, fn. 35; Baker 2008, 102, fn. 123). In only seven of 577 published sexual harassment cases was the presiding judge in dissent. Our review of circuit assignment rules revealed that these cases arose in circuits that allow presiding judges to assign from dissent. They were thus dropped from the analysis because in our conditional logit analysis assigners must be within the choice set of authors.

Ambiguities in coding assigners arise only in the Fourth Circuit, where assignment rules provide that all assignments are made by the Chief Judge (even when not on the panel) "on the basis of recommendations from the presiding judge" (Cheng 2008, 526, fn. 35), meaning the senior active judge on the panel. Consequently, it is not entirely clear whether the chief or the senior active judge on the panel should be treated as the assigner. In the models presented, we coded the senior active judge on the panel as the assigner because the conditional logit framework we use to analyze the data requires that the assigning judge be a potential writer on the panel, and thus treating the chief as the assigner when not on the panel would require excluding the Fourth Circuit from our analysis. In an alternative specification, displayed in Table A3, we drop cases that were heard in the Fourth Circuit, which comprise five percent of our data. There was no meaningful change in the results.

Table A3: Conditional Logit Results for Opinion Assignment in Sexual Harassment Cases with Published Opinions, Omitting the Fourth Circuit

	All Cases	**Defendant Wins**	**Plaintiff Wins**
	Estimate	Estimate	Estimate
	(S.E.)	(S.E.)	(S.E.)
Female	0.29	0.002	0.6**
	(0.15)	(0.21)	(0.22)
Liberalism	0.41**	0.16	0.69**
	(0.15)	(0.21)	(0.24)
Assigner	0.12	0.19	0.1
	(0.11)	(0.15)	(0.18)
Female × assigner	−0.11	0.32	−0.66
	(0.25)	(0.34)	(0.38)
Liberalism × assigner	−0.07	−0.15	0.28
	(0.25)	(0.34)	(0.39)
Ideological distance	−0.14	−0.19	0.07
	(0.19)	(0.26)	(0.3)
Experience	0.02	0.02	0.01
	(0.02)	(0.03)	(0.04)
ln(Seniority)	−0.11	−0.19	−0.01
	(0.07)	(0.1)	(0.11)
Outside judge	−0.43	−0.28	−0.54
	(0.22)	(0.3)	(0.34)
N	1596	918	678
Deviance	1149	662	473
−2LLR (Model χ^2)	17 ($p = 0.04$)	9 ($p = 0.45$)	23 ($p = 0.01$)

Notes: ** $p \leq 0.01$; * $p \leq 0.05$.

A-4 Notes on the Conditional Logit Estimation

The conditional logit model must satisfy the independence from irrelevant alternatives (IIA) assumption, which in this case is a strong assumption about the independence of disturbance terms across judges within a case as well as across cases. While we think random assignment of judges to panels and random assignment of cases to panels helps to make the IIA assumption realistic for our analysis, it is nevertheless important to test for it. The standard test of the IIA assumption is to conduct a Hausman test, which essentially involves dropping choices to see if they are indeed irrelevant to the remaining choices. To test the

IIA assumption for our analysis, we considered all possible ways of dropping non-assigning judges from every panel to construct restricted choice sets to compare with the full choice sets. We then computed Hausman statistics to see if we could reject the null of IIA. We saw no evidence that IIA was violated for any of the models that we estimated.

