Does the Median Justice Control

the Content of Supreme Court Opinions?

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Abstract

The predominant view of Supreme Court decision-making is that the median justice controls the content of majority opinions. This view rests on an application of median voter theorem – typically applied to legislative decision-making or party positioning – in the judicial context. We argue that the judicial context often involves decision problems that differ from these more familiar applications in ways that make a straightforward application of the median voter theorem problematic. In particular, judges simultaneously vote on an outcome (the judgment) and sign onto a rationale (the opinion). We demonstrate that if judges have preferences over *both* case outcomes and rules, the median justice typically does not determine the content of Supreme Court decisions. We offer an alternative account of the location of influence on majority decision content. Finally, we offer empirical evidence that demonstrates the inadequacy of median justice theory, and suggests support for our alternative account.

Introduction

A great challenge for the empirical study of law is how to determine what the "law" embodied in a judicial decision is. While coding and comparing case outcomes (i.e., who won and who lost) is relatively easy, developing measures that place the "rule" embedded in a judicial opinion in policy space remains a different matter altogether. In light of this difficulty, one common way of thinking about the "law" of a Supreme Court decision – both in academic literature and popular perception – rests on the intuition that the Court's "center" or median justice should be the "swing vote" that can control the Court's opinions (Schmidt and Yalof 2004). This fixation with the Court's pivotal or "swing" voter occurred as early as 1947, when Arthur Schlesinger, Jr. noted in a *Fortune* magazine article that Justice Stanley Reed "stands squarely in the middle of the Court," such that "his position as swing man makes him the object of special solicitude on the part of his brethren as well as the lawyers of the Court." (Schlesinger 1947; Stanford Note 1949). Today the popular press abounds with discussions of the influence of the swing justice (Bravin 2006; Liptak 2006; Barnes 2007; Greenhouse 2008). Until Sandra Day O'Connor's retirement, the academy commonly identified her preferences with the content of Supreme Court policy (Rosen 2001). With her departure from the Court, Justice Kennedy is now usually believed to play this pivotal role (Wall Street Journal 2006).

In the academic literature, this focus on the "swing vote" has been formalized in arguments that draw on the median voter theorem (Hotelling 1929) to argue that Supreme Court opinions will be written at the ideal point of the median justice (Epstein et al. 2005, Martin et al. 2005). The reasoning behind "median justice theory" (MJT) is powerful, so much so that it remains the dominant model of judicial decision making on collegial courts such as the Supreme Court. If decision-makers confront a decision problem that can be represented by a single dimension (e.g., the left-right political spectrum), if individuals have single-peaked preferences, and if decisions are made by majority rule, the median voter is in a dominant position. Her vote is needed to obtain a majority, and thus she can hold out for her most preferred policy. In the

legislative context, we would expect that the median legislator can control legislative outcomes (Black 1948; Black and Newing 1998; Congleton 2004). In coalition bargaining, we expect median legislative parties to be in a particularly strong position for inclusion in a cabinet (Laver and Schofield 1990). Indeed, considerable empirical evidence reveals the influential position of the median in legislative settings (Krehbiel 2004; Hansen and Prusa 1997; Turnbull and Djoundourian 1994; Holcombe 1989; Holcombe 1980). Moving to the judicial context, a common assumption has been that the same arguments apply. If judicial decisions—and in particular, Supreme Court cases—involve a single, dominant issue dimension, a straightforward application of the median-voter theorem suggests that the median justice should exercise decisive influence over the content of opinions (Caminker 2004, Epstein et al. 2003, Martin et al. 2005).

In this paper, we offer an empirical and theoretical challenge to the prevailing consensus about median-justice theory. (Accord Clark and Lauderdale 2008). The lynchpin for our argument is the fact that judicial decision-making involves *two* distinct aspects, which has significant unexplored application to median justice theory.[1] When the justices of the Supreme Court—or any collegial court in the United States, for that matter—decide a case, they vote on not one, but two things. The first, which party wins or loses, is called the "judgment" of the Court. Second, justices write or join an "opinion," which rationalizes the vote on the judgment. Importantly, the latter decision typically has the greater significance for the law, because (generally speaking) it is the justification of the judgment that becomes the rule that will govern the outcome of future cases, provided that some opinion attracts sufficient votes to become binding precedent.

[1] Kornhauser (1992b) previously distinguished between the judgment ("result"), "rule," and rationale ("reason") of a case in the context of judicial decision making, drawing out the general significance of the distinction. The paper, however, did not pursue the topic with reference to median voter theory. (See also Kornhauser 1992a).

Adherents of median justice theory (implicitly) assume that the distinction between these aspects of a case is unimportant. A justice writing an opinion for the Court must attract the median's vote for the judgment (Hammond et al. 2005). In order to do that, the writing justice will bargain with the median about the content of the opinion. This process ensures that the opinion (and hence the case's "rule") will ultimately be written at the point in policy space most preferred by the median justice. One implication of this approach is that opinion writers have little or no influence over the content of opinions – content is controlled by the median.[2] This conclusion carries a corollary, which will take on significance in the empirical section of this paper: If the median controls the opinion's content, the median justice has little reason to write a concurrence—her views, after all, are already reflected in the opinion of the Court. For other members in the majority, the incentive to write concurring opinions increases as they find themselves further and further removed from the median and therefore less content with the content of the opinion. Thus, if we plot concurrence behavior for justices in the majority, MJT predicts a V-shaped curve centered on the median justice. We return to this prediction below.

[2] There have, of course, been some challenges to this argument. As Lax and Cameron (2007) explain, the nature of language, which can make it difficult to state precise rules, can prevent perfect correspondence between the rule and the median's position. In addition, and related, opinion writing may be sticky. For reasons reflecting the cost of bargaining, or deference to one's colleagues, the opinion may ultimately rest somewhat closer to the ideal point of the opinion writer. (Maltzman et al. 2000, Lax and Cameron 2007, Hammond et al. 2005.) In both cases, however, the median justice still exercises considerably influence over the legal rule that is established, and the ongoing debate focuses on whether Supreme Court decisions rest closer to the median or the opinion writer (Hammond et al. 2005, Lax and Cameron 2007, Maltzman et al. 2000, Bonneau et al. 2007). Our approach suggests neither may be the case.

In contrast to the standard account of the MJT, we believe that the two-faceted nature of judicial decision-making is critical. The fact that justices must decide both elements can—and often will—drive a wedge between the content of opinions and the preferred position of the median justice.[3] There are two reasons. First, our central intuition is that, while a justice's preferred rule (or rationale) for deciding a case implies which party ought to win the case, i.e., it implies a particular judgment, a justice's preferences over these two aspects of a case can still be distinguished. That is, a justice both cares about who wins the case, and what rule is used to justify the Court's decision. As a result (and contrary to an assumption central to the median justice result), we believe a justice will *not* be indifferent as to a rule that is a bit more conservative than she ideally would like but yields the outcome she prefers, and a rule that is a bit more liberal than she would like but yields the opposite outcome in that particular case.

Second, each justice who joins the Court's judgment remains free to concur and write separately with respect to the rationale. Thus, an opinion writer who is unwilling to compromise with the median justice on the rationale of a majority opinion could—in principle—allow the median to write her own concurring opinion, as long as she continued to support the judgment. Of course, this strategy has limits for the opinion writer. The opinion writer would prefer to secure a majority of votes for the opinion as well as the judgment, in order for her opinion to have

[3] This intuition is largely, but not entirely, absent from the literature. Westerland 2003 makes the same point, but – we believe – bases it on the unpersuasive view that there are costs associated with changing one's conference vote. (See also Segal and Westerland 2005.) Spriggs and Hansford 2002 use the median member of the majority opinion's ideal point as a "reasonable" proxy of where the law sits, but do not theorize or develop the point. Clark and Lauderdale develop a statistical measure of where to place opinions in policy space and then test it on theories of collegial bargaining. They conclude, consistently with our theory, that majority opinions typically rest at the median of the opinion coalition. (Clark and Lauderdale 2008.)

precedential value. Thus, there is incentive to compromise on both issues. To the extent that the median member's vote is pivotal to the precedential value of the opinion, the median retains leverage over the language of the opinion. But—and this points is crucial in our analysis below – the same is true of other justices in the majority as well.

Applying these two points to thinking about outcomes involving the median justice, one expects that if the median member cares about the disposition of the case sufficiently, she may dislike the content of the majority opinion but remain unwilling to "defect" to the minority, as it would induce a switch in the Court's judgment. Instead, she may simply write her own opinion, concurring in the judgment and offering her own rationale. As we demonstrate below, one consequence of this is that the median can lose leverage over the rationale as stated in the majority opinion, and median justice theory can fail in its predictions.

An example may help to illustrate. Suppose the Supreme Court is deciding a capital case involving the question of whether a jury is entitled to hear "victim impact" evidence, (evidence from the victim's family or others about the emotional impact of the crime). The trial judge in the case admitted such evidence, and the jury imposed the death sentence. The appellate court affirmed. The "judgment" question before the Supreme Court is whether to uphold or reverse the death sentence. The "opinion" question is when (i.e. to what extent, or under what circumstances) victim impact evidence should be admissible. Suppose there are four votes on the Court to reverse the death sentence on the grounds that victim impact evidence is never admissible, and four votes to affirm on the ground that it is always admissible. In the middle is the median, who votes to reverse the sentence because she does not believe that the death penalty is appropriate in this particular case. However, when she sees the draft opinion for the Court, she disagrees: In her view victim impact evidence ought to be admissible sometimes, while the draft opinion argues that it never should be.

