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Bargaining Power in the Supreme Court: Evidence from Opinion Assignment and Vote Switching

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How can we assess relative bargaining power within the Supreme Court? Justices cast two votes in every case, one during the initial conference and one on the final merits of the case. Between these two votes, a justice is assigned to draft the majority opinion. We argue that vote switching can be used to detect the power of opinion authors over opinion content. Bargaining models make different predictions for opinion content and therefore for when other justices in the initial majority should be more or less likely to defect from initial positions. We derive hypotheses for how opinion authorship should affect vote switching and find that authorship has striking effects on switching. Authors thus have disproportionate influence and by extension so do chief justices, who make most assignments. This evidence is compatible with only the "author influence" class of bargaining models, with particular support for one model within this class.

t the end of each Supreme Court term, there is much talk in the popular media of whose "Court" it is—that is, which justice was particularly influential or who was the pivotal swing justice. After an unusually extended period of stability, the ideological makeup of the Court has shifted in recent years, beginning with the 2006 retirement of Justice O'Connor, who was known for being a swing justice. When Justice Alito took her place, the label of pivotal swing vote shifted firmly to Justice Kennedy, and perhaps rightly so. In the 2006-7 term, Kennedy was in the majority in all 24 of the Court's 5-to-4 decisions, and the media proclaimed the beginning of the "Kennedy Court." Despite a precipitous drop in 5-to-4 decisions in the 2007-8 term (from 24 to 11), the New York Times maintained, "It was, once again, Justice Kennedy's Court" (Greenhouse 2008). Meanwhile, Roberts replaced Rehnquist as chief justice, a change in the most procedurally powerful Court position. Now that Roberts has served for a few years, can the new chief wield his powers to his advantage? Is it still the "Kennedy Court," or is it now the "Roberts Court"? At the close of the 2009-10 term, the New York Times decided this contest in favor of Roberts-"The Roberts Court comes of age"—citing the fact that the chief was in the majority 92%

of the time, more than any other justice, including Kennedy (Liptak 2010, A19). The pivotal justice and the chief are not the only contenders. Other Court watchers lament the "Scaliafication" of the court, noting the conservative justice's authorship of important recent decisions (Millhiser 2011).

Over the past decade, the Court's right wing has strengthened as two conservative justices were replaced by two even more conservative justices. The ideological center has been stable, or perhaps it has shifted a bit to the right, from O'Connor to Kennedy. The left wing, already relatively moderate in comparison to the Warren Court, has seen Souter replaced by Sotomayor and Stevens by Kagan. Setting aside the struggle between the chief and the pivotal justice, do these broader shifts matter? How does ideological composition and polarization within the Court affect legal policy?

The judicial opinion is the main policy-making tool of Supreme Court justices. While the authorship of this opinion is usually officially attributed to a single justice, it is actually the product of the interactions among the justices seeking to influence its content. A large body of work, including behind-the-scenes accounts and scholarship using the justices' own private papers, has established that the

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justices interact, sometimes strategically, with an eye toward affecting legal policy through the language of court opinions. But how do these attempts to influence the majority opinion play out? This question motivates one of the most active debates in judicial politics (e.g., Beim, Cameron, and Kornhauser 2010; Bonneau et al. 2007; Carrubba et al. 2012; Clark and Lauderdale 2010; Epstein and Knight 1998; Hammond, Bonneau, and Sheehan 2005; Lax 2007; Lax and Cameron 2001, 2007; Maltzman, Spriggs, and Wahlbeck 2000; Westerland 2003). Judicial politics scholars disagree over whether power on the Court is shared among all justices or whether it is concentrated in the hands of a few key players or even just one.

It is not obvious that bargaining, opinion authorship, and opinion assignment should matter at all. If bargaining inevitably drives the policy choice to the ideal point of the median voter (per the Median Voter Theorem), it does not matter who writes the initial opinion, and thus it does not matter who makes the assignment or to whom. If all policy making in the Supreme Court comes down to the preferences of the median justice, then the choices made along the way are simply noise, a meandering path to a predetermined end. If the price of forming a majority coalition is always the same, why should it matter who writes the check? This is the Median Justice Puzzle (Lax 2011)-one must either accept that judicial bargaining is "noise" or one must explain why the median justice does not monopolize control of legal policy. Different resolutions of this puzzle lead to different predictions about which justices will be able to influence the policy content, or ideological "location," of the opinion in a given case and to what extent. According to one class of theory, opinion assignment matters not at all because one particular pivotal justice is dominant-specifically, the median member of the Court (given the Median Voter Theorem) or the median member of the majority coalition. We classify these as "Monopoly Theories." Another model would say the author is dominant, so that assignment is the only thing that matters. This too is a monopoly theory. In another class of theory, "author influence theories," policy is the result of a nuanced bargaining game in which the degree of author power varies with the author's bargaining leverage.

In order to empirically adjudicate among these theories, we resuscitate an old and seemingly disconnected topic in judicial politics scholarship, the study of vote fluidity, and connect it for the first time to this theoretical debate. We argue that fluidity, an instance in which a justice switches his or her vote between the initial internal conference vote and the final reported vote in a case, can reveal the likely location of the majority opinion, because, all else equal, justices in the initial majority should be less likely to defect the happier they are overall with the majority opinion. Each theory we consider makes a prediction for the characteristics of the opinion that results from the bargaining process (including but not limited necessarily to ideological "location"). Given these predictions, we draw out the implications for how happy the chief justice's initial choice of opinion author should make each justice in the majority.¹ We assume that overall unhappiness with the (expected) opinion should correlate with the probability that a given justice will switch from his or her initial vote. This research design has an advantage unique among those that seek to adjudicate among judicial bargaining theories. Taking the initial vote as pretest, the final vote as posttest, and assignment of the majority opinion as the key treatment temporally between the two, we have a test of assignment effects closer to causal inference ideals than is usually possible in observational studies. To enact this, we use multilevel probit regression and roughly 40 years of Supreme Court data on initial and final votes and opinion assignment.

In short, theories that do not allow for some degree of author influence cannot explain our findings. The evidence shows that opinion authorship does matter. The strongest reading of our empirical evidence supports effects explicitly predicted in the influence model in Lax and Cameron (2007), while most of our findings are broadly compatible with the family of author influence theories.

BARGAINING IN THE SUPREME COURT

The bargaining models we describe below generally make the standard assumption of single-peaked preferences in a unidimensional policy space (so that, inter alia, there is a most preferred policy point along the line from liberal to conservative). There are two main families of models or, more simply, two types of hypothesis about final opinion location. The first is the set of models in which some justice within the majority, who we shall call the monopolist, has exclusive control over opinion content: the opinion is placed precisely at her ideal point. The second family of theories predicts that the majority opinion author will have influence over the opinion as mediated by the bargaining process but that no single justice will have monopoly power.²

^{1.} Throughout, we refer to the chief justice as the opinion assignor. However, if the chief is not in the initial majority, the senior justice in the majority assigns the opinion. We also refer to the opinion assignor and author as "he" and to other key justices as "she."

^{2.} By the simplest reading of these assorted theories, each is a complete and competitive account of bargaining. It may, however, be more reasonable to see them as partial models, each of which highlights a particular incentive or force at work in bargaining. Thus, the evidence we present only rules out some theories in their purest sense.

Monopoly theories

There are three contending monopolists: the median justice, the majority-median justice, and the author. The median will be the monopolist when bargaining is costless and governed by the Median Voter Theorem. This was called the "open-bidding" model in Hammond et al. (2005). A variant of that model, with the same bottom line, is their "median-holdout" model, in which the median justice refuses to vote for any opinion other than her own ideal point by assumption, and so she automatically gets her way. The majority-median hypothesis is discussed in Westerland (2003) and arises from the general model in Carrubba et al. (2012), in which no justice in the initial majority will accept an offer from the opposing side (doing so is either ruled out by assumption or is prohibitively unattractive). Then we get, in effect, the Median Voter Theorem applied only within the initial majority coalition and not the Court as a whole.