The conditional logit model implicitly accounts for any factors that do not vary within a case essentially by holding them constant across choices. To see this, note that the probability that judge i on case j is assigned the opinion is modeled in conditional logit as

$$\Pr(y_{ij} = 1) = \frac{\exp(\boldsymbol{\beta}'\mathbf{x}_i)}{\sum_j \exp(\boldsymbol{\beta}'\mathbf{x}_j)} \tag{1}$$

where $\mathbf{x}_i$ represents characteristics of judge i. If we include case-level or circuit-level variables (denoted by a c subscript), we could write this probability as

$$\Pr(y_{ij} = 1) = \frac{\exp(\boldsymbol{\beta}'\mathbf{x}_i + \boldsymbol{\gamma}'\mathbf{z}_c)}{\sum_j \exp(\boldsymbol{\beta}'\mathbf{x}_j + \boldsymbol{\gamma}'\mathbf{z}_c)}. \tag{2}$$

But since the $\boldsymbol{\gamma}'\mathbf{z}_c$ terms appear in both the numerator and denominator in a way that permits us to factor them out, we can cancel them to obtain equation (1). Thus, case-level and circuit-level factors are in a sense accounted for in the model even though we do not estimate parameters for them, which should help avoid spurious inferences for the variables that are explicitly included in the model.

A-5 The use of only published cases

As we noted in the text, choosing to analyze only published decisions raises the question of whether the publication decision might be endogenous to the author. While circuit rules governing the decision to publish do not give the author more authority to effectuate publication than other panel members (Serfass and Cranford 2001), it may be that, in practice, informal norms afford the author disproportionate influence on the decision. If more pro-plaintiff judges are assigned to write equally in plaintiff and defendant wins, but

they disproportionately succeed in effectuating publication in plaintiff win cases because, for example, they have a greater desire to make binding law for determining when liability is present, then studying only published cases could lead to misleading inferences. Likewise for pro-employer judges in defendant wins. To assess this possibility, we analyzed all published and unpublished sexual harassment cases in our dataset to assess whether gender and ideology of the author, or panel composition, are associated with publication.

Specifically, using case-level data, we ran two sets of logit models with publication as the dependent variable. The first set of models had the following independent variables: (1) gender of the author; (2) liberalism score of the author; dummy variables reflecting whether there was (3) one woman on the panel, or (4) two women on the panel, leaving all male panels as the reference category (there were only two cases with three women on the panel); (5) the mean ideology score of the panel; (6) circuit fixed effects; and (7) a linear time trend. In these models we included both gender and ideology of the author, and gender and ideological composition of the panel, in order to allow for either to influence publication. Because per curiam cases do not designate an author, such cases were necessarily excluded from the analysis, and the models thus compared published and unpublished cases with designated authors. In a second set of models we added per curium cases and dropped the variables measuring author gender and ideology, keeping all the rest (we note that a small number of published cases are per curiam). These models allowed us to assess, when per curiam cases are added, whether the gender and ideological composition of the panel are associated with publication. Both the first and second set of models were run on all cases, plaintiff wins only, and defendant wins only, rendering six regressions in total.

In the first set of models (including authorship variables and excluding per curiam cases), the gender and ideology of the author, and variables measuring the gender and ideological composition of the panel, were statistically insignificant at the .1 level in every model. In the second set of models (excluding authorship variables and including per curiam cases),

the variables measuring the gender and ideological composition of the panel remained insignificant at the .1 level. Interestingly, at a descriptive level, panels with women authors are slightly *less* likely than those with male authors to publish in both plaintiff and defendant wins, though the differences are not statistically significant. Thus, it is clear that disproportionate liberal and female authorship in published plaintiff win cases is *not* driven by women and liberals disproportionately effectuating publication when they write in plaintiff wins.

We considered running the analysis presented in our paper on only unpublished cases in order to compare authorship dynamics with those we report for published cases. However, 64% of the unpublished sexual harassment cases are per curiam, meaning that no author is designated, and thus such cases cannot be used to study authorship. Consequently, there are too few unpublished opinions where the author is designated for meaningful analysis. There are 92 such cases in our data, of which only 13 were decided for the plaintiff.