Under standard median justice theory, bargaining would now commence for the vote of the median justice. Those seeking to affirm would moderate their view on the admissibility of

impact evidence, hoping to attract the median justice's vote to uphold the death sentence. Those seeking to reverse would tone down their rule in order to prevent the median's defection. But is it plausible to believe that those voting to uphold the death sentence would gain the vote of the median justice if they moderate their standard a bit? We think such an outcome vanishingly rare. Our intuition is that—at least in high stakes cases like this—the median simply will not be willing to change her vote on whether this particular defendant should go to his death even if the authors of that opinion are more accommodating regarding the Court's ultimate rule. If she thinks the defendant ought not be executed, she will not trade a vote to execute him in exchange for an opinion written differently. But if this is so, the median cannot credibly threaten to desert the justices voting to reverse. It follows that the other justices have less reason to moderate their opinion in order to hold on to the median's vote on the judgment. The median has reduced influence over opinion content.[4]

In the next section, we develop our intuition using a simple model of judicial decision-making that starts from the distinction between the judgment and the opinion, or rationale, and incorporates the possibility of writing concurring opinions. The model demonstrates that the influence of the median justice over the content of the majority opinion is limited. Instead, our model predicts that median members *of the majority coalition* will have disproportional influence over the content of opinions. Following our theoretical exposition, we turn to the empirical evidence. Our test focuses on patterns of concurring opinions, for which the two theories generate contrasting predictions. If median justice theory is correct, the median justice should never concur, and other justices should be increasingly likely to concur as they become ideologically more distant from the Court median. In contrast, our theory predicts that justices

[4] Importantly, we do not argue as a general matter that preferences over judgments "dominate" preferences over rules, i.e., that justices have lexicographic preferences and are always unwilling to trade-off outcomes for accommodation in the rationale adopted for an outcome. Rather, we are claiming that as long as justices value outcomes in addition to the underlying rule, they will be reluctant to "switch sides" on the disposition of the case. For illustrative purposes, our model focuses on the extreme case in which they are never willing to do so. As we discuss below, the fundamental dynamics of our argument remain even if we relax this assumption.

are increasingly likely to concur as they move away from the median of the majority coalition. The empirical evidence is unequivocally inconsistent with median justice theory. The evidence for our alternative—the importance of the median of the majority—is substantial.

Modeling a Collegial Court

In this section, we outline a simple model of collegial decision-making. We model a five member court confronted with the task of deciding a case. Doing so requires the justices make two analytically distinct, but related, decisions: They must decide which party wins the particular dispute and what rule is used to justify that decision. The decision on the judgment is binary—one of the two contending parties wins. The decision on the rule that justifies why a particular party wins is continuous in the sense that a range of different rationales could be offered to sustain the decision. Consistent with a number of other models (e.g., Lax and Cameron 2007), we assume a one-dimensional "fact space" in which a case can be represented as a point, $x \in R$. For example, the fact space might represent the intrusiveness of a police search, and a particular case involves a dispute over the constitutionality of a search of a given level of intrusiveness. Judges decide cases by applying a legal rule that determines which of the two contending sides in the dispute prevails given the fact pattern. In our example, the legal rule determines whether the disputed search was constitutional or unconstitutional.

An intuitive way to represent legal rules in the one-dimensional fact space is through the use of thresholds: A legal rule is a threshold such that case facts to the left of the threshold imply judgment in favor of one party, while case facts that lie to the right of the threshold result in a judgment in favor of the other party. To continue our example, the rule indicates how "intrusive" a search may be before it becomes unconstitutional. Searches to the left of the threshold are permissible, but as a search becomes more and more intrusive, we eventually "cross over" the threshold and the search is deemed unconstitutional. Each justice has an opinion about the appropriate legal rule that should be applied to a case. We represent this rule with an ideal

threshold $x_i \in R$, which denotes justice i's preferred threshold. For any particular set of case facts, of course, this rule identifies which side of the dispute the justice believes ought to win.

We assume that justices are motivated by a number of considerations. Each of these considerations enters as an additive term into the justices' payoffs. Before presenting the entire utility function, we discuss each component in turn. First, we assume that each justice cares about the legal rule that is adopted by the Court in the majority opinion. Among the various opinions that can be written in a particular case – dissenting, concurring, plurality, and majority – an Opinion of the Court signed by a majority of justices has a special place. Formally, such an opinion has precedential value (IS THIS CORRECT? CITATIONS?) ; more informally, it is likely to carry particular weight in shaping "the law" and policy outcomes precisely because it enjoys the support of a majority of the Court's justices.[5] Presumably, justices would prefer that majority opinions reflect their views, and dislike opinions that establish legal principles with which they disagree. We capture this aspect through standard spatial preferences. That is, if the majority opinion adopts legal rule p, justice i receives a policy payoff of $K - |x_i - p|$. The parameter $K > 0$ captures the value that justices place on establishing a legal rule that perfectly reflects their preferences over rules. As the rule that is established is further and further from the justice's ideal rule, this payoff declines (and can turn negative). Because this term captures the

[5] Two complicating issues warrant mention here, although we postpone a full treatment of them to future work. First, to the extent that the weight of a majority opinion is a function of the extent of support it can garner among the justices, the weight of the opinion is likely to increase in the *number* of justices who sign on. To ease exposition, we abstract away from this consideration and simply consider majority and non-majority opinions. The second issue is more complex. As has been argued, "the law" established in Supreme Court opinions rests on the expectations that other actors (lower courts, policy-makers, individual agents) form about the future resolution of cases based on the judicial decisions that have been issued. These expectations are likely to be shaped powerfully by majority opinions, but *other* opinions, including concurrences and dissents, may matter as well. As a result, it may not be possible to identify the "legal rule" established in a case with the rule adopted in the majority opinion. For current purposes, we ignore this issue. There are two reasons for doing so. First, as long as a majority opinion carries some special weight in shaping expectations about future decisions – a plausible assumption – the dynamics we identify will remain. Second, no clear consensus exists among scholars about how the various opinions of a case might shape "the law." As a result, it is not clear how to proceed in modeling this more complex interaction.

"policy payoffs" of majority opinions, it only enters the justices' utility functions if the Court's opinion attracts a majority of votes.

Second, we assume that the justices care about the disposition of a case. That is, given a justice's preferred legal rule, she has an opinion about which party should win a case. As a result, even if the legal rule adopted by the Court differs from the justice's ideal rule, she will derive some satisfaction from a decision under which the "right" party prevails. The parameter $\alpha > 0$, which is added to the justice's payoff if the party favored by the justice prevails, captures this aspect of judicial preferences. The larger α becomes, the more a justice cares about the disposition of the case.

In addition to these aspects, which reflect the "outcome" or "policy" related payoffs that justices derive from majority opinions, we assume that justices also have "expressive" preferences. When they "put their name" to a majority opinion, a concurrence, or a dissent, justices are taking a public position with which they are being identified. We assume that they have a preference for having such public positions reflect their views accurately. This preference can be thought of simply as the desire to write their honest opinion, or it can be thought of instrumentally as the desire to signal to litigants and lower courts arguments that might be persuasive to them in the future. Letting e_i denote the statement to which a justice signs on, we add the term $\beta(K - |x_i - e_i| + D_\alpha \alpha)$ to a justice's utility function in order to indicate these expressive benefits. The first part of this term captures the notion that the further the rule that a justice signs on to deviates from her preferred rule, the lower her expressive payoff. Expressive payoffs also depend on the implications of the rule that the justice has supported for the disposition of the case. The justice receives the expressive disposition payoff α only if the rule she signs on to awards victory to the party that justice believes should win the case (indicated by the indicator variable D_α). The parameter $\beta > 0$ indicates the weight that justices place on

expressive benefits relative to policy benefits. The larger β becomes, the more important the expressive component becomes in the justice's calculations.

Finally, we assume that when a justice chooses to express her disagreement with a majority opinion via a concurrence or a dissent, doing so is costly. This cost can be motivated in several ways. First, it can be thought of as the need to expand time and effort to write a separate opinion. It can also be thought of as the cost of taking a public position apart from other members of the Court. If, as it is suggested, justices value consensus, the other justices may resent public displays of disagreements on the Court. Perhaps (and related) there might be a certain comity among justices: Sign on to my opinions, and I'll sign on to yours. Finally, for justices considering concurring opinions, a particular form of these costs is relevant. These justices are part of the majority supporting the disposition of the case, but they disagree on the proper rule for sustaining the disposition. While concurring will have some expressive benefits, it also exposes divisions within the coalition that may reduce the authority of the Court's determination in undesirable ways. Chief Justice John Marshall's push for issuing "opinions of the Court" rather than seriatim opinions appears to have been driven, at least in part, by this kind of concern: Marshall believed that the authority of decisions would be enhanced by having the Court speak with one voice rather than exposing differences among the justices (Carrington 1992; Haskins and Johnson 1981). In our model, the parameter $c > 0$ captures the costs that a justice must bear to write a separate opinion.