The opinion location predictions from these three theories can be explained with reference to the current set of justices in ideological order (based on 2011 term Martin-Quinn scores):

Sample Justice Configuration. Sotomayor-Ginsburg-Breyer-Kagan-Kennedy-Roberts-Alito-Scalia-Thomas

If Justice Scalia is the opinion author for a straightforward five-justice conservative majority, then the median-monopoly hypothesis predicts that the opinion will be located at Justice Kennedy's ideal point, the majority-median hypothesis predicts Justice Alito's ideal point, and the author-monopoly hypothesis predicts Scalia's ideal point. If, on the other hand, Chief Justice Roberts were writing the majority opinion, then the author-monopoly prediction would now be an opinion at Roberts's ideal point. The median and majority-median hypotheses, however, would lead to the same predictions as before, since opinion location does not respond to authorship. In the author-monopoly theory, opinion location does respond to (and only to) authorship, and so assignment obviously matters. In a case with a seven-vote majority excluding only Sotomayor and Ginsburg, the median hypothesis would still put the opinion at Kennedy, but the majoritymedian hypothesis would put it at Roberts.

There is one more monopoly theory to note. In the "agenda control" variant in Hammond et al. (2005), the opinion author makes a take-it-or-leave-it offer against an exogenous status quo (this is the familiar model from Romer and Rosenthal [1978, 1979]). The only offers that can win are those between the status quo and the reflection point of the status quo, on the other side of the median. To

win, the author must pick some point in this region. If the author's ideal point is in this region, he can pick his own ideal point, so that he has monopoly power. If he is outside of the region, he cannot do better than the endpoint of the region closest to him. Thus, as authorship moves outside of this region, the opinion location does not continue to shift with the author. We call this "status-quoconstrained author-monopoly" as it is not a pure monopoly theory.

Author influence theories

In the second family of hypotheses, the content of the final opinion is in part a function of the preferences of various justices and does not fall under the complete dominance of any one justice. The author is constrained in fulfilling his own ideological preferences and must take into account the preferences of the other justices, but not to such an extent that any justice fully dominates the bargaining. For example, Schwartz (1992) argues that the policy alternatives available to the author are exogenously fixed and that the author can only control the level of precedent written into the majority opinion. The level of precedent a justice desires varies with her ideal point (225), and different authors would choose different levels of precedent subject to the need to hold a majority. Each justice prefers an author as close as possible to her own ideal point (237). It is possible that, because of a limit to how far the opinion can be moved in equilibrium, shifting author ideology might not change the equilibrium opinion location once this limit is reached (237). Past this limit, there will be no effect of author location on opinion location. Below it, opinion location should vary with author ideology, as it does in the author-monopoly hypothesis.

Maltzman et al. (2000) argue that the author accommodates policy goals of the other justices in the majority (and only those in the majority) and organizational needs. The author will tend to accommodate those other justices who are closer to his own ideal point. Like Schwartz (1992), Maltzman et al. do not make an explicit prediction as to where within the majority the opinion will fall, implying that it will positively relate to author ideology. Further, they argue that opinion assignors will, all else equal, prefer to assign to justices closer in ideological location.

Lax and Cameron (2007) argue that opinions have a second dimension, in addition to policy content, that gives the author some bargaining leverage. As in each of the models described above, justices are ultimately motivated by a concern for judicial policy, but in this case, the policy impact of an opinion is assumed to depend also on its persuasiveness, clarity, and craftsmanship—its legal quality. Because an opinion's legal quality affects its reception, justices are induced to care about legal quality, even if policy is ultimately their real concern.3 Higher quality means lower policy variance. The next key assumption in this model is that producing higher-quality opinions requires costly effort both for the opinion writer and for any justice who seeks to contest the opinion. This costly effort creates a wedge that the assignee can exploit to move an opinion away from the median justice's most preferred policy without provoking a winning counter-opinion. The degree of author power in this model varies with bargaining leverage, based on various model parameters. The policy location of the opinion will fall between the median and the author. The quality of the opinion will be increasing in author extremism, since, in equilibrium, more extreme authors must compensate with higher quality. Returning to the Sample Justice Configuration, if Scalia is the initial majority author, the opinion will lie somewhere between Kennedy and Scalia. If the chief justice self-assigns, then, all else equal, the opinion would be less extreme, closer to Kennedy's ideal point, and may be of lower quality. The movement relative to Alito would be ambiguous. Depending on his bargaining leverage, the opinion author might pull the opinion away from Kennedy toward Alito or even past him.

Finally, in some alternative configurations in Carrubba et al. (2012), bargaining may not reduce to the majoritymedian if the author is concerned that other justices might choose to write separate concurrences. This too would be an author influence model then.

TESTING BARGAINING THEORIES

Directly testing the predictions of the bargaining models described above requires reliable measures of both justice ideology and opinion content on the same scale, as well as of other factors thought to shape bargaining. Without these, scholars have devised clever indirect means of getting at the relative influence of key justices in the "collegial game" over opinion content, as Maltzman et al. (2000) name the Court's bargaining process. Using data from the Court's internal memoranda, they find that the author of the majority opinion draft does respond to and accommodate suggestions and threats from the other justices in the majority. This evidence, along with similar findings in Epstein and Knight (1998), suggests that a bargaining process occurs among the justices and identifies plausible intuitions about bargaining incentives, but it cannot tell us much about who, if anyone, wields particular influence over the location of the final product.

Two later empirical studies are more explicitly connected to systematic theories of bargaining. One, Carrubba et al. (2012), tests theories through concurrence patterns, and the other, Clark and Lauderdale (2010), does so by using case citations to estimate opinion locations. Both interpret their empirical findings as support for the majority-median monopoly model over other monopoly models. However, they do not explicitly test author influence models, and so it would be wrong to conclude that they show direct evidence for the majority-median per se. Because the location of the opinion author and the majority-median are necessarily correlated, their evidence is also compatible with author influence models. Moreover, Beim et al. (2010) extend the Clark-Lauderdale analysis and find evidence against all monopolist theories. A third empirical test is that of Bonneau et al. (2007), which uses final vote data and assumptions about status quo locations to find evidence for the Hammond et al. (2005) agenda control model over the median monopoly model.⁴ Overall, we see these important contributions as still conflicting and incomplete.

We advance this literature by testing a broader array of bargaining theories and extending existing work by drawing out new testable implications. Most important, we devise a new empirical test with unique advantages. We start by elaborating the concept underlying this test: vote "fluidity," the shifting of a justice's vote between the initial conference vote on the merits and the final vote on the merits (Howard 1968). Fluidity includes both defection (justices in the initial majority who change their votes) and conformity (justices in the initial minority who change their votes). Previous scholars studied fluidity because of interest in ideological patterns or because voting "mistakes" might hurt productivity, showing that assorted factors at the level of the individual justice, the level of the conference coalition, and level of the case are correlated with fluidity.⁵

^{3.} This notion of quality is compatible with legal scholarship on judicial opinions as tools. For example, Fallon (2001) and Heytens (2008) discuss how justices use opinions to get what they want from lower courts and the challenges of doing so. Shapiro (2006) criticizes the Court for not writing opinions that effectively guide lower courts in doctrinal application to future cases.

^{4.} The empirical test in Bonneau et al. (2007, 896–97) rests on the assumption that the status quo will be in between the coalition of justices who grant certiorari and the coalition of justices who vote to deny certiorari. If true, this implies the status quo often falls near the median justice, at least for close splits, making the bargaining range very small and limiting the effect of author ideology on the opinion. Opinion assignment would rarely matter. Lax (2011) argues that the Court is unlikely to take cases where the policy is already very close to where the median wants it to be. Brenner and Whitmeyer (2010) also criticize the role of the status quo on theoretical grounds. We set aside these debates and test the Hammond et al. models on their own terms.

^{5.} For example, defection is more common among justices who are marginal members of the initial majority (*marginality* is defined variously

We shift the focus from what accounts for fluidity itself to what fluidity can reveal about bargaining influence. We argue that fluidity can suggest opinion content because, all else equal, the happier a justice expects to be with the majority opinion produced by such bargaining, the less likely she is to switch from her initial vote with the majority. Since different theories of opinion production posit different ultimate opinion locations, we can adjudicate among these theories by examining empirical patterns of fluidity, specifically, patterns of defection from the majority.