Finally, we are aware that some have speculated that judges may sometimes "bury" decisions via non-publication to reduce the probability of review. For example, if judges with pro-plaintiff orientations wish to decide cases in a more pro-plaintiff way than circuit doctrine allows, they may believe that a legally questionable decision achieving the desired outcome is more likely to avoid en banc or Supreme Court review if the panel does not publish and thus does not make law. Likewise for more pro-employer judges in defendant wins. This view would lead to the opposite predictions as those described above—pro-plaintiff judges would publish *less* in plaintiff wins, and pro-employer judges would publish *less* in defendant wins. We detect no such effect. This may be because the countervailing incentives which we have identified render a null effect. Or it may be that neither hypothesized incentive is actually operative. We can only say that, in our data, there is no relationship between ideology, gender, and publication decisions.

A-6 Cases in circuits with bench memos

As we discussed in Section 3, three circuits—the Fifth, Sixth, and Ninth Circuits—use a process whereby one judge is assigned responsibility to prepare a pre-argument "bench memo" for the panel on each case, and that judge may be disproportionately likely to be assigned authorship if in the majority. Table A4 presents a set of conditional logits that exclude cases from these circuits. The results lead to essentially the same inferences as those produced by Table 1 1.

Table A4: Conditional Logit Results for Opinion Assignment in Sexual Harassment Cases with Published Opinions, Omitting the Fifth, Sixth and Ninth Circuits

	All Cases	**Defendant Wins**	**Plaintiff Wins**
	Estimate	Estimate	Estimate
	(S.E.)	(S.E.)	(S.E.)
Female	0.31	−0.08	0.83**
	(0.17)	(0.23)	(0.27)
Liberalism	0.4*	0.32	0.5
	(0.17)	(0.23)	(0.27)
Assigner	0.08	0.05	0.21
	(0.13)	(0.16)	(0.21)
Female × assigner	−0.05	0.54	−0.88
	(0.3)	(0.4)	(0.46)
Liberalism × assigner	−0.41	−0.43	−0.26
	(0.29)	(0.39)	(0.45)
Ideological distance	−0.14	−0.26	0.24
	(0.22)	(0.28)	(0.36)
Experience	0.03	0.03	0.02
	(0.02)	(0.03)	(0.05)
ln(Seniority)	−0.18*	−0.26*	−0.03
	(0.08)	(0.11)	(0.13)
Outside judge	−0.54*	−0.6	−0.38
	(0.25)	(0.35)	(0.38)
N	1322	784	538
Deviance	952	565	378
−2LLR (Model χ^2)	15 ($p = 0.09$)	9 ($p = 0.45$)	15 ($p = 0.08$)

Notes: ** $p \leq 0.01$; * $p \leq 0.05$.

A-7 Robustness checks: OLS and Random Effects Logit

As an additional robustness check to ensure that unobserved circuit-level heterogeneity is not driving our results, we follow the lead of Maltzman and Wahlbeck (2004) and model assignment with a random effects logit, while also explicitly incorporating circuit fixed effects. The results are presented in Table A5, and are statistically and substantively the same as those we obtained with the conditional logit presented in the paper.

For those who would like to see an even simpler estimator, in Table A6 we report results from estimating our model by ordinary least squares. We employ clustered standard errors, where we cluster by case, and include circuit fixed effects. The results on our key variables are qualitatively the same as what we see with the other estimation approaches.

Table A5: Random Effects Logit Results for Opinion Assignment in Sexual Harassment Cases