Putting these components together generates an additive utility function that represents the justices' preferences. For example, a justice who supports the disposition adopted by the majority and decides to simply join the opinion collects the policy and expressive payoffs associated with the opinion. The justice's payoff is given by:

$$U_i(join) = (1 + \beta)(K - |x_i - p| + \alpha)$$

As another example, consider the payoff to the same justice if she decides to write a regular concurrence in addition to joining the Court's majority opinion to further explain her position. The justice would now collect the policy payoff of the majority opinion (since it is this opinion that has precedential value), but receive the expressive payoff associated with her concurrence. She would also have to pay the price for writing a concurrence:

$$U_i(concurrence) = K - |x_i - p| + \alpha + \beta(K - |x_i - e_i| + \alpha) - c$$

As a final example, suppose a justice who disagrees with the disposition of the case chooses to write a dissent, but there is a majority of justices who support the opinion of the Court. This justice receives the policy payoff of the majority opinion (it has precedential value, despite the fact that he does not like it), and the expressive payoff of his dissent. Once again, he must pay the cost of writing separately.

$$U_i(dissent) = K - |x_i - p| + \beta(K - |x_i - e_i| + \alpha) - c$$

The Importance of Dispositions

The lynchpin of our argument is the claim that judicial decisions involve two separate (although related) aspects—a disposition and a rule sustaining that disposition—and that justices may care about *both* aspects separately. This assumption is central to our argument because if justices care about the disposition of a case in addition to the particular legal rule being adopted in a decision, the nature of the bargaining process among justices can change in ways that undermine the central position of the Court's median justice. Specifically, if justices care about the disposition in addition to the rule adopted in an opinion, deviation between the opinion of the Court and the preferences of the median justice become possible. The intuition behind this result is straightforward. If the disposition of a case matters beyond the rule that sustains it, justices who believe that party *A* should win will be reluctant to vote in favor of party *B* – at the extreme, they would be completely unwilling to do so, even if they were to receive maximal concessions on the

rule for "switching sides." This reluctance, in turn, undermines the special bargaining position enjoyed by the median justice in the standard account. Because she is reluctant – and, in the limit, unwilling – to "switch sides," the other justices in the median's coalition need not be as sensitive to her views. They can propose a majority opinion that deviates from the median's preferred rule, and as long as this deviation is not too extreme, the median can no longer threaten to "leave" the coalition for the other side credibly.

We lay out the details of this argument in several steps. We begin by demonstrating that if justices care sufficiently about the judgment in a case, they are not willing to support opinions that produce a judgment with which they disagree, even when the other justices are willing to make concessions on the content of the opinion.

Lemma: If justices care sufficiently about the (binary) disposition of the case, they are not willing to support an opinion that results in a disposition with which they disagree.

To establish the lemma, consider Figure 1, which lays out the fact space for a hypothetical case. The case facts are represented by the point *CF*, and the ideal thresholds of the five justices of the Court are given by x_1 through x_5. Given their most preferred rule and the facts in the case, justices 1 through 3 prefer one disposition (e.g., party *A* wins), while justices 4 and 5 prefer the alternative disposition (e.g., a win for party *B*). The first group forms the initial majority, while the latter two justices find themselves in the minority.

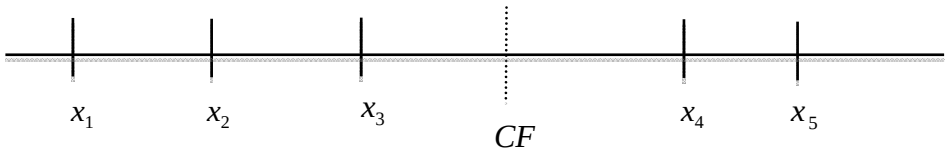

Figure 1: A Hypothetical Case

Consider the most moderate members of the proto-majority and proto-minority, that is, those members "closest" to the other side. In Figure 1, justices 3 and 4 occupy this position. Suppose justice 3 is approached by the initial minority (justices 4 and 5), who believe they might be able to "pick off" this member of the majority by offering a more accommodating opinion in exchange for justice 3's vote. The most attractive offer that the "minority" justices can make to attract 3 to their side (while still securing the disposition they prefer) is to write an opinion that sets the rule threshold at *CF* with the disposition going to Party B. If justice 3 "accepts" this offer and switches sides to the minority, her payoff is given by:[6]

$$U_3(\text{Switch}) = K - |x_3 - CF| + \beta(K - |x_3 - CF|)$$

This payoff is largest when justice 3's preferred legal rule is located close to the case facts, i.e., when her most preferred rule approaches *CF*. In this case, the payoff approaches:

$$\lim_{x_3 \to CF} U_3(\text{Switch}) = (1+\beta)K$$

Now consider justice 3's payoff if she does not "switch sides." We need to determine the lowest payoff that the other majority justice could impose on justice 3 when she remains a member of the majority coalition. There are two cases to consider. If justice 3 is pivotal in giving the majority opinion precedential value, she can always ensure that the opinion has no precedential value by withholding her vote and writing her own separate opinion at her ideal point. Her payoff in this case reduces to:

$$U_3(\text{Don't Switch}) = \alpha + \beta(K + \alpha) - c = (1+\beta)\alpha + \beta K - c$$

[6] There is no benefit to writing a concurrence for justice 3: because she is joining 4 and 5 on the disposition (Party B wins), she cannot advocate a rule to the left of *T*. But that rule is already adopted in the opinion. Because she is voting for party B to win, justice 3 receives no payoff for the disposition of the case.

For a sufficiently large α – that is, if the justice cares sufficiently about the disposition of the case – the payoff from not switching must always exceed the value from switching. This establishes the minimum winning proto-majority case.

Now suppose there are sufficient justices in the proto-majority to generate binding precedent without justice 3's vote (note that we are not depicting this scenario in Figure 1 since there are only two justices to 3's left; simply assume the presence of an additional justice to 3's left). Then the worst-case scenario for justice 3 is the establishment of binding precedent at justice 1's ideal point (the most extreme justice of the majority from 3's point of view), with justice 3 writing a concurrence to express her own opinion:

$$U_3(\text{Don't Switch}) = K - |x_3 - x_1| + \alpha + \beta(K + \alpha) - c = (1+\beta)K - |x_3 - x_1| + (1+\beta)\alpha - c .$$

Once again, for α sufficiently large, this payoff must be larger than the payoff from switching. A similar argument establishes that if Justice 4 cares sufficiently about the disposition of the case, she cannot be induced to switch from the proto-minority to the majority. In other words – as is intuitive – if justices have sufficiently strong preferences over the binary disposition of a case, they cannot be persuaded to "switch sides" even if the justices on the other side of the issue are willing to make maximal concessions in order to "pick off" members of the other side. This establishes the super-majority proto-coalition case.

Because we are interested in predicting behavior when median justice theory fails, we concentrate our attention on this scenario; that is, we focus on how bargaining on the Court unfolds when justices care so much about the disposition of the case that they are unwilling to "switch sides" between the proto-majority and minority. While focusing on this boundary case eases the exposition of our argument, the fundamental dynamics we identify do not depend on it: As long as justices care about the disposition beyond the underlying rule, the wedge that is driven between the views of the median justice and the majority opinion exists; what changes is merely the extent to which other justices can ignore the views of the median. Naturally, the degree to

which justices have strong opinions about the disposition of the case varies across types of cases—a factor that opens up potential avenues for empirical exploration that we discuss in the conclusion.

Opinion Location and Concurrence Behavior

As outlined in the previous section, if justices care sufficiently about the disposition of a case, they are not willing to "switch" between the proto-majority and proto-minority that form with respect to the binary outcome of the case. One implication is that the content of majority opinions is determined by the justices in the proto-majority: Because justices do not switch sides, bargaining over the majority opinion proceeds only among the justices who prefer the disposition adopted by the majority. Beyond assuming that justices value the disposition sufficiently to prevent "switching sides," we make no strong assumptions about the structure of the bargaining process that unfolds among the justices. Instead, we allow for bargaining over the majority opinion that is free-flowing and enables easy input from the justices of the proto-majority.

Let M denote the set of justices in the proto-majority. For every policy $p \in R$, define $C(p)$ as the set of justices who are willing to sign an opinion written at p. Define $PC = \{C(p): \|C(p)\| \geq \frac{\|M\|+1}{2}\}$. In words, PC identifies the possible majority coalitions, that is, the coalitions that are able to agree on an opinion that enjoys majority support.

We assume that the bargaining process among the justices unfolds as follows. When a case is presented to the court, the justices divide into a proto-majority and proto-minority according to their preferences over the disposition. Among the justices in the majority, an opinion writer is (exogenously) assigned.[7] For tractability we restrict attention to the set of

[7] Note that assuming away strategic behavior on the first vote on disposition and treating the opinion assignment as exogenous are innocuous for this study. Since justices are free to change their initial vote on disposition at any time during the bargaining, none of our analytic results are

opinion writers who can propose equilibrium opinions.[8] The opinion writer then proposes a majority opinion, which opens the bargaining process. Bargaining over the opinion proceeds under an open rule: Other justices in the proto-majority are readily able to make counter-proposals (i.e., suggest changes in the opinion). Once a stable opinion emerges (more on that below), each justice in the proto-majority must decide what action to take. She can either join the opinion, write a regular concurrence (join the opinion but also add some additional comments in a concurrence), write a special concurrence (do not join the opinion but write separately), or do none of the above.

To identify the location of majority opinions, we develop a structure-induced equilibrium (SIE) concept. The traditional SIE solution concept defines an equilibrium to be an outcome that cannot be beaten given the institutional rules of the game. We adapt this concept in two ways for a collegial court decision-making environment. First, we restrict justices to only be able to "vote" for an alternative in the bargaining process if they are actually willing to sign that alternative (i.e.

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affected by not allowing strategic behavior on the first vote. Further, since we can condition our tests on who was assigned the opinion, treating the assignment as exogenous does not bias our empirical analysis. While the question of opinion writer assignment is interesting in its own right, we leave the theoretical and empirical study of this question for future work.