This "fluidity test" has unique advantages for research design. The initial vote acts as a pretest, the assignment as treatment, and the final vote as posttest. In this way, preliminary votes serve as controls for a justice's predisposition to cast a vote in a particular direction in a given case, so that vote switching reveals the effects of opinion authorship/ assignment.⁶ Since assignment is not random, we include controls for other predictors of assignment that may also be correlated with defection. To the best of our knowledge, this paper is the only one to test bargaining influence using such a pre-post research design, which allows for inference through multiple observations of the same unit of analysis (a specific justice-case unit) and not only across units of analysis (the same justice across cases or across different justices in the same case).⁷

6. Of course, the conference vote may be strategic. Justices may "insincerely" join the initial majority to try to get assigned themselves. But the validity of our test is not contingent on sincere voting at this stage. It is not that we assume all initial majority justices are there for sincere reasons, but only that whether or not they stay there, all else equal, reflects happiness with the opinion.

7. Why would fluidity occur if justices are rational (forward-looking)? Given an initial majority coalition larger than five, an opinion author might ignore the wishes of some members, making them unhappy so that

Of course vote switching is not the only way for a justice to show dislike for the majority opinion. Concurring separately rather than joining the majority opinion is another option. Switching one's vote on the merits is obviously a very extreme response to opinion assignment. This only makes it less likely that we will find an effect of assignment on defection—and yet we do find clear evidence that authorship affects defection. That the fluidity test is a rather strict test of author influence over opinion content is a strength of this design.

Extreme side and moderate side

Before we present our fluidity hypotheses, let us define the concept of "side." Given a justice in an initial majority coalition that is liberal, an opinion assignee who is closer to the liberal extreme of the Court than the justice is on the justice's "extreme side." An opinion assignee who is closer to the conservative extreme of the Court is on the justice's "moderate side." Conversely, in an initial conservative coalition, an opinion assignee who is closer to the conservative wing of the Court is on the justice's extreme side, while an assignee who is closer to the liberal wing is on the justice's moderate side. The two panels in figure 1A depict this graphically. As an assignee on the extreme side moves away from the justice ideologically, the assignee is becoming more extreme, relative to the ideological direction of the majority coalition. As an assignee on the moderate side moves away from the justice, the assignee is becoming more moderate, relative to the ideological direction of the majority coalition. This distinction is important because, as we explain below, different bargaining theories make different predictions for a justice's likelihood of defection when she faces assignees on her extreme side versus assignees on her moderate side.

Monopoly hypotheses for fluidity

Recall that monopoly theories of judicial bargaining each predict that one specific justice is able to locate the final opinion at her ideal point. The implications for fluidity are straightforward—justices will be more likely to defect the further away they are from the monopolistic justice. Under the median and majority-median hypotheses, authorship does not matter, and so defection should not vary with a justice's distance from the assignee. Finding that assignment affects defection is thus evidence against the median and the majority-median hypotheses.

but usually means the most liberal member of a conservative coalition or vice versa, sometimes restricted to minimum winning coalitions); higher among justices who are closer to the initial minority than to the majority (e.g., Brenner and Dorff 1992; Brenner, Hagle, and Spaeth 1989; Hagle and Spaeth 1991); and lower by justices in important cases (e.g., Brenner, Hagle, and Spaeth 1989). Defection does seem to vary by justice (Brenner et al. 1989), but not due to "freshman" status (Hagle and Spaeth 1991). Justices are more likely to conform to larger initial majority coalitions, and in less important cases, with conformity tending to lead to more ideologically consistent coalitions (Brenner 1980, 1989; Dorff and Brenner 1992). Some scholarship has looked at opinion assignment in combination with fluidity, starting with Brenner (1982a). Both Brenner (1982b) and Brenner and Spaeth (1988) show that justices who are ideologically marginal relative to the other justices in the coalition receive disproportionate shares of opinion assignments. However, perhaps counterintuitively, Brenner, Hagle, and Spaeth (1990) and Brenner and Spaeth (1988) find no effect from marginal authorship on the maintenance of the initial majority coalition or on coalition size. Finally, Maltzman and Wahlbeck (1996) integrate and improve upon the earlier fluidity work.

they defect, while still holding a majority. And, even if he tries to anticipate and forestall defection, he might fail in this endeavor (uncertainty, imperfect knowledge, asymmetric information, and the prohibitive cost of clairvoyance can lead to mistakes).



Figure 1. Predictions of defection probability by bargaining model. A illustrates the moderate side and extreme side of a given justice in the majority, depending on the ideological direction of the initial coalition. B shows six panels depicting the predicted effects on defection probability given the equilibrium opinion location in each model of intra-Court bargaining, for initial conservative coalitions.

On the other hand, under the author-monopoly hypothesis, the author has complete control, and so the probability that a justice defects should vary with her distance from the author. If defection increases as assignee-to-justice distance increases, both to the extreme side and the moderate side, then that would lend support to the author-monopoly hypothesis. This is a symmetric distance effect, since the chance of defection increases in ideological distance on both sides. The top four panels in figure 1*B* summarize these hypotheses, along with the "status-quo–constrained" variant. This resembles the author monopoly picture, but it is bounded on the left by the status quo and on the right by the reflection point of the status quo around the median justice. Outside of this range, defection rates should not vary with author location.

Influence hypotheses for fluidity

The author influence family of theories posits that the opinion author exerts some control over final opinion location but that this power is mediated by other factors, such as exogenously fixed policy alternatives (Schwartz 1992), the ideology of other justices in the majority (Maltzman et al. 2000), bargaining leverage (Lax and Cameron 2007), and the fear of separate concurrences (Carrubba et al. 2012). Much of the scholarship on author influence, particularly the informal work, does not make specific predictions for opinion location.

First, consider the informal work. One could suppose that the median has some gravitational pull, so that the opinion will land somewhere in between the median and the author. The opinion location would then be a positive function of the author's location as he moves away from the median, but it will lag behind his location, remaining between him and the median. A justice will be happiest (will be least likely to defect) when the combination of author influence and median pull lead to an opinion precisely at her own ideal point. This will occur when the author is further to the extreme side than said justice but not too much more extreme than the justice herself. See the bottom-left panel of figure 1*B*. To be clear, we are not saying this "author influence/median pull" result holds in equilibrium in any formal model we know, just that something like this might be compatible with informal scholarship on strategic bargaining. We offer this possibility for the sake of completeness.

For a justice in the majority facing an author on her moderate side, the prediction is simple: the closer the author is to that justice (moving toward the right in the figure), the less likely the justice is to defect because the opinion will also be moving closer. For a justice in the majority facing an author on her extreme side, the prediction is ambiguous. As the author moves away from the justice (further to the right) toward the extreme wing, the opinion, lagging behind, may still be moving closer to the justice or it may have already moved past her. In other words, we cannot say whether the opinion will fall to one side or the other of a justice who is facing an author on her extreme side. As the author moves from her moderate side to her extreme side, the justice will become happier, then less happy, with the opinion, and we cannot exactly pinpoint the inflection point. For example, in Sample Justice Configuration, we cannot predict whether Roberts would be more or less likely to defect from an opinion written by Alito or by Scalia. While Alito is closer to Roberts, Scalia, by virtue of being more extreme, may be able to pull the opinion closer to Roberts and away from the median (Kennedy) than could Alito. However, Scalia may be able to pull the opinion past Roberts, closer to himself, even further to the periphery than Roberts wants.