	All Cases Estimate (S.E.)	**Defendant Wins** Estimate (S.E.)	**Plaintiff Wins** Estimate (S.E.)
Female	0.37*	0.04	0.75*
	(0.18)	(0.26)	(0.27)
Liberalism	0.36*	0.14	0.60*
	(0.18)	(0.25)	(0.28)
Assigner	0.22	0.29	0.18
	(0.15)	(0.20)	(0.23)
Female × assigner	−0.21	0.25	−0.81
	(0.31)	(0.43)	(0.46)
Liberalism × assigner	−0.10	−0.17	0.22
	(0.31)	(0.42)	(0.49)
Ideological distance	−0.12	−0.13	0.06
	(0.22)	(0.30)	(0.34)
Authorship experience	0.01	0.01	0.00
	(0.02)	(0.03)	(0.04)
ln(Seniority)	−0.11	−0.16	−0.04
	(0.09)	(0.11)	(0.13)
Outside judge	−0.54*	−0.32	−0.73
	(0.27)	(0.36)	(0.42)
1st Circuit	0.05	−0.10	0.20
	(0.31)	(0.51)	(0.43)
2nd Circuit	−0.09	−0.13	−0.04
	(0.26)	(0.45)	(0.33)
3rd Circuit	−0.06	−0.13	0.05
	(0.31)	(0.59)	(0.37)
4th Circuit	0.03	−0.03	0.04
	(0.30)	(0.48)	(0.40)
5th Circuit	0.06	−0.11	0.20
	(0.26)	(0.42)	(0.38)
6th Circuit	0.04	−0.06	0.20
	(0.31)	(0.49)	(0.44)
7th Circuit	−0.03	−0.09	0.01
	(0.23)	(0.39)	(0.34)
8th Circuit	0.04	−0.08	0.07
	(0.22)	(0.39)	(0.30)
10th Circuit	−0.01	−0.13	0.15
	(0.25)	(0.41)	(0.37)
11th Circuit	0.06	−0.03	0.17
	(0.29)	(0.50)	(0.38)
12th Circuit	−0.02	−0.05	−0.14
	(0.36)	(0.50)	(0.76)
Constant	−0.49	−0.31	−0.79
	(0.28)	(0.44)	(0.42)
$\ln \sigma_\nu^2$	−17.99	−18.00	−17.95
	(217.53)	(287.65)	(332.42)
N	1680	961	719

Notes: * $p \leq 0.05$

Table A6: OLS Results for Opinion Assignment in Sexual Harassment Cases

	All Cases	Defendent Wins	Plaintiff Wins
Female	0.08	0.01	0.17*
	(0.04)	(0.06)	(0.06)
Liberalism	0.08*	0.03	0.13*
	(0.04)	(0.05)	(0.06)
Assigner	0.05	0.07	0.04
	(0.04)	(0.05)	(0.06)
Female × assigner	−0.05	0.06	−0.19
	(0.08)	(0.11)	(0.11)
Liberalism × assigner	−0.02	−0.04	0.05
	(0.08)	(0.10)	(0.12)
Ideological distance	−0.03	−0.03	0.02
	(0.05)	(0.06)	(0.07)
Authorship experience	0.00	0.00	0.00
	(0.00)	(0.01)	(0.01)
ln(Seniority)	−0.03	−0.04	−0.01
	(0.02)	(0.02)	(0.03)
Outside judge	−0.12	−0.07	−0.15
	(0.06)	(0.08)	(0.09)
1st Circuit	0.01	−0.02	0.05
	(0.01)	(0.03)	(0.03)
2nd Circuit	−0.02*	−0.03	−0.01
	(0.01)	(0.02)	(0.02)
3rd Circuit	−0.01	−0.03	0.01
	(0.01)	(0.03)	(0.02)
4th Circuit	0.01	−0.01	0.01
	(0.01)	(0.03)	(0.02)
5th Circuit	0.01	−0.03	0.04
	(0.02)	(0.03)	(0.03)
6th Circuit	0.01	−0.01	0.04*
	(0.01)	(0.03)	(0.02)
7th Circuit	−0.01	−0.02	0.00
	(0.02)	(0.03)	(0.03)
8th Circuit	0.01	−0.02	0.02
	(0.01)	(0.03)	(0.02)
10th Circuit	−0.00	−0.03	0.03
	(0.01)	(0.03)	(0.02)
11th Circuit	0.01	−0.01	0.04
	(0.02)	(0.03)	(0.02)
12th Circuit	−0.00	−0.01	−0.03
	(0.02)	(0.03)	(0.02)
Constant	0.38*	0.42*	0.32*
	(0.05)	(0.06)	(0.08)
Observations	1680	961	719
R^2	0.013	0.010	0.036