[8] This restriction eliminates justices who are not members of a proto-coalition when one exists and justices who are members of a proto-coalition who will not sign a proposal that cannot be beaten by a counter-proposal from another proto-coalition. This restriction is innocuous. Whether the justice assigned the job of writing an opinion retains it, or ultimately is replaced by another opinion writer, produces the same equilibrium for simplicity we assume examine only the case of the assigned opinion writer who is able to retain the coalition opinion. Substantively, this is equivalent to assuming that the opinion-assigner prefers a more efficient bargaining process over a less efficient one that gets to the same result.

join or join and concur). This restriction ensures that justices cannot influence the bargaining outcome through non-credible threats. For example, suppose we have a proto-majority consisting of justices ordered one through four. Justice 1 is the opinion-writer, justices 1 through 3 are clustered together in a proto-coalition, and justice 4 is unwilling to sign anything that even justice 3 would sign. In this scenario, justice 4 should be unable to influence the outcome of the bargaining; since justice 4 will never sign any proposal that justices 2 and 3 would sign, justices 2 and 3 cannot use an alternative coalition with justice 4 as bargaining leverage over what justice 1 might propose.

Second, we assume that a stable majority opinion exists if and only if two conditions are met:

> 1) There does not exist an alternative proposal $\hat{p}$ such that a majority of the proto-majority M prefers to sign an opinion at $\hat{p}$.
>
> 2) There does not exist an alternative majority opinion $\hat{p}$ that all members of the enacting proto-coalition are willing to sign and that a majority of the members of the enacting proto-coalition prefers to sign.

The first condition is the collegial court equivalent of the standard SIE solution. For intuition consider the super-majority case. Suppose there are four members of the proto-majority and justice 1 wrote an opinion that justices 1 through 3 were willing to sign. However, Justices 2 through 4 could agree on an alternative precedent-setting proposal that justices 2 and 3 prefer to the offer from justice 1. We would consider justice 1's proposal to be unstable, because a second proto-coalition exists which can pass a rule that beats the first proto-coalition's rule. The second condition adds a within-proto-coalition majority requirement to the equilibrium. For intuition, consider the minimum winning sized proto-majority case. If a majority of the members of the proto-coalition would prefer some other proposal to the one made by the opinion-writer, and all members of the proto-coalition are willing to sign that alternative, then we would consider the proposal made by the opinion-writer to be unstable. In sum, an equilibrium proposal is one which a majority of the proto-coalition prefers to other options the proto-coalition could sign, and one

which a majority of the proto-majority would prefer to any other option a majority of the proto-majority could sign.[9]

Opinion Content in Equilibrium

We reserve a complete derivation of the model's prediction to the appendix. Here, we focus on characterizing the predictions of the model for the location of the majority opinion and for the concurrence behavior of the justices in the majority. We also provide the intuition behind the model's central results.

We begin by considering the location of the majority opinion. It is easiest to describe the intuition behind the model's predictions by considering the decision calculus of an individual justice in the proto-majority. Suppose an opinion *p* has been reached, and the justice must decide how to behave, i.e., whether to join, concur, or do neither. The essential trade-offs confronting the justice is clear: By signing the majority opinion, she can lend more weight to the opinion. Moreover, she can save herself the trouble of having to write a concurrence. On the other hand, if she chooses to join and not write a concurrence, she is publicly identified with the opinion. As a

[9] Note that adding the second condition on the solution concept is designed to eliminate perverse behavior. In particular, it keeps the opinion-writer from being able to hold the rest of the proto-coalition hostage just because there is a super-majority. For example, suppose that justice 4 is part of the proto-majority, but not part of the proto-coalition of justices 1-3 who are bargaining over the opinion because her preferences are so extreme that she will not sign any opinion that 1-3 agree on. If justice 3 is the opinion writer, we do not want to allow her to be able to propose her ideal point and not be beaten simply because of the presence of justice 4, who is unwilling to support an alternative proposal by justices 1 and 2. That is, justice 3 should not be able to get a better negotiated outcome from justices 1 and 2 when there is some extreme justice 4 than when justices 1 through 3 form a minimum winning coalition.

result, justices are willing to join opinions that are relatively close to their own ideal point and not comment on any differences between the opinion and their own views. As an opinion deviates further from the justice's preferred legal rule, she will continue to join the opinion to give it legal weight, but she will also begin to feel the need to write a regular concurrence to explain the differences between her own opinion and the decision. Finally, as the opinion becomes even more distant from her preferred legal rule, the justice will no longer join the opinion, but writes a separate concurrence. Figure 2 illustrates the justice's behavior.

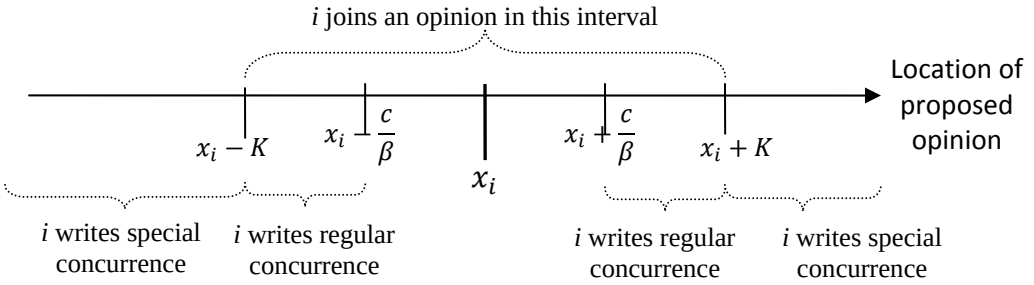

Figure 2: Justice *i*'s voting and concurrence decisions as a function of opinion location when $c \leq \beta k$

One important consequence of this voting behavior by individual justices is that it is only possible to arrive at an opinion that can attract majority support if there exists a group of justices that form a majority and whose preferences are sufficiently homogenous: There must be overlap between the "join regions" of all of the justices in that group. For example, suppose the proto-majority is composed of three justices, all of whose votes are necessary to create binding precedent. Let the justices' ideal thresholds be ordered $x_1 < x_2 < x_3$. It will only be possible to find a majority opinion if there exists a rule that *both* justice 1 and justice 3 (the most extreme members of the majority coalition) are willing to sign on to. This will be the case if $x_3 - K < x_1 + K$, i.e., if the distance between the two justices' ideal rules is less than 2*K*. If the proto-majority contains a supermajority of justices (i.e., not all members of the proto-majority are

necessary to generate binding precedent), there may, of course, be multiple "proto-coalitions" that are sufficiently homogenous to be able to agree on a potential majority opinion.

If at least one proto-coalition exists, the (exogenous) opinion assigner chooses a member of a proto-coalition as the opinion writer. Importantly (as we show in the appendix), all members of a proto-coalition prefer to join a binding opinion that is located in the "join interval" of the proto-coalition to not establishing binding precedent. As a result, if a proto-coalition exists, a majority opinion will emerge. The following statement summarizes where the eventual majority opinion will be located:

> **Equilibrium Opinion Location:** If a majority opinion emerges from the bargaining process, the rule adopted in the opinion is either a) the most preferred rule of the median member of the coalition that signs the opinion, or b) the rule closest to the rule most preferred by the median member of the signing coalition that all members of the signing coalition are willing to sign.

The intuition behind this result is straightforward. Because justices are unwilling to switch sides on the disposition of the case, the median member of the Court as a whole has lost her central position in the bargaining process. Instead, bargaining among the members of the proto-majority is concentrated in the group of justices that will write the majority opinion. It is the median within this group who holds central sway—but this sway is subject to a caveat: The median member of the proto-coalition will only "get her way" if her most preferred rule is acceptable to all members of the proto-coalition. In some circumstances, this may not be the case: a justice whose signature is necessary to unite a majority behind the opinion may not be willing to join an opinion at the median's ideal point. In such a case, the median must (and, given the homogeneity of the proto-coalition, is willing to) make sufficient concessions to bring this justice on board. Nevertheless, this rule will reflect the preferences of the median of the signing coalition better than the views of her more extreme colleagues who also join.

Figure 3 provides an illustration for the case of a minimal-winning proto-majority. The "join interval" that identifies the set of opinions all three justices are willing to sign (and prefer to the failure to establish binding precedent) is located to the left of the ideal rule preferred by the median of the signing majority (justice 2). Justices 2 and 3 are able to draw the opinion towards their preferred rules, but they cannot move beyond $x_1 + K$ because they need (and prefer to) keep justice 1's vote. Thus, the opinion is located at the right end of the join interval, closest to the rule preferred by the median of the signing coalition.

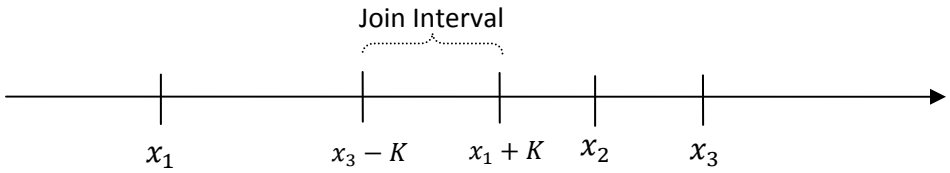

Figure 3: Example of Opinion Location

If no proto-coalition exists, then binding precedent is not possible. In this case, the opinion will be written at the ideal point of the opinion-writer; since no proto-coalition exists, no alternative can receive enough support to beat the opinion-writer's proposal by definition. Nonetheless, justices who value the expressive content of the opinion sufficiently highly still will sign the opinion, thus we could see any number of signatures up to, but not including, a majority of the court.