Turning to the Lax-Cameron author influence model, we can make a less ambiguous prediction about defection because happiness with a given opinion in equilibrium is not determined by its ideological location alone (as it is in onedimensional models). The utility from an opinion instead depends on both its location and its legal "quality." Quality requires costly effort from the author, but it reduces uncertainty in outcomes. That is, a higher quality opinion is more likely to induce the desired policy. Higher quality compensates for ideological distance, which gives the opinion author some bargaining leverage. The more extreme the assignee, the more extreme the opinion's ideological location and the higher the opinion quality. The former can increase defection; the latter would always decrease it. In appendix A, we extend the Lax-Cameron analysis and derive implications of this trade-off. Under reasonable assumptions, an author (Scalia instead of Alito) further away from a justice in the majority (Roberts) on the extreme side should make that justice happier, because either (i) opinion location, as it is pulled further from the median (Kennedy), will still actually be moving toward such a justice (Roberts) and quality will increase or (ii) policy will move past him (Roberts), but this will be more than compensated for by higher opinion quality. This implies that the distance-to-assignee effect on defection is asymmetric. That is, a justice is more likely to defect as an assignee on her moderate side moves further away but is less likely to defect as an assignee on her extreme side moves further away. The bottom-right panel of figure 1*B* depicts this.⁸

DATA AND ANALYSIS

The data we use on the initial conference vote on a case, the final vote on the merits, and case characteristics are from Spaeth's Vinson-Warren Supreme Court Judicial Database and Expanded Burger Court Judicial Database, which collectively cover the Supreme Court from 1946 to 1985.⁹ In

^{8.} It might seem counterintuitive to prefer an extreme opinion assignee, even if this is derived from a formal model. That only highlights a problem with the first-cut intuitions that dominate many strategic model arguments within the courts literature-that a given hypothesis about strategic effects can be undercut by strategic anticipation (see Lax 2011, 141). We should not jump to the conclusion that an extreme justice (Scalia, say) is less likely to hold onto the majority by virtue of being extreme when he knows very well that he must write his opinion so as to hold onto the majority. We should not assume that justices who have extreme preferences will myopically let their preferences run wild and ignore the consequences. If Kennedy can figure out what to do to hold onto a majority, why cannot Scalia? The latter has an even greater incentive to hold onto the initial majority, as a liberal victory will be all the more painful to a Scalia than to a Kennedy. This aligns with anecdotal evidence from Court watchers suggesting Chief Justice Roberts is comfortable assigning major opinions to Scalia because he relies on Scalia to "hold five" (Weiss 2011).

^{9.} This is where the availability of data on conference votes currently ends. Such data are not a matter of public record, nor are they always recorded even in the justices' private papers, but rather they come from rare releases of such papers. We dropped cases with six or more missing conference votes, with fewer than four majority justices coded, or with an unclear ideological direction due to missing data or issue area (per Spaeth). Because the opinion assignor and the opinion assignee must be in the conference majority per Court rules, we coded their conference votes as such if they were missing from the data or were coded incorrectly as being with the initial minority. This correction affected 305 cases (most in the Burger court). If the overall conference was tied (due to missing data or when the court had only eight members) and the opinion assignor and the opinion assignee were incorrectly coded as being in the minority, then we changed the justices incorrectly identified by Spaeth's default coding as the minority coalition to the

order to examine individual justice voting behavior, we expanded the case-level data to the justice-case level (limited to initial majority coalitions of sizes four through eight). Each of the resulting 30,899 observations represent the vote of one particular justice in one particular case (with 22,793 majority vote observations across 4,171 cases). We also use Martin and Quinn (2002) year-specific aggregate ideology scores ("MQ scores") to measure additional case and justice characteristics.¹⁰

Coalition-level analysis

Before we turn to an analysis at the level of individual votes, we present an analysis at the coalition level, which shows that opinion assignment affects defection rates even in a crude cut at the data. The basic idea is as follows. Fix a majority coalition from all possible majority coalitions, one that has occurred more than once and where opinion assignment has varied. Compare defection rates across the different assignees within the coalition. If authorship does not matter, we should not observe meaningful variation in defection rates across different opinion authors. If authorship does matter, we should observe such variation. We do. Note that this test rests not on any particular bargaining model, nor any particular set of ideal point scores, nor any particular regression model.

We limit the data to cases in which the original opinion assignor did not change his own vote (i.e., where the assignor would be unhappy that others defected from his position). There are 1,313 distinct configurations in our data distinct majority coalitions within distinct natural Courts (e.g., a majority coalition of Brennan, Stevens, Blackmun, Marshall, and White in the last natural Burger court; the same majority coalition a year later, in the first Rehnquist natural court, is a different configuration). For each of these 1,313 coalitions, the set of justices on the court is fixed and so is the initial majority. We drop the coalitions with no variation in opinion assignment, both those that occur only once and those in which the same justice was assigned every time. This leaves 532 coalitions within which assignment went to at least two different justices.

There are various ways to compare variation in defection rates within a coalition. We focused on the simplest, whether the maximum defection rate that came from an assignee in a given coalition was different from the minimum defection rate that came from an assignee in that coalition. (For example, in the sample coalition of justices above, we might compare the defection rate in the set of cases in which Stevens was assigned and the defection rate in the set of cases in which Blackmun was assigned.) Across all the comparisons, including those in which there was no difference, the average difference in maximum and minimum defection rates was 9 percentage points. In 285 of the 532 (about half) of configurations, there was no difference in defection rate across assignees. This would be compatible with the monopoly models were it not for the other half of the data. In the other half, the difference between minimum and maximum defection rates ranged from 3 percentage points to 90 percentage points. The average within that set was a 19-point difference. If opinion authors had no influence over opinion content, there would be no reason to see this variation in defection rates for a fixed coalition of justices within a fixed natural court. These crude results suggest that the modeling choices below are not driving our author influence finding. We now turn to an analysis of individuallevel defection from the initial majority.

Vote-level analysis

Our main analysis focuses specifically on defection from the initial majority coalition.¹¹ Our dependent variable, vote *Switch*, is a dichotomous variable that equals one when a justice's conference vote and final vote differ and zero when a justice does not change her vote. In the raw data, defection from the majority occurs roughly 7.5% of the time (out of all majority votes). The previous literature on vote fluidity indicates that a justice may switch her vote for reasons unrelated to her distance from the opinion assignee. Based on these findings, we code the following control variables. At the case level, we code *Salience* using the measure in Epstein and Segal (2000), which indicates whether a case was covered on the front page of the *New York Times*. To capture case complexity, we use the *Laws* variable from the Spaeth database, indicating those cases with more than one legal

majority coalition. This affected 55 cases. Where there are combination votes, such as reverse in part/affirm in part, we use the primary vote indicated by Spaeth. When multiple conference votes occurred, we use the first vote, except in cases when revotes took place before the majority opinion-writing duty was assigned. In these cases, we use the conference vote closest in time to the assignment. We include all assignments, whether made by the chief justice or senior justice in the majority. Where multiple assignments occurred, we code the justice assigned first. Subsequent assignments are an effect of the bargaining process, often occur informally or pro forma and the end of the bargaining process, and are only sometimes noted on assignment sheets. The first assignment, which happens before bargaining begins and is subject to a known procedure, is therefore the proper treatment for our purposes.

^{10.} We checked all results using alternative measures (see online app. B for details).

^{11.} We present additional evidence from conformity in the app. B.

provision. We expect less defection in salient cases and more in complex cases. We also use the 11 major case *Issue* areas in the Spaeth database that are coded as having a liberalconservative direction to capture variation in defection rates across these issues.

At the coalition level, *Coalition Size* is the number of justices in the initial majority with known votes. *Contiguous* majority coalitions are those in which the initial majority is not ideologically scattered, that is, perfect spatial voting in which the justices in the majority line up according to MQ score without interruption by a minority justice. We expect less defection when voting is more "normal" in this sense. Natural courts (*Natcourt*) are continuously serving sets of justices (20 in our data), which begin when a justice is appointed and end when a justice leaves the Court.

At the justice level, Ideology is a justice's MQ score recoded relative to the direction of the conference vote-the higher the score, the more liberal (conservative) a justice is in a case in which the conference decision was liberal (conservative). A justice is Marginal if she is the most liberal (conservative) justice, by MQ score, in a conservative (liberal) conference majority. A justice is Closer to the Minority if her MQ score is closer to the average score within the initial minority than to the average score within the initial majority (excluding her own score). Either of these relative positions would be expected to lead to greater defection, dampened perhaps by equilibrium behavior aimed at keeping such wavering justices on board. Uncertain votes are those coded as such in Spaeth's records (e.g., "?" or "Q"), either because of actual uncertainty on the part of the justice or because of vagueness in the record keeping. This too is expected to associate with higher defection. Assigned indicates that a justice himself was assigned to write the majority opinion, which should lead to a lower defection probability. Expertise is the natural log of the number of opinions (+ 1) that the justice has written (whether majority, concurring, or dissenting) on the relevant case issue up to the date of opinion assignment. Finally, Freshmen are justices serving their first term on the Court (results are the same if the period is two terms).