Standard errors in parentheses
* $p < 0.05$

A-8 Case illustration of the case-space theory of authorship

To illustrate the logic of the model presented in Section 2.1, we use an example described from a well-known sex discrimination case. The traditional formulation of the equal protection "intermediate scrutiny" standard is that, to be lawful, policies that discriminate against women must serve an "important state interest" and be "substantially related" to achieving the interest. In *United States v. Virginia* (518 U.S. 515, 1996), the Supreme Court ruled unconstitutional the Virginia Military Institute's male-only admissions policy. The case featured two salient facts, according to the majority. First, VMI was a highly prestigious institution whose graduates enjoyed a valuable and powerful network. Second, the single-sex alternative school for women provided by Virginia was grossly inferior to VMI on every material dimension.

A seven-justice majority ruled the policy unconstitutional, with the opinion written by Justice Ruth Bader Ginsburg—at that time the only woman on the Court. Two things are notable about Ginsburg's opinion. First, rather than using the traditional "important state interest" formulation of the intermediate scrutiny standard of review, she characterized the appropriate standard as being that the state must proffer an "exceedingly persuasive justification" for its policy. This led Chief Justice Rehnquist (in a concurrence) and Justice Scalia (in dissent) to accuse Ginsburg of attempting to edge the equal protection standard in a more liberal direction by subtly refashioning its language (518 U.S. at 558–60, 571–74). Second, Rehnquist and Scalia also criticized Ginsburg's opinion for going beyond the narrow facts of the case—all-male men's college with ample resources, alongside grossly inferior all-female alternative—to suggest a broader rule limiting single-sex public education even where the alternatives are comparable (518 U.S. at 565–66, 595–600).

The top three panels in Figure A1 replicate Figure 1. Figure A1(D) depicts the VMI case from the perspective of our model. Both justices believe that case facts falling to the

right of their ideal point should receive the *discrimination* classification, and those falling to their left should receive the *not discrimination* classification. In VMI, the case facts (x_4) fell to the right of both Rehnquist and Ginsburg, so they agreed on a plaintiff win. Rehnquist, we can judge from his concurrence, would have written the opinion applying the traditional language of intermediate scrutiny, hewing closely to the case facts and placing the partition at *WR*. To the right of *WR* would be *discrimination*, and to the left would be *uncertainty*. Ginsburg, by comparison, stretched the partition toward her ideal point and placed it at a, enlarging the zone of *discrimination* by the white interval from *WR* to a.

To see how gaining the same sized interval in a defendant win would render less utility to Ginsburg, consider a similar scenario that is the source of some current legal controversy in the United States: single-sex education in public primary schools. Imagine a case in which a public elementary school provides voluntary options of sex-integrated and sex-segregated classrooms in the same school; assume there are no issues of differential social prestige, networks, or compulsion. Rehnquist, we can judge from his concurrence in VMI, would give this policy the *not discrimination* classification. Suppose that these facts are just to the left of Ginsburg, such that she would agree with Rehnquist on a defendant win. This is depicted in Figure A1(E). If Ginsburg wrote, she would write the opinion at her ideal point *RBG*, very near x_5. The region to the left of *RBG* would be *discrimination*, and the region to the right would be remain in *uncertainty*. In contrast, if Rehnquist wrote he would stretch the *not discrimination* region in the direction of his ideal point, to b. The region to the left of b would be *discrimination*, and the region to the right would remain in *uncertainty*. Thus, Ginsburg's policy utility gain from writing is to block Rehnquist from capturing the interval from *RBG* to b, and preserving it in *uncertainty*. When future cases arise that present future judges the opportunity to rule on that interval it may be converted either to *discrimination* or *not discrimination*, according to their preferences.