One important substantive implication of our model is that the content of majority opinions issued by the Court typically does *not* reflect the preferences of the median justice on the court as a whole. Instead, majority opinions will generally reflect the preferences of the median member of the signing coalition of the opinion. This prediction stands in stark contrast to the conventional wisdom of median justice theory.

Predicting Concurrence Behavior

Having established the content of opinions, we can now turn to the last aspect of judicial behavior, which will play a central role in the empirical analysis: concurrences. Recall that a justice concurs if and only if the proposed policy is not sufficiently close to that justice's ideal point, i.e. $p \notin \left[x_i - \frac{c}{\beta_i}, x_i + \frac{c}{\beta_i}\right]$. If Justice *i*'s preferred rule is located to the left of the majority opinion *p*, she concurs if $x_i + \frac{c}{\beta_i} < p$. If she is located to the right, she concurs if $x_i - \frac{c}{\beta_i} > p$. Furthermore, recall that proposed opinions that attract a majority are located either at or close to the most preferred rule of the median of the signing coalition, while opinions that do not yield binding precedent are located at the opinion-writer's ideal point As a result, we have an interesting, conditional prediction about concurrence behavior: When an opinion is/is not supported by a majority, the further a justice is from the median of the signing coalition/the opinion writer, the less the content of the opinion reflects their views, and therefore the more likely that justice is to concur

> **Hypothesis:** If an opinion receives support from a majority of the court, the more ideologically distant a justice is from the median of the signing coalition, the more likely that justice is to concur. If an opinion does not receive support from a majority of the court, the more ideologically distant a justice is from the opinion writer, the more likely that justice is to concur.

This hypothesis stands in stark contrast to the implications of median justice theory, which predicts that concurrence behavior is a function of distance to the overall court median.[10] It is now time to turn to the data to evaluate these competing claims.

[10] Note that if we allowed the weighting of disposition and rule to vary, under some conditions the opinion will converge towards the median of the majority. Since this condition depends upon

Data and Measures

For an empirical test of our model of decision-making, we rely on the fact that median justice theory and our theoretical account, suggest divergent predictions for patterns of concurrences. MJT suggests that the median justice should never concur and that concurrences should increase in a "V" pattern moving away from the median. Our account suggests the propensity to concur depends on the location of the coalition median (for majority opinions), or of the opinion writer (for plurality opinions). Because of the extremely small number of plurality opinions and the difficulty of systematically identifying them, we concentrate on the first part of our main hypothesis: majority opinions.

The data for our analysis come from the United States Supreme Court Judicial Database (Spaeth 2005).[11] We use data from the 1953 to the 2005 terms. The key variable of interest is whether a justice in the majority coalition files a special or regular concurrence in a case.

The independent variables for our analyses are derived from the spatial locations of the justices; i.e., their distance from the median, the coalition median, and so on. For all of the

---

the relative weighting of these two factors, and we have no obvious way to measure the weighting in given cases, we must omit this possibility. To the degree that the median of the majority does have influence on opinions under some conditions, our test therefore will bias us towards not finding support for our hypothesis and instead finding support for the median voter theorem. Thus, this uncontrolled for conditionality will only make it harder for us to find support for our argument.

[11] The unit of analysis is the case citation (ANALU=0). Decisions included are formally decided cases issued with written opinions after full oral argument and cases decided by an equally divided vote (DEC_TYPE=1,5,6,7). After performing the selection, there are a total of 6203 cases from the 1953 to the 2005 terms (inclusive).

analyses that follow, we only include cases in which there is perfect spatial voting (with participation by all members of the Court) based on estimates of the spatial locations of the justices. We do so to minimize the possibility that the results might be confounded by decisions resting on factors other than ideological differences among the justices. Although we acknowledge that disagreement among the justices may rest on such other factors or "dimensions," such as stare decisis, or other jurisprudential considerations, note that most cases in the database do fall out along ideological lines.[12] For a preliminary look at the data, we focus on the final Rehnquist Court (1994-2004 terms) where there are a total of 874 cases. Note that fully 606 cases out of the 874 cases in the Rehnquist dataset have perfect spatial voting.

	Mean	SD
Stevens	-3.00	0.00
Ginsburg	-1.00	0.10
Souter	-0.81	0.10
Breyer	-0.74	0.09
O'Connor	0.39	0.07
Kennedy	0.57	0.08
Rehnquist	1.11	0.11
Thomas	2.65	0.26
Scalia	3.00	0.00

Table 1. Ideal point estimates for the Rehnquist Court, 1994-2004 terms. The mean is the posterior mean; SD is the posterior standard deviation. The model is identified by fixing Justice Stevens at -3 and Justice Scalia at 3.

To locate the justices in ideological space, we estimate a one-dimensional item-response theory model using all of the merits votes (Clinton, Jackman, and Rivers 2004). The estimates are in Table 1. These estimates are used to rank the justices from the most liberal to the most conservative.

[12] To our knowledge, the literature does not provide any reliable method for distinguishing, ex ante, which cases will fall along the predominant issue dimension and which cases will not.

For the analyses that consider the entirety of the dataset from 1953 to 2005, we start with 6203 cases in the dataset. When we restrict our attention to those that exhibit perfect spatial voting, we are left with 3151 cases.[13] We use the Martin-Quinn scores to locate the justices in ideological space (Martin and Quinn 2002). These scores have the advantage over other measurement strategies because they are dynamic, allowing the location of each justice to evolve over time, and they have been shown to classify well across all issue areas. Since our dependent variable is not votes on the merits, there is no concern of endogeneity. We thus use the Martin-Quinn scores to order each justice in case from left to right, and to locate the opinion writer and median justice.

Results

Our empirical strategy first consists of looking at patterns of concurrences. If the median justice theory were correct, we would rarely see concurrences by the median justice. In Figure 4 we plot the number of special concurrences for each justice in the Rehnquist dataset, whether they are in the majority coalition or not. Justice O'Connor filed special concurrences in nearly twenty cases; about the same number as Justices Souter, Kennedy, and Thomas. However, just looking at the number of concurrences may be misleading as a comparison among justices because some justices were in the minority (and thus not able to concur). Thus, in Table 2 we summarize the number of special concurrences for each coalition type in the dataset; e.g., all 5-4, 6-3, 7-2, 8-1, and unanimous coalitions. The nomenclature used in the table is "6-3 Right" coalition is a

[13] As discussed below, the substantive results are precisely the same whether we include cases that do not exhibit perfect spatial voting. We choose to report these results because we are more comfortable using distance measures for cases that resolve in a manner consistent with the underlying measurement model.

majority coalition of with Justices Breyer through Scalia. A "6-3 Left" Coalition is Justice Stevens through Kennedy, and so on.

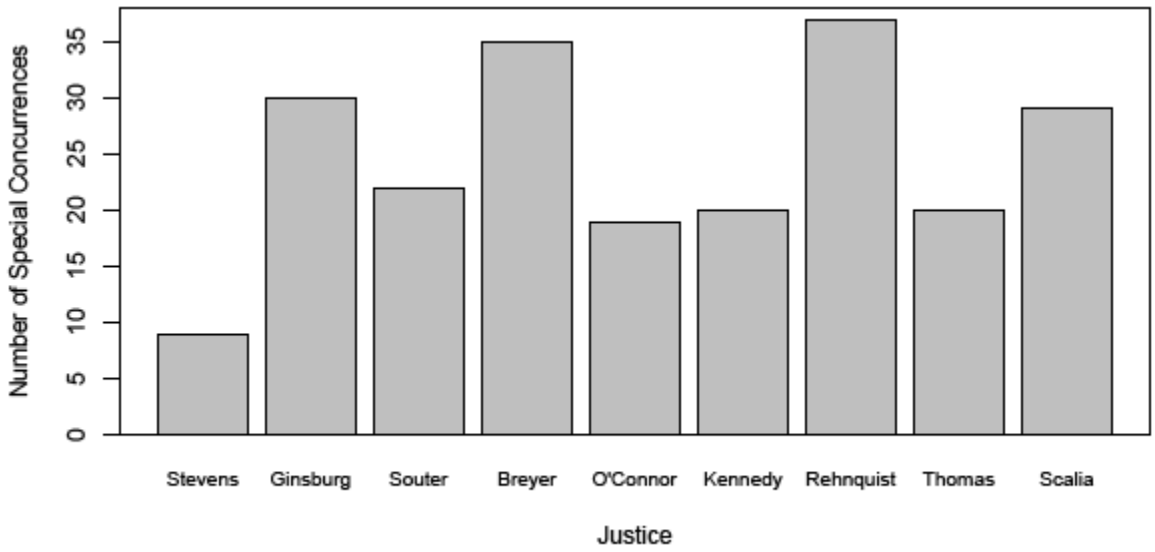

Figure 4: Number of special concurrences for each justice in the dataset for cases with perfect spatial voting. This does not control for the number of times each justice is in the majority coalition.

There are some interesting patterns apparent in this table. Justice O'Connor concurs relatively rarely in unanimous decisions. Because in unanimous cases the court and coalition majority is the same, this finding is consistent with both theories. On the other hand, Justice O'Connor concurs relatively frequently in situations where we would least expect it under median justice theory—in 5-4 Right coalitions. Indeed, while we see concurrences taking place along the ideological continuum for each type of coalition, there seems to be a pattern where the median of the coalition rarely concurs. These results suggest that the median justice theory is inadequate for understanding concurrence patterns on the Rehnquist Court.