Our primary variable of interest, the one that will allow us to differentiate among the predictions made by different bargaining models, is *Distance to Assignee* (DA). This is simply the absolute difference between a justice's MQ score and the assignee's MQ score. In addition to DA, we also create a variable for *Side*. A justice is coded as facing an assignee on her extreme *Side* if the assignee's MQ score is more conservative (liberal) than the justice's and the initial conference vote is conservative (liberal; equivalently, if the justice is on the moderate side of the assignee). We interact *Side* with DA. This allows effects (slopes) of DA to vary on either side of the justice.

The six panels in figure 1B show the predicted effects of assignee ideology on the probability of defection for justice J in a conservative coalition. The top panels show the null effects predicted by the median and majority-median monopoly models. The middle panels show v-shaped defection probabilities that increase (on average) with assignee distance from the justice in question (symmetric distance effects), as predicted by author monopoly models of bargaining. The bottom-left panel shows the v-shaped defection pattern suggested by median pull author influence models, in which the v-shape is centered on the extreme side of the justice in question. For these models, the effect of assignee distance is strictly positive for moderate assignees and positive on average for extreme assignees. Finally, the bottomright pattern shows a downward-sloping line, which represents a defection probability that increases with assignee moderation, not distance (asymmetric distance effects), as per the Lax-Cameron model. Compared with the author monopoly and median pull author influence models, the effect of distance for assignees on the moderate side of a justice is the same, but the effect for assignees on the extreme side of the justice diverge.¹²

Method. The data are individual justice votes in individual cases. Since the same justice casts many votes, cases are related by issue area, a natural court fixes a set of justices, and coalition sizes repeat, we group votes by justice, by natural court, by issue, and by coalition size. We estimate a multilevel probit model with the GLMER function in R and use modeled (or "random") effects for these groups of predictors. The model partially pools information about data across groups, to an extent warranted by the data. We assume that each set of modeled effects is drawn from a normal distribution with estimated variance and is centered at zero. In addition to accounting for the grouped structure of the data, using this specification allows us to answer interesting substantive questions: Are some natural courts simply less stable than others? Do certain justices defect more than others? Are some issues more prone to defection than others?

In our defection model, we model the decision of justice j to switch her vote away from the initial majority in case c of issue i given natural court n with coalition size s as follows:

^{12.} We assume that the defection probability curve is continuous, so that the coefficient on Side itself is zero (it is also not statistically significant if included). The app. B results are robust to other specifications of justice locations and distances.

Pr (Defect_{j,c} = 1) =

$$\Phi(\beta_{0} + \beta_{1} \text{Ideology}_{j,c} + \beta_{2} \text{Expertise}_{j,c} + \beta_{3} \text{Salience}_{c} + \beta_{4} \text{Laws}_{c} + \beta_{5} \text{Noncontig}_{c} + \beta_{6} \text{Assigned}_{j,c} + \beta_{7} \text{Marginal}_{j,c} + \beta_{8} \text{Uncertain}_{j,c} + \beta_{9} \text{Freshman}_{j,c} + \beta_{10} \text{Closer}_{j,c} + \beta_{11} \text{DA}_{j,c} + \beta_{12} (\text{Side}_{j,c} \times A_{j,c}) + \alpha_{j}^{\text{Iustice}} + \alpha_{n[c]}^{\text{Natcourt}} + \alpha_{s[c]}^{\text{Size}} + \alpha_{i[c]}^{\text{Iustice}}).$$
Group effects : $\alpha_{j}^{\text{Iustice}} \sim N(0, \sigma_{j_{ust}}^{2});$
 $\alpha_{n}^{\text{Matcourt}} \sim N(0, \sigma_{\text{Size}}^{2});$
 $\alpha_{s}^{\text{Size}} \sim N(0, \sigma_{\text{Size}}^{2});$
 $\alpha_{s}^{\text{Iuste}} \sim N(0, \sigma_{j_{ust}}^{2}).$

Bargaining and defection. We present our results graphically. Figure 2 shows the probit coefficients from the defection model, with confidence intervals at 90% and 95%. Figure 4 shows predicted probabilities of defection for various justice types or cases, calculated using the values in the actual data and averaged over all observations. The range of these predicted probabilities are represented by the intervals, which cover one standard deviation around the average.¹³

We first unpack our main result, the effect of a justice's ideological distance to the opinion assignee on a justice's propensity to defect. What happens when the chief picks a moderate justice to write the majority opinion? What happens when the assignee is ideologically distant from a justice? What are the implications for bargaining over opinion content on the Supreme Court?

As shown in figure 2, we find that a justice's ideological distance to the opinion assignee does indeed have an effect on that justice's propensity to defect from the initial majority coalition. This is true for assignees on both the moderate side and the extreme side of the justice. Thus, we can reject the null predictions of the median-monopoly and majority-median monopoly theories. Further, increasing distance makes a justice more likely to defect if the assignee is on the justice's extreme side. Thus, we can reject the symmetric distance prediction of the author monopoly model. Instead, this pattern is consistent with the asymmetric distance prediction we derived from the Lax-Cameron bargaining model.¹⁴ Figure 3 shows the predicted

probability of defection over the full range of a justice's distance-to-assignee. This picture most closely resembles the bottom right panel of figure 1*B*.

To elaborate, for extreme-side assignees (*Side* = 1), there is a significant decrease in defection from an additional MQ unit in distance. But, for moderate-side assignees (*Side* = 0), there is a significant increase in defection from even a single MQ shift in distance (the raw probit coefficient in fig. 2). These probability changes are quite large relative to the average probability of defection. That is, with defection probabilities centering around 8%, an increase or decrease of a couple of percentage points represents a 25% increase or decrease from the base level of vote switching.

Some predicted probabilities will suggest the magnitude of this effect (see the bottom of fig. 4). Consider a Justice Smith. If the chief assigns to a justice 10 MQs more extreme than Smith, so Smith falls on the moderate side of the assignee, then Smith defects from the initial majority only 5% of the time. But, if the chief assigns to a justice only 1 MQ more extreme than Smith, she defects 8% of the time, a 60% increase in probability. If the chief were to assign to a justice 1 MQ more moderate than Smith (so that Smith falls on the extreme side of the author), the chance of switching is still 9%. But, if the assignee is 10 MQs more moderate than Smith, Smith's chance of switching increases to 16%, a 78% increase in defection probability.¹⁵ Smith is more likely to stick with the initial majority vote the more ideologically extreme the opinion author is. All of this is true even though we control for Smith's ideological compatibility with the conference vote and for her idiosyncratic propensity to switch. Thus, these findings are not due to the relative ideological position of Smith but are due solely to the assignee's ideological position.

Our other results are broken down into case-, coalition-, and justice-level factors.

Case-level factors

We do not find an association between salience and defection rate. We do find that cases with more than one legal provision show greater defection: compared to cases with one legal provision, justices in such cases are 3 percentage

^{13.} Note that these intervals are not measures of uncertainty but of the range of the estimated defection probabilities. Graphs of the grouped modeled effects are available upon request. The marginal effect of distance for an extreme assignee is $\beta_{11} + \beta_{12}$.

^{14.} This pattern may also be consistent with other models in the author influence family. Recall that these models make ambiguous predictions for a justice's defection rate from an extreme assignee. If the

inflection point, as shown in the bottom right panel of fig. 1*B*, is far enough to the right, then this prediction begins to look like that in the Lax Cameron panel.

^{15.} For both of these sets of calculations, Assigned is set to zero. Ten MQ units is close to the maximum ideological distance between any two justices in our data, or approximately the distance between Douglas and Rehnquist in 1974. These results suggest the upper bound.