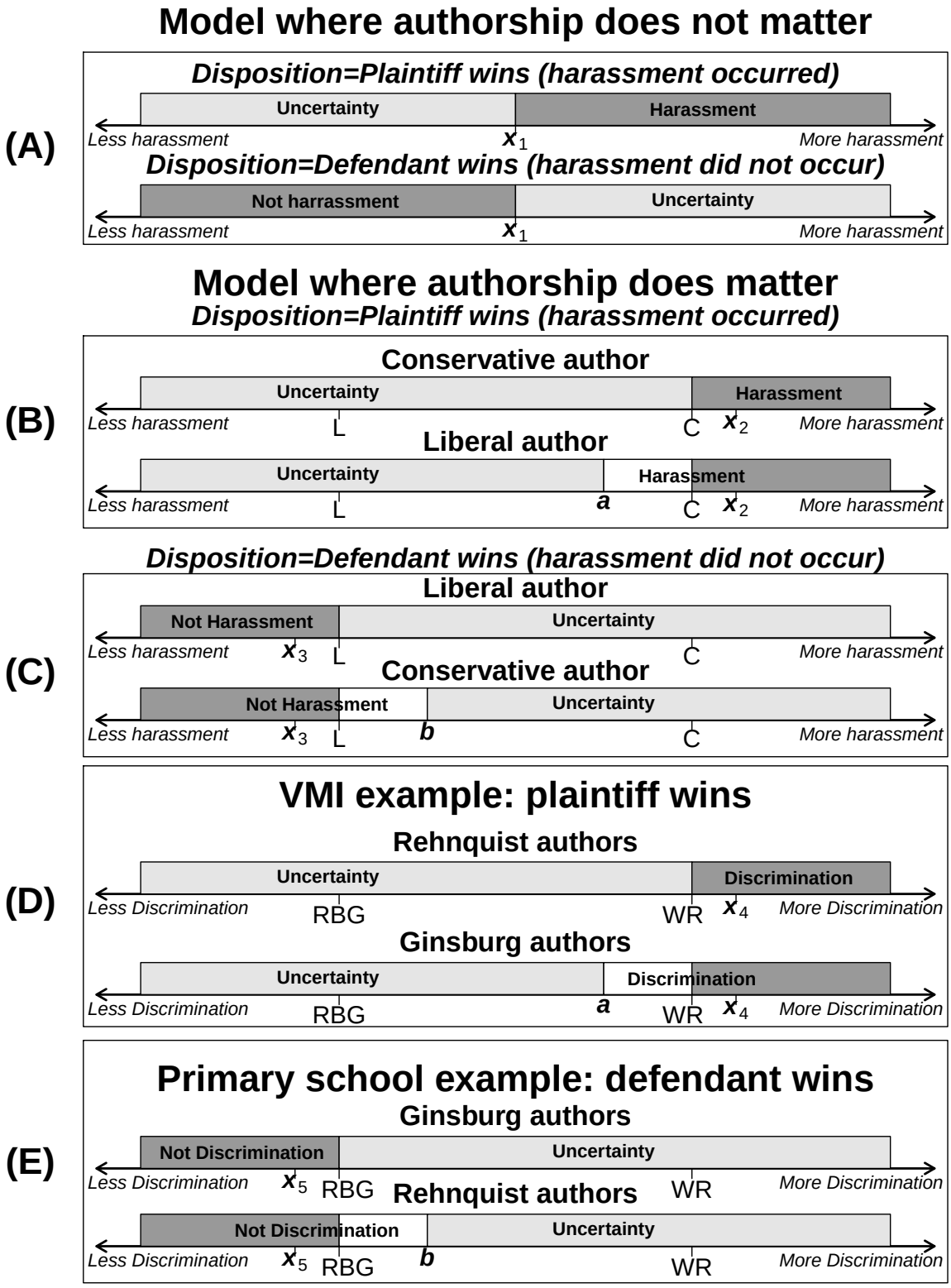

Figure A1: Illustrating our theory with the decision in *United States v. Virginia*.