	5-4 Right	6-3 Right	7-2 Right	8-1 Right	Unan-imous	8-1 Left	7-2 Left	6-3 Left	5-4 Left
Stevens					6	0	0	0	0
Ginsburg				0	28	0	1	1	0
Souter			0	1	13	0	0	2	1
Breyer		2	2	4	25	0	0	0	0

O'Connor	5	1	2	1	5	0	1	4	0
Kennedy	0	0	1	2	15	0	1	0	
Rehnquist	4	2	1	4	24	2	0		
Thomas	0	0	0	3	15	0			
Scalia	0	5	3	2	17				
Number of Cases	82	17	16	38	358	5	30	28	32

Table 2. Number of special concurrences for cases with perfect spatial voting for the Rehnquist Court, 1994-2004 terms. Number of cases shows the total number of cases with the particular coalition structure.

Before turning to a multivariate model that can directly test our hypothesis, we next summarize the patterns of concurrence for the full dataset. When we break down the patterns of concurrences by coalition type in Table 3, we again see patterns inconsistent with the median justice theory. The patterns in the "Right" coalitions are especially striking. In these cases, the justices in the middle of the coalition are least likely to concur, whether or not they happen to be the median justice. This is entirely consistent with our hypothesized relationship.

The key empirical test of our theoretical model involves a multivariate analysis of concurrence behavior. After selecting cases with perfect spatial voting, we are left with 3151 cases for analysis. The dependent variable for our analysis Y_i indicates whether the justice voted to concur in a case or not. The units of analysis are decisions of justices in the majority coalition who are not the opinion writer to file a concurrence. After applying these rules, we are left with 17,725 justice decisions.

	5-4 Right	6-3 Right	7-2 Right	8-1 Right	Unan-imous	8-1 Left	7-2 Left	6-3 Left	5-4 Left
Justice 1					180	11	4	1	1
Justice 2				15	147	5	5	3	3
Justice 3			32	15	118	7	4	5	3
Justice 4		22	21	11	120	8	6	2	3

Justice 5	16	8	15	9	79	6	11	14	7
Justice 6	19	7	8	8	87	8	11	12	
Justice 7	9	5	4	5	78	15	10		
Justice 8	18	14	10	10	151	18			
Justice 9	11	6	10	13	160				
Number of Cases	333	231	181	183	1756	106	104	98	159

Table 3. Number of special concurrences for cases with perfect spatial voting for the 1953-2005 terms. Number of cases shows the total number of cases with the particular coalition structure.

The median justice theory suggests that the concurrence is predicted by the distance from the median justice. As the distance from the justice to the median increases, so too does the probability the justice concurs. The null hypothesis for our analysis is thus one where the probability of concurring is a function of the distance to the median justice. Let x_i denote the justice's ideal point and $x_{M,i}$ denote the location of the median justice. Formally, we estimate:

$$\Pr(Y_i = 1 \mid x_i, x_{M,i}) = \Lambda(\gamma_0 + \gamma_1 |x_i - x_{M,i}|)$$

Where Λ denotes the cumulative distribution function of the logistic distribution. We estimate the logistic regression using maximum likelihood.[14] The estimates for this model with special concurrences and both special and general concurrences are in columns 2 and 4 of Table 4. The model shows that there is a statistically significant relationship between distance to the median justice and the propensity to concur.[15]

[14] We report asymptotic standard errors rather than the so-called "robust" ones since their use is highly questionable in all but linear models. Our findings do not change if we compute these clustered by justice or case.

[15] There are any number of reasons why, our arguments about the failings of median justice theory notwithstanding, there is statistical significance to the relationship between the median justice and the propensity to concur. First, the distance from the coalition median and the distance from the Court median is very high (r=0.92). Second, our argument is that in some cases

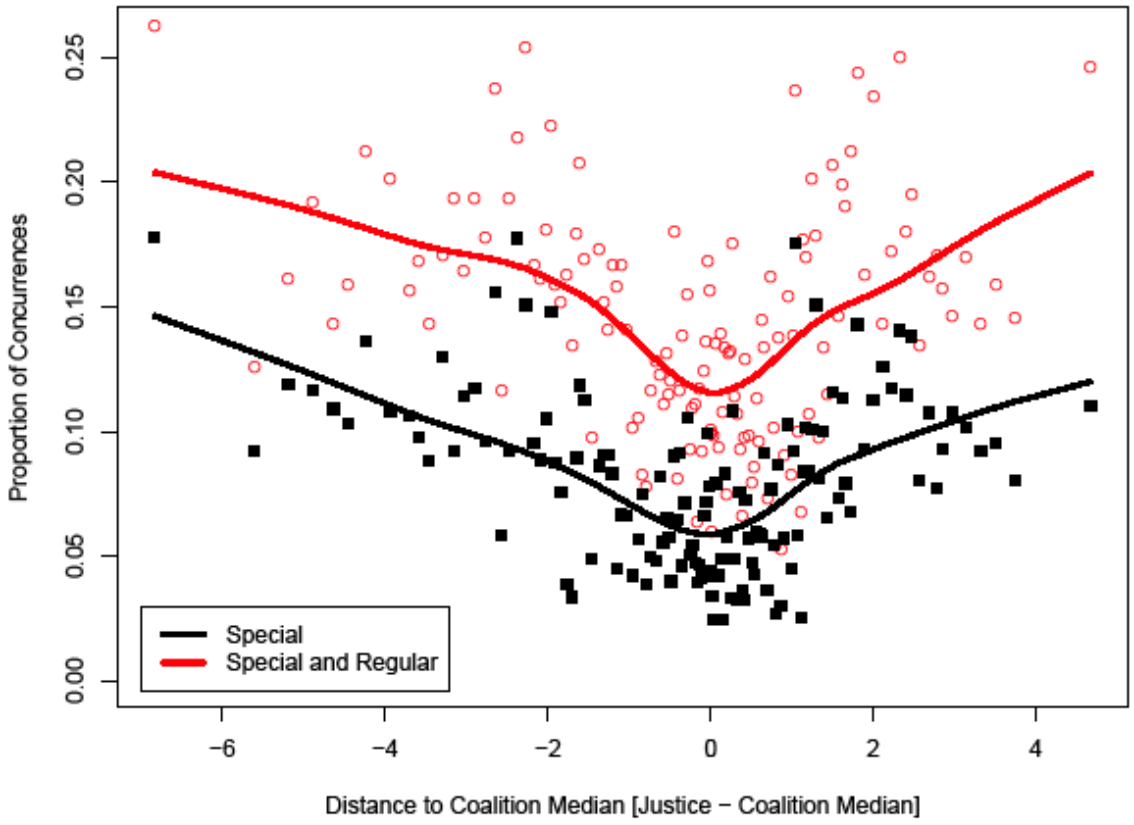

Figure 5: Number of special and regular concurrences as a function of distance to the coalition median. The graph depicts the proportion of concurrences for 150 bins along the x-axis, with a loess line imposed for each type of concurrence to highlight shape.

Covariates	Alternative	MJT	Alternative (Including General)	MJT (Including General)
Constant	-2.774	-2.664	-2.038	-1.977
	(0.042)	(0.041)	(0.032)	(0.032)
Distance to Coalition Median	0.201		0.153	
	(0.018)		(0.015)	
Distance To Median		0.127		0.107
		(0.018)		(0.014)
N	17725	17725	17725	17725
Log-Likelihood	-4811.203	-4844.601	-7140.355	-7164.968
BIC	9641.97	9708.768	14300.276	14349.501

the pivotal justices will not be willing to trade disposition of the case for opinion language. But in other cases they may be so willing. Finally, with so many observations, nearly any relationship will be statistically significant. The ultimate test of our theory vis-a-vis median justice theory is the comparison of the two models.

Table 4. Logistic regression estimates for the alternative and median justice theory (MJT) concurrence models. The second two models contain both special and general concurrences. The estimates are maximum likelihood, with asymptotic standard errors in parentheses.

Our theoretical model suggests that it is not the distance from the median justice that should be determinative, but rather the distance from the median of opinion coalition. In Figure 5 we display the pattern of special and regular concurrences as a function of the distance to the coalition median. Figure 5 shows the expected V-shaped pattern, which indicates that the propensity to concur seems to increase as distance of the opinion coalition median increases.

To formally test that relationship we estimate the same logistic regression model as above, this time substituting $x_{O,i}$—the location of the opinion coalition median—rather than the median justice. Columns 1 and 3 of Table 4 contain the model estimates. These results also show a statistically significant relationship between distance to the median opinion coalition and the propensity to concur.

So which model is best? Since the models are not nested, we will use the Bayesian Information Criterion (BIC), an approximate Bayes factor, to compare the models (Raftery 1995). The model with the lower BIC is the superior model. The estimates for the alternative model are in columns 1 and 3 in Table 4. When comparing the two pairs of models using the BIC, the alternative model is superior. *This suggests that the specification based on our formal model far better supports the observed data than the null median justice explanation.* The estimated substantive effects of our model are quite substantial. In Figure 6 we plot the predicted probability of special concurrence (based on the column 1 estimates). The figure shows that the probability of a special concurrence is 5.8% when the justice is located at the median of the opinion coalition. The predicted probability increases over four-fold to 23.7% when the justice is eight units away on the Martin-Quinn scale. (The distance between Stevens and Thomas during the 2005 term of the court is nearly seven points). Not only do the data better support our model,

the substantive effects we isolate are quite substantial.