658 / Bargaining Power in the Supreme Court Jeffrey R. Lax and Kelly Rader



Figure 2. Defection from majority. We show the probit coefficients (other than group effects) for the basic model, along with 90% (tick marks) and 95% confidence intervals (line segments). The dotted line at zero shows which are statistically significant. "Distance to assignee (on extreme side)" is calculated using the raw coefficients for distance and side × distance.

points more likely to switch on average. Defection also varies across issue areas (lowest in first amendment cases; highest in federal tax cases). The standard deviation of the issue random effects is around 4 percentage points.

Coalition-level factors

Justices are less likely to defect from larger coalitions or contiguous ones. Coalitions of five have the greatest defection rate (4–5 percentage points above average), those of eight the least (4–5 percentage points below average). As shown in figure 4, justices in noncontiguous coalitions are 1.4 percentage points more likely to defect, close to a 25% increase from the base level. Some natural courts have more defection than others. The early Warren Court years have some of the lowest levels of defection, the early Burger Court years some of the highest.

Justice-level factors

There is variation in defection rates by justice, with Justices Burton and Goldberg the least and most likely to defect. Justices Stevens and Frankfurter are roughly dead center among the other justices in their propensities to defect. The standard deviation in such justice-averaged defection rates is about 6 percentage points. Where a justice sits within the



Figure 3. Predictions for distance effects in defection model. In the left-hand panel, we show predicted defection probabilities, fixing the justice in question at zero, given relatively moderate or relatively extreme assignees. The right-hand panel measures only distance (in effect, folding the figure in half), showing clearly that distance effects are asymmetric—specifically, that assignee extremism matters, not distance to the assignee. The 95% confidence intervals are shown.

initial majority coalition also affects defection rate, as does how close the justice is to the minority justices. A nonmarginal justice defects at a rate of 8% compared to 9% for marginal justices. A justice ideologically closer to the majority than to the minority defects in only 7% of cases, while a justice closer to the minority coalition defects in 10%. Not surprisingly, a justice's ideological compatibility with the initial majority conference vote direction has a large effect on defection likelihood. Recall that the higher the ideology measure is, the more liberal a justice is in a case with a liberal conference decision, and vice versa. A justice with an ideology score one standard deviation above the mean (e.g., a quite liberal justice in a case with a liberal conference vote) has only a 4% probability of defecting from the initial majority. By contrast, a justice with an ideology score one standard deviation below the mean (e.g., a quite conservative justice in a case with a liberal conference decision) has a 13% probability of defecting.

Justices who cast uncertain initial votes are indeed much more likely to switch. Uncertainty has an average marginal effect of 9 percentage points on defection probability. Issuespecific expertise does not seem to matter. Freshmen are less likely to switch, but this effect is not statistically significant. Finally, being assigned to write the majority opinion has a small negative effect on defection. A justice who is assigned to write the opinion has a 7% probability of switching. If, instead, the opinion is assigned to another justice who is an "ideological twin" (i.e., who has the exact 660 / Bargaining Power in the Supreme Court Jeffrey R. Lax and Kelly Rader



Majority Coalition Predicted Defection Probabilities

Figure 4. Predictions from defection model. We show predicted probabilities calculated using the actual data and averaged over all observations (leaving all predictors as in the actual data except for the predictor at hand). The treatment effect is the shift between paired rows. Specifically, the average treatment effect is the shift in the solid circle. The intervals show one standard deviation around these predictions (so that these intervals are not measures of uncertainty but rather indicate the distribution of defection probabilities and effect sizes using the actual data as representative).

same ideology score), then the unassigned justice is 8% likely to defect.¹⁶

To restate our main result, we find clear evidence of author influence over opinion content using the fluidity research design. A justice's propensity to defect from the initial majority coalition depends on his ideological distance from the assignee. In other words, a justice's happiness with the opinion depends on who writes it. This finding is contrary to the null predictions made by the median-monopoly and majority-median monopoly models. Further, we find that all justices are less likely to defect from more ideologically extreme assignees. This finding is inconsistent with the symmetric distance prediction made by author monop-

^{16.} We ran models that interacted assignment with being a marginal justice and with being closer to the minority. For these justices, being assigned to write the majority opinion has a stronger negative effect on likelihood of defection. This possibility has long been noted in informal Court coverage. For example, in Woodward and Armstrong's account of *Cohen v. California* (403 U.S. 15 [1971]), Justice Douglas tried to hold the vote of a wavering Justice Harlan by assigning him the opinion (and indeed Harlan stuck with the majority; 1979, 152). Justice Stevens claimed success doing likewise to hold onto Justice Kennedy's wavering vote in cases such as *Lawrence v. Texas* (539 U.S. 558 [2003]); Rosen 2007).

oly bargaining models but is consistent with the asymmetric distance prediction from the Lax-Cameron bargaining model.¹⁷ To the best of our knowledge, no other formal author influence model makes this particular prediction. That is, the existence of author influence is indeed compatible with the various author influence models we discuss earlier, but these models alone would not seem to explain the asymmetric distance finding.

We do not wish to overstate this. No one model will capture everything of importance in judicial bargaining. We see our evidence as broadly supporting the class of author influence models.

CONCLUSION

The chief justice's choice of opinion assignee affects defection from the initial majority coalition. This finding represents the cleanest and strongest evidence to date that opinion assignment matters for opinion content, that something more complex than a simple Median Voter bargaining story is at work in the Supreme Court. The assignment effect is clear evidence in favor of the author influence family of models and against the median-monopoly and the majority-median family. The asymmetric distance effect we find in our defection analysis is evidence against the authormonopoly model and is compatible with the specific author influence model in Lax and Cameron (2007).

That opinion assignment affects even this most visible choice, the ultimate vote to reverse or affirm, suggests that it also affects bargaining in ways that do not go so far as to swing a justice to the other side, but rather "only" affect opinion content. That is, we have set a very high bar by only exploring changes that actually push a justice to vote for the opposite case disposition. It seems uncontroversial to suggest that if these votes can be affected, so can opinion content. If assignment affects the justices' final votes on the merits, it must be because the justices care a great deal about opinions and authorship. While it is not possible to decisively confirm any one theory of bargaining, and while we certainly do not expect this paper to be the last word on the subject, our main result is clear-collegial interaction on the Supreme Court is not just noise leading to a predetermined end or merely grist for Court watchers. Scholars have long documented such interactions (most notably Epstein and Knight 1998; Maltzman et al. 2000), but it has been difficult to show that justices' choices matter for legal policy.

One implication of our finding that opinion authors have power is that even "lesser" judicial appointments can affect legal policy, more than conventional wisdom would suggest. All changes are relevant—not just those that move the median or those that put a new chief justice in place. While replacing Justice Souter with Justice Sotomayor may not have moved the median, it changed judicial bargaining. Replacing Justice Ginsburg, if she should retire during Obama's second term, even though the replacement would also be on the left wing, should change judicial bargaining.

Because Justice Kennedy is seen as a swing vote on an increasingly divided Court, some have called this the Kennedy Court, but our findings suggest that Chief Justices Rehnquist and Roberts on the right and Justice Stevens on the left, as recent heads of their respective wings of the Court, have been key strategic players in the judicial policy making game. Indeed, our findings suggest another way in which this might be the Kennedy Court. Now that Stevens has retired, Kennedy is not just the median but also the most senior justice when he sides with a liberal majority, giving him additional influence over these opinions through his power to assign.

Contra Murphy (1964), a relatively extreme chief justice (as all have been since Warren) may have a double incentive, all else equal, to assign to a more conservative justice. He can thus achieve a more extreme ideological outcome and, given our findings, increase the chances the original majority coalition would stick. Similarly, a relatively extreme senior justice of the opposite ideological wing, when in the majority, will assign to the extreme of his own wing. This would lead to greater polarization of legal policy outcomes than if the median-monopoly model held.

While our focus has largely been on differentiating positive political theories of judicial bargaining, there are clear normative concerns as well. The justices are, in effect, trading off case votes for opinion language—a disconcerting compromise of legal philosophy for the litigants at hand. That the justices have to compromise their preferred legal positions in pursuit of a majority coalition might be troubling to legal scholars; that actual litigants might win or lose based on strategic behavior aimed at affecting future legal policy might give pause to even a political scientist.

So, whose Court is it? The answer is not simple. With the retirement of Stevens, Kennedy became the most likely senior justice in a "liberal" coalition. As a moderate, he faces a trade-off between an opinion ideologically close to him and an opinion of high quality when he assigns the opinion writer. If he uses this power to his advantage, however, we may expect a "Kennedy Court." But our results suggest that one cannot point to any one particular justice. Opinion

^{17.} The asymmetric distance finding is not robust to all specifications (app. B, table 1).

authors do influence opinion policy content, but they do not have monopoly control thereof. Rather, influence is mediated by the need for a majority. Further, since majority opinion authors are chosen most often by the chief justice, he too influences opinion content. And so we find that legal policy is indeed a strategic collegial product. One might say it is no one's Court—or everyone's.

APPENDIX A

We borrow the following notation and definitions from Lax and Cameron (2007, 280-84) to extend the results therein. Justice *i* has ideal point j_i in a one-dimensional policy space (the point at which the justice would most prefer to place the legal doctrine as set down by the opinion). Let i_R be the ideal point of the majority author (the right wing of the Court has the initial majority); j_L be that of the potential minority counter-writer who seeks to steal the majority; and normalize the median justice's ideal point to $j_M = 0$. The issue area has a general salience weight of s, and each justice has an idiosyncratic salience weight of s_i that modifies it. The marginal cost for justice *i* to increase quality is $c_i c$, where c is common across the justices (reflecting general issue complexity) and c_i reflects idiosyncratic ability and expertise. Let $t_i = c_i/s_i$ and t = c/s. The utility to justice *i* from an opinion with policy position *p* and quality *q* is then $u_i = s_i s[-(j_i - p)^2 + (q - 1)]$ and the equilibrium values p^* and q^* are

$$p^* = \frac{j_R}{t_R t} + \left(\frac{j_L}{t_L t}\right) \left(1 - \frac{1}{t_R t}\right), \quad q^* = \left(\frac{j_R}{t_R t} - \frac{j_L}{t_R t_L t^2}\right)^2 - 1.$$

Up to this point, this material is drawn from the Lax and Cameron (2007); please see that work for full detail. Next, we show the utility from the expected equilibrium opinion to justice i and then take the partial derivative with respect to the ideological location of the majority author:

$$u_i = s_i s \left\{ \left(\frac{j_R}{t_R t} - \frac{j_L}{t_R t_L t^2} \right)^2 - \left[j_i - \frac{j_L \left(1 - \frac{1}{t_R t} \right)}{t_L t} - \frac{j_R}{t_R t} \right]^2 - 2 \right\}$$
$$\frac{\partial u_i}{\partial j_R} = \frac{2 s_i s(j_i t_L t - j_L)}{t_R t_L t^2}.$$

This partial derivative shows how the predicted utility to a justice from the expected bargaining game varies with respect to the assignment of a bargainer on behalf of the initial majority. This derivative is greater than zero if and only if $j_i > (j_L/t_L t)$ (this is the condition for the marginal

utility of justice *i* to be increasing with the ideal point of the majority author j_R). For any justice *i* on the majority side of the median $(j_i > 0)$; this is always true: a more extreme author more than compensates for writing a more extreme opinion with additional quality/certainty so that the other justices in the majority from the median onward are actually better off. They prefer assignment to be made to a more extreme justice. For any justice to the left of the median $(j_i < 0)$, this derivative is still positive if and only if j_i is to the right of the point $j_L/t_L t$. So even for some justices on the other side of the median with respect to the chosen author, moving the author further out is to their benefit. In the Sample Justice Configuration, for example, this would suggest that there exists some point to the left of Justice Kennedy, such that, for any justice to the right of this point, the utility from the equilibrium opinion actually rises as authorship shifts from Justice Kennedy rightward. (The justices to the right of this point would include Justices Kennedy through Thomas with certainty, and possibly Souter, etc.) There can be some justices in the majority who are far enough to the left from the median (on the side opposite to the bulk of the majority coalition) such that they do not prefer more extreme authors to the right.

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Appendix B

Alternate Specifications & Robustness Checks

While our modeling specification allows us to capture either the symmetric (v-shaped) or asymmetric (linear) effects on defection shown in Figure 1B in the main text, or a linear effect flipped in the other direction, we can also assess this specification relative to other nested and non-nested models. The nested comparisons can show whether adding in the assignment treatment effect improves model fit significantly; the non-nested comparisons can show that the assignment relationship we have found better explains the data than other relationships and other models would. Our results are also robust to other ways of operationalizing and measuring key variables, most notably, when we use "locations" of various key justices rather than distances between them.

Table B1 shows these alternative models.¹ Model 1 is the main model as reported above (with the distance effects to the center and to the extreme shown in columns 5 and 6). Model 2 replaces our flexible distance specification (which allows for asymmetric effects through the interaction of *Side* and *DA*) with a simple distance-to-assignee variable, forcing a symmetric v-shape (or inverted v-shape) effect. The higher DIC value for Model 2 shows that this distance specification reduces model fit, and the distance variable itself is not significant. Thus, it is better to allow for a more flexible distance effect both theoretically, as it enables us to distinguish between the different predictions for extreme assignees derived from the models, and empirically, as it fits the data better.

Next, we present results from models with distance measures to other key justices to see if these explain the vote switching better than distance to assignee. Model 3 drops the distance to assignee measure altogether and replaces it with distance to the Court median. (Note this is not, strictly speaking, a treatment effect in our setup since the median's location is not chosen between

¹ Columns 5 and 6 display the probit coefficients for distance-to-author on the moderate side (DA) and distance on the extreme side $(DA + Side \cdot DA)$. Column 7 shows the probit coefficients for an additional distance effect (described in column 8) if one is included. Standard errors are in parentheses. An asterisk indicates significance at the 95% level or higher.

the two votes.) This change reduces model fit. The coefficients on distance to the median mean that the more moderate the median is relative to a justice on the extreme side of the majority (and the more relatively extreme the justice is), the less likely the justice is to switch; the more moderate the justice is relative to the median (on the minority side of the median), the more likely switching is. Adding distance to the assignee back in, as in Model 4, increases model fit, and we find the same asymmetric assignment effects as in our main model, which does not control for the median. Models 5 and 6 are parallel to Models 3 and 4, using the conference majority median instead of the Court median. Assignment effects persist and fit is improved by including assignment distance. Thus, distance to median and distance to majority median do explain vote switching (as predicted by the median monopoly and majority median monopoly models respectively). But they alone do worse than distance to author alone, and our asymmetric distance to author effects persist even after controlling for the other ideological distances.

To check for v-shaped distance effects (symmetric effects), one must use a flexible parameterization of distance to either side. However, since our main finding is that distance to the extreme has a negative effect on defection and distance to the center a positive one, this means that the sign of the slope remains constant, so that a simpler parameterization can suffice (though it does force the slopes to be not only similarly signed but constant). Rather than having the justices' ideological positions enter as positions relative to each other then, we can simply include their ideology scores directly. We thus hold constant the position of the justice and show the effects of, for example, assignee location (extremeness) on defection. Models 7 through 14 replace measures of ideological distance with the ideological locations of key justices. Model 7 only controls for the ideology of the potential switcher. The rest of the models add in various combinations of the median justice, the conference majority median justice, and the assignee. When there is an assignee effect in this specification it is assumed to be linear (either more moderate assignees increase switching or more extreme ones do, ruling out a symmetric (v-shape) effect). For any combination of non-assignee justice locations included, adding the location of the assignee significantly increases model fit and the assignee effect stays roughly the same magnitude as in the main model.² The bottom line is that there is very strong evidence of an assignee effect, and somewhat weaker evidence of an asymmetric distance effect (which could also be called an extreme assignee effect).