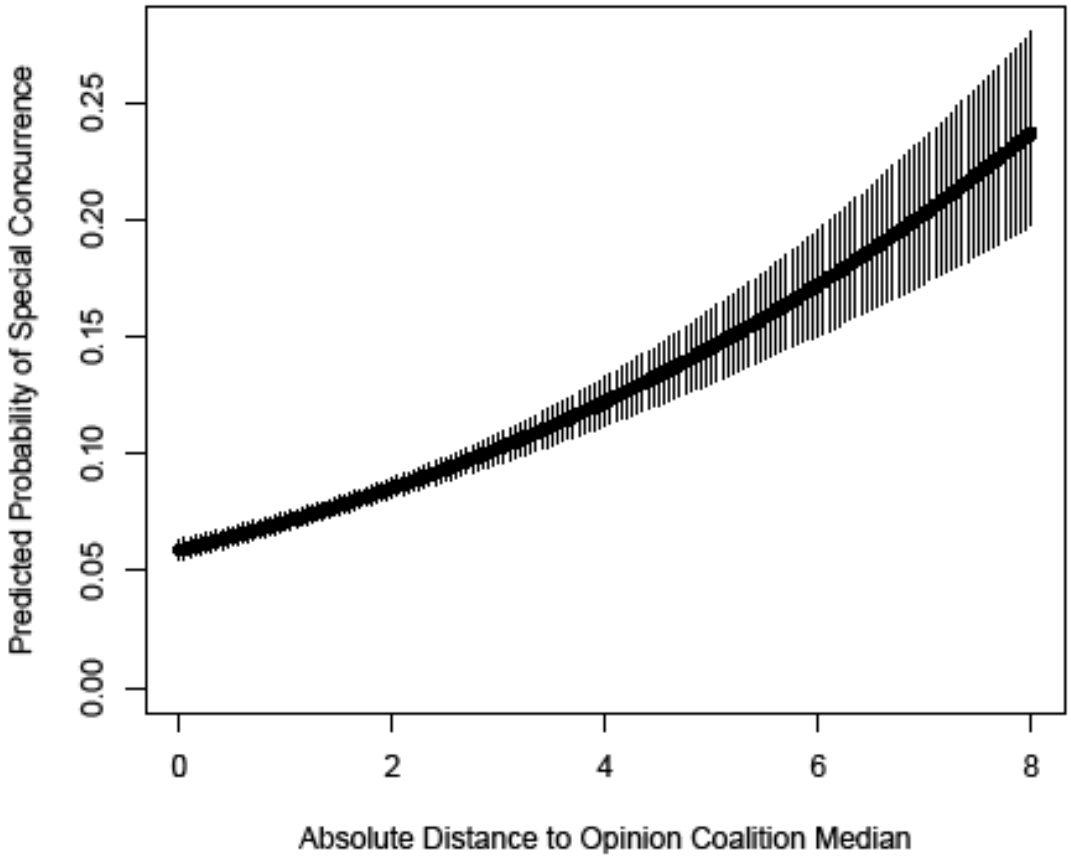

Figure 6: Predicted probabilities of a special concurrence as a function of distance to the opinion coalition median based on model estimates in Table 4, column 1. The vertical lines denote 95% confidence intervals for the prediction.

Conclusion

We end, in a sense, where we began. Court opinions are the focus of much scholarly work – not surprising in light of the fact that judicial decision-making plays an increasingly important role in democratic politics (e.g., Tate and Valinder 1992). Understanding the content of judicial opinions, specifically, understanding *where* in ideological space the policies and rules adopted in an opinion rest, is therefore of great interest. The predominant assumption in the

academic literature and the public mind is that a majority opinion of the Supreme Court reflects the views of the median justice. Our argument challenges this consensus. As we have shown, the two-step process of collegial judicial decision-making means that – assuming justices care about the disposition of a case in addition to the rule they announce – the median justice has great power over the judgment in a case, but the same is not true for the content of the majority opinion that sustains that outcome. Instead, our argument suggests that the majority opinion will reflect the views of the median justice of the opinion majority. Our empirical investigation of patterns of concurring opinions is consistent with this argument and flatly contradicts the predictions of MJT. Recent empirical work that estimates opinion location from citation patterns similarly concludes that it is the median of the majority coalition, rather than the Court median, that has predominant influence over majority opinion content (Clark and Lauderdale 2008).

Naturally, this is but a first step in understanding how bargaining on collegial courts shapes judicial policy, and much remains to be done to push this agenda forward. Two issues deserve brief mention here. First, our argument assumed – for purposes of exposition – that justices care so much about the disposition of a case that they are unwilling to "switch sides." While this is plausible in some cases, in others this may not be so. However, as long as justices care *somewhat* about the disposition of cases, the fundamental point we are trying to make remains. Such preferences make justices reluctant to support a judgment with which they disagree. Although they might be willing to do so under some conditions, they would prefer to remain on the "right side," even if they must accept a rule that does not reflect their opinions perfectly. This reluctance opens a wedge between the location of majority opinions and the views of the median justice: Other justices in the majority can begin to draw the majority opinion away from the median without losing her vote – provided that they do not deviate too far. How far they can do so depends on the extent to which the median cares about the disposition.

The second issue is more vexing. Our argument has focused on the content of majority opinions. Clearly, this content is of interest. Majority opinions are accorded special status in

academic analysis and the popular press. They are presumed to create binding precedent. Understanding how bargaining on a collegial court affects what goes into such opinions, and which justices are particularly influential, is therefore of interest. However, it is important to recognize that the content of majority opinions cannot directly be equated with the "the law" that is created through judicial adjudication. To the extent that "the law" is a function of expectations that lower court judges, policy-makers, and potential litigants hold about future decisions, the content of majority opinions is only one ingredient that shapes these expectations. Concurrences, dissents, judicial appointments, and a host of other factors may matter as well. While understanding the content of majority opinions is an important step in the challenging endeavor of determining where "the law" rests, it is only a first one.

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Appendix

The Decision Calculus of Justices

Let the justice who has been chosen to write the opinion be designated as justice *j*. We begin by considering the decision calculus of justice $i \neq j$, i.e., justices other than the opinion writer who are confronted with having to decide how to react to the final majority opinion on which bargaining has settled. There are three scenarios that must be distinguished:

1) Justice *i* is not pivotal to the outcome and the rule already has enough votes to create precedent
2) Justice *i* is pivotal to giving the proposed rule precedential value
3) Justice *i* is not pivotal and the rule will not have precedential value

Scenario 1

Justice *i* has three options:

a) Simply join the opinion:

$$U_i(join) = (1 + \beta)(K - |x_i - p| + \alpha)$$

b) Join and write a concurrence (the payoff is the same for regular and special concurrences):

$$U_i(concurrence) = K - |x_i - p| + \alpha + \beta(K - |x_i - e_i| + \alpha) - c$$

To maximize this payoff, she will set $e_i = x_i$, i.e., write her concurrence at her ideal point. This reduces the payoff to

$$U_i(concurrence) = K - |x_i - p| + \alpha + \beta(K + \alpha) - c$$

c) Not join the majority opinion and not write a concurrence (i.e., say nothing):

$$U_i(say\ nothing) = K - |x_i - p| + \alpha$$

Given these payoffs, justice *i* will simply join rather than remain silent if

$$\beta(K - |x_i - p| + \alpha) > 0$$

which reduces to

$$|x_i - p| < K + \alpha$$

She will simply join rather than write a concurrence if:

$$\beta(K - |x_i - p| + \alpha) > \beta(K + \alpha) - c$$

which reduces to

$$|x_i - p| < \frac{c}{\beta}$$

She will write a concurrence rather than remain silent if:

$$c < \beta(K + \alpha)$$

Generally, it is sensible to assume that as a proposed opinion moves away from a justice's ideal point, the justice is initially willing to join the opinion without adding any additional commentary. As the opinion moves away, she is still willing to join but begins to write a regular concurrence. Finally, as the opinion moves further and further away, she no longer joins but writes a special concurrence. To ensure that this is the case, the cutoffs for joining and writing a concurrence must satisfy the following condition:

$$\frac{c}{\beta} < K + \alpha$$

This is the case if $c < \beta(K + \alpha)$. We assume that this condition is met. This also ensures that justice *i* never prefers to remain silent. She will either sign the majority opinion or write a concurrence.