Table B1 also shows the results of various other robustness checks. The results are largely similar using other measures of judicial preference: 1) statistical significance varies, particularly for the distance effect towards the extreme side of the justice; 2) when the assignee is on the moderate side of the justice, the large majority of models show that picking an assignee closer to the justice increases the chances his or her initial vote will stick; and 3) results using the standard Martin-Quinn scores are even stronger for subsets of the data using additional control variables or where the majority and minority coalitions are more normally ordered (e.g., continuous and one wing voting against the other). More specifically, Models 15 through 24 in Table B1 show additional robustness checks using the Martin-Quinn (MQ) scores (note, such scores are constant across issue areas). In models 15-17, we added additional random effects for the assignee (capturing if some justices are worse all else equal at maintaining the votes of other justices); for each combination of assignee and justice (capturing idiosyncratic interactions); and/or a random effect for each case. Distance effects on the moderate side were still positive (higher chance of defection) and even stronger. Distance effects on the extreme side were still negative, but not significantly so in two of these three alternative models. Models 18 through 24 analyze only subsets of the vote switch data,

² Adding in the conference median or Court median to models in which they are omitted also improves model fit. One possibility is that these justices too have influence over the majority opinion; another is that they are capturing information about justice locations more broadly. One might wonder if the assignee effect we find is simply do to the inclusion of ideological information about any justice in the majority, rather than the assignee in particular. To check this, we randomly chose a justice in the initial majority in each case (using this justice's ideology score instead of the actual assignee's, though the assignee herself, could have been randomly chosen) and re-ran model 11, location of justice and assignee, 500 times. Model fit was reduced by substituting the random justice in 85% of such simulations. If the assignee had the same effect as any random justice in the majority, then the fit wold improve on average 50% of the time.

limited to contiguous coalitions only; "normal" coalitions only (those that are contiguous with one wing of the Court voting against the other, ruling out contiguous centrist initial majorities with the extremes in the minority); salient cases only as measures by Epstein-Segal; those assigned by the Chief Justice; and/or those for which we also could control for the number of amici briefs. Results were almost universally stronger in these subsets, with only one result falling just outside of statistical significance. Models 25 through 46 replicate various models above using the Bailey ideology scores, Segal-Cover scores, and raw Percent Liberal (as in Segal-Spaeth). Replicating the main model, while the units differ across scores, we do still find that increased distance towards the center significantly increases the likelihood of defection. Justices defect less when the assignee moves towards them from the middle, an effect we would not see if opinion assignment were irrelevant. The effects on the extreme side vary somewhat in significance across models and scores. Overall, there is room for caution, but we find these results supportive of our main conclusions at best, and not inconsistent, at worst. That the effects we show elsewhere are less robust using cruder ideology scores is not particularly surprising, particularly since they are quite similar using the higher quality Bailey scores.

Evidence from Conformity

If opinion assignment can compel a justice to defect from the majority coalition, then it must also be the case that it can induce a justice to join the majority coalition, or to "conform." We next show that assignment does indeed have an effect on conformity, using data on when justices in the initial minority switch their votes to the position of the initial majority. Again, if the Court median or majority median has monopoly control, there should be no effect of assignment on conformity. If the author completely controls the opinion, as in the author monopoly model, or can influence the opinion, as in the author influence models, then we would see conformity responding to opinion assignment. Given that the author will usually be on the so-called "extreme side" of a minority justice (this must be the case in normal coalitions), we would expect that more extreme authors will have lesser pull on votes from the minority, or a symmetric (v-shaped) distance effect. In Lax-Cameron, only minority justices very close to the median might feel compensated for further policy extremism by greater opinion quality, so we would generally expect a symmetric effect in that model as well (as opposed to the asymmetric effect on majority justices). Thus, our conformity test is less informative in differentiating among author influence models, but it does allow us to reject models that include no amount of author influence. Running a model parallel to that for defection, we find the following:

$$\begin{split} \Pr(Conform_{j,c} = 1) &= \Phi(-.16(.15) + .04(.01) \cdot Ideology_{j,c} - .08(.02) \cdot Expertise_{j,c} \\ &- .17(.05)Salience_c - .12(.04) \cdot Laws_c + .14(.04) \cdot Noncontiguous_c \\ &+ .41(.07) \cdot Uncertain_{j,c} + .14(.10) \cdot Freshman_{j,c} \\ &+ .06(.02) \cdot DA_{j,c} - .10(.02) \cdot Side_{j,c} \cdot DA_{j,c} - .10(.04) \cdot Closer_{j,c} \\ &+ \alpha_j^{Justice} + \alpha_{n[c]}^{Natcourt} + \alpha_{s[c]}^{Size} + \alpha_{i[c]}^{Issue}) \end{split}$$

The group effects are modeled with zero means and estimated variances:

$$\alpha_j^{Justice} \sim N(0, .02)$$
, for $j = 1, ..., 26$; $\alpha_n^{Natcourt} \sim N(0, .02)$, for $n = 1, ..., 20$
 $\alpha_s^{Size} \sim N(0, .06)$, for $s = 4, ..., 8$; $\alpha_i^{Issue} \sim N(0, .01)$, for $i = 1, ..., 11$

Justices are more likely to conform when of lesser expertise, in less salient cases, in cases with more than one legal provision, from initially noncontiguous coalitions, when uncertain in their initial vote, when they first join the Court, and when they are closer to the majority justices than the other minority justices. More importantly, a justice's distance from the opinion author affects her propensity to conform. When the assignee is more extreme (to the side of the initial majority), the justice is significantly less likely to switch her vote, with coefficient = -.04(.01), as predicted by bargaining models that allow for author influence.

Miscellaneous Notes on Opinion Writing and Quality

Even though the justices are obviously all reasonably skilled at writing opinions (with all recent justices having prior experience on the bench and other experience in legal writing), doing so is nonetheless challenging given the nature of the cases they decide and the vast future impact they must foresee. The quality of their opinions therefore varies, or at least that is the view of many court watchers, legal analysts, and the like.

One challenge is that the opinion must communicate policy to the lower courts and other relevant actors, but the language in judicial opinions is necessarily incomplete and ambiguous relative to what needs to be communicated. For example, Fallon (2001) writes that "The task of crafting a new rule or test—or even a serious proposal for one—is hard work, requiring resources that may not always lie at hand." Heytens (2008) studies the "challenges the Supreme Court faces in attempting to control lower court outcomes" through its opinions and the difficulties in using opinions to "shape and direct lower court behavior." Our conception of legal quality is related explicitly to this task—a higher quality legal opinion reduces variation in associated policy outcomes (see footnote 3 in the main text). The second reason for opinion-writing difficulty is that the cases that make it before the Supreme Court are the "hard" cases, those for which articulating the relevant legal doctrine is particularly challenging. Sometimes justices succeed at this task, and other times they are less successful.

Empirical measures of opinion quality are imperfect, but, however measured, variation in quality exists. Some opinions are cited in future Supreme Court decisions and in lower court decisions more than others (e.g., Fowler et al. 2007; Cross and Spriggs 2011), some are much longer than others, some opinions are more clearly written than others (e.g., Owens and Wedeking 2011), and some opinions take longer to write and go through more drafts and changes before they are published (Maltzman, Spriggs and Wahlbeck 2000). Legal scholars are more critical of some opinions than others. For example, Shapiro (2006) criticizes the Court for not writing opinions that effectively guide the lower courts in all the cases they must handle after a doctrine is handed down. There is indirect evidence that Chief Justices recognize that "issue experts" write higher quality opinions, since Chiefs are more likely to assign opinions to Justices on issues about which they've written before (Brenner 1984; Brenner and Spaeth 1988; Maltzman and Wahlbeck 1996). In the popular press, Adam Liptak reviews criticisms of the current Supreme Court for "reasoning that fails to provide clear guidance to lower courts," even quoting Scalia calling his colleagues opinions "opaque" (Liptak 2010). Some Supreme Court opinions even include outright mistakes, e.g. http://www.washingtonpost.com/news/volokh-conspiracy/wp/2014/05/02/errors-in-supreme-court-opinions/.

Our goal in the above discussion is to ground the idea that quality varies in terms of opinion efficacy with respect to the author's own policy goals in writing the opinion. We note only in passing that the judicial opinion also varies widely in literary or scholarly quality, with some justices noted for their their rhetorical gifts (e.g., Justices Jackson, Scalia, Holmes).

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Table B1: Alternate Model Specifications and Robustness Checks