Scenario 2

In this scenario, justice *i*'s vote is pivotal to giving the proposed opinion precedential value. She has four options:
a) Simply join the opinion:

$$U_i(join) = (1+\beta)(K - |x_i - p| + \alpha)$$

b) Join and write a concurrence:

$$U_i(concurrence) = K - |x_i - p| + \alpha + \beta(K+\alpha) - c$$

c) Write separately:

$$U_i(separate) = \alpha + \beta(K+\alpha) - c$$

d) Not join and not write a concurrence (i.e., say nothing):

$$U_i(say\ nothing) = \alpha$$

Because $c < \beta(K+\alpha)$ by assumption, she prefers writing separately to remaining silent. So we only need to be concerned about the first three alternatives. She will simply join the majority opinion rather than write separately and deny precedential value if

$$(1+\beta)(K - |x_i - p| + \alpha) > \alpha + \beta(K+\alpha) - c$$

which reduces to

$$|x_i - p| < \frac{K+c}{1+\beta}$$

She will join the majority opinion and write a concurrence rather than write separately and deny precedential value if

$$K - |x_i - p| + \alpha + \beta(K+\alpha) - c > \alpha + \beta(K+\alpha) - c$$

which reduces to

$$|x_i - p| < K$$

She will simply join the majority opinion rather than join and write a concurrence if

$$\beta(K - |x_i - p| + \alpha) > \beta(K+\alpha) - c$$

which reduces to

$$|x_i - p| < \frac{c}{\beta}$$

Generally, it is sensible to assume that as a proposed opinion moves away from a justice's ideal point, the justice is initially willing to join the opinion without adding any additional commentary. As the opinion moves away, she is still willing to joint but begins to write a regular concurrence. Finally, as the opinion moves further and further away, she no longer joins but writes a special concurrence, denying the proposed opinion precedential value. To ensure that this is the case, the cutoffs must satisfy the following condition:

$$\frac{c}{\beta} < \frac{K+c}{1+\beta} < K$$

This will be the case if $c < \beta K$. We assume that this threshold is met. Because this threshold is more stringent than our initial assumption on *c*, the initial assumption is subsumed. In this case, a justice is willing to join a proposed majority opinion as long as the opinion is sufficiently close to the justice's ideal point, i.e., as long as $p \in [x_i - K, x_i + K]$.

Scenario 3
In this scenario, justice *i*'s vote is not pivotal because the proposed opinion will not have precedential value even with his vote. She has three options:
a) Join the opinion writer. Because this opinion cannot establish binding precedent, the utility of joining the opinion writer is given by:

$$U_i(join) = \alpha + \beta(K - |x_i - p| + \alpha)$$

b) Write separately:

$$U_i(separate) = \alpha + \beta(K+\alpha) - c$$

d) Not join and not write a concurrence (i.e., say nothing):

$$U_i(say\ nothing) = \alpha$$

Because $c < \beta(K + \alpha)$ by assumption, she will always prefer to write separately to remaining silent. So we only need to be concerned about the first two alternatives. She will choose to join the opinion writer rather than writing separately if

$$\alpha + \beta(K - |x_i - p| + \alpha) > \alpha + \beta(K + \alpha) - c$$

which reduces to

$$|x_i - p| < \frac{c}{\beta}$$

That is, as is intuitive, she will join the opinion writer if the proposed opinion is sufficiently close to her ideal point.

The Opinion Writer

Next, we must consider the payoffs for the opinion writer. The opinion writer has three options available. Assuming it is possible to write an opinion that attracts a sufficient number of votes to generate binding precedent and that is joined in all parts by the other member of his coalition (see below), the utility of this "pure" opinion is given by:

$$U_j(Pure\ Opinion) = (1 + \beta)\big(K - \big|x_j - p\big| + \alpha\big)$$

Alternatively, the opinion writer can write a "fractured" opinion in which some parts are able to attract sufficient votes to create precedent, but others do not. One way of thinking about such fractured opinions is to say that they consist of an opinion (the parts that attract sufficient support) and a "concurrence" by the opinion writer (those parts that do not attract sufficient support). That is, in those parts in which he cannot secure the votes of the other justices, he is writing separately, which means that he must also incur the cost *c* to do so. As in the case of concurrences more generally, the opinion writer maximizes his payoff by writing parts in which he is writing separately at his ideal point. The utility of such a fractured opinion from the opinion writer's point of view is given by:

$$U_j(Fractured\ Opinion) = K - \big|x_j - p\big| + \alpha + \beta(K + \alpha) - c$$

Finally, the opinion writer could give up on writing an opinion that generates binding precedent and simply write an opinion at his ideal point, even if it does not create binding precedent. The utility of this option is given by:

$$U_j(separate) = \alpha + \beta(K + \alpha) - c$$

We need to identify the set of possible opinions that establish precedent that the opinion writer is willing to write. To identify these opinions, consider a potential compromise opinion *p* along the rule-spectrum that can secure sufficient votes to generate precedent. We would like to know under what conditions the opinion writer would prefer to write an opinion at *p*, rather than not compromising and writing at his ideal point (accepting the fact that failing to compromise prevents his opinion from having precedential value.) He will prefer a "fractured opinion" at *p* over writing at his ideal point if:

$$K - \big|x_j - p\big| + \alpha + \beta(K + \alpha) - c > \alpha + \beta(K + \alpha) - c$$

which reduces to

$$\big|x_j - p\big| < K$$

He would prefer to write a "pure" opinion at *p* rather than write separately and not create precedent if

$$(1 + \beta)\big(K - \big|x_j - p\big| + \alpha\big) > \alpha + \beta(K + \alpha) - c$$

which reduces to

$$|x_j - p| < \frac{K + c}{1 + \beta}$$

Since if $c < \beta K$ by assumption, it must be the case that $\frac{K+c}{1+\beta} < K$. In short, the opinion writer is willing to compromise in order to write an opinion that has precedential value as long as that potential compromise *p* is sufficiently close to his ideal point, i.e. as long as $p \in [x_j - K, x_j + K]$.

The set of viable opinion-writers:

A viable proto-coalition is a proto-coalition that can make an equilibrium proposal. We assume that the opinion-assigner (not explicitly modeled here) chooses a justice from one of the viable proto-coalitions to be the opinion-writer. That is, the opinion-assigner will not choose a justice who would only write a decision that will get rolled by an alternative, precedent-forming proposal in post-assignment bargaining.

The Bargaining Process for the Proposed Opinion

Minimum-Winning Coalition Case:

Suppose that there are three justices in the proto-majority. On our five member court, this implies that all three members of the proto-majority are necessary in order to create precedent. Without loss of generality, order the three justices such that $x_1 < x_2 < x_3$. From the discussion above, we know that each justice is willing to write or join an opinion that creates precedent as long as the proposed opinion *p* is close enough to her ideal point, i.e., as long as $p \in [x_i - K, x_i + K]$.
As a result, it is only possible to find an opinion that creates precedent if the interval $[x_3 - K; x_1 + K]$ exists, i.e. if there is an overlap between the set of opinions that the most extreme members of the proto-majority are willing to join (or write). This will be the case if $|x_3 - x_1| < 2K$. In other words, as is intuitive, it is only possible to create binding precedent if the ideological spread of the majority coalition is not too great.
Case 1: The interval $[x_3 - K; x_1 + K]$ does not exist, i.e., $|x_3 - x_1| > 2K$. In this case, it is impossible to find an opinion that creates precedent. There will be no opinion of the court. Any justice who writes an opinion will write at their ideal point. Another justice may join these opinions, but no opinion receives sufficient votes to be binding.
Case 2: The interval $[x_3 - K; x_1 + K]$ exists. All three justices prefer an opinion inside this interval to an opinion that does not create precedent, i.e., an opinion outside of this interval. (This must be true by the argument above – each justice is pivotal to creating precedent, and prefers to do so for opinions inside this interval.) As a result, bargaining will only occur over the alternatives in this set. The opinion writer would like to make the closest proposal to his ideal point that is immune to a counter-proposal.
Given costless bargaining under majority rule, the only proposal in $[x_3 - K; x_1 + K]$ that is immune to a counter-proposal is the alternative in the interval that is closest to the ideal point of the median justice of the proto-majority, x_2. If $x_2 \in [x_3 - K; x_1 + K]$, the opinion will be written at x_2. If $x_2 < x_3 - K$, the opinion is written at $x_3 - K$. If $x_2 > x_1 + K$, the opinion will be written at $x_1 + K$.

Super-Majority Case:

Now suppose the proto-majority contains four members. In this case, not all members of the proto-majority are required to create precedent. We assume that justices pursue their weakly dominant strategies of voting as if they are pivotal even when they are not. The only effect of this refinement is to introduce a "tie-breaker:" If a justice is indifferent between writing a special

concurrence and a regular concurrence, she will choose to write a regular concurrence (see the utility functions for scenario 1 above). Without loss of generality, order the justices such that $x_1 < x_2 < x_3 < x_4$. Because three votes are required in order to create precedent, there are two potential coalitions that can produce binding precedent: Justices 1 through 3 or justices 2 through 4. (Importantly, this does not imply that eventual coalitions only contain three members. As we show below, it is possible for all four members of the proto-majority to sign the opinion.) As a result, it is only possible to achieve binding precedent if either $|x_3 - x_1| < 2K$ (i.e., justices 1 and 3 are sufficiently close to be able to agree on an opinion) or $|x_4 - x_2| < 2K$ (i.e., justices 2 and 4 are sufficiently close to be able to agree on an opinion).

Case 1: $|x_3 - x_1| > 2K$ and $|x_4 - x_2| > 2K$. In this case, the preferences of the justices in the proto-majority over the rule are so heterogeneous that it is impossible to find an opinion that creates precedent. There will be no opinion of the court. Any justice who writes an opinion will write at their ideal point. Another justice may join these opinions, but no opinion receives sufficient votes to be binding.

Case 2: $|x_3 - x_1| < 2K$ and $|x_4 - x_2| > 2K$. In this case, only the coalition of justices 1 to 3 is sufficiently homogenous to create precedent. These three justices prefer an opinion inside the interval $[x_3 - K; x_1 + K]$ to an opinion that does not create precedent, i.e., an opinion outside of this interval. (This must be true by the argument above – each justice is pivotal to creating precedent, and prefers to do so for opinions inside this interval.) As a result, bargaining will only occur over the alternatives in this set. The justice in this proto-coalition who is assigned as opinion writer would like to make the closest proposal to his ideal point that is immune to a counter-proposal.

Given costless bargaining under majority rule, the only proposal in $[x_3 - K; x_1 + K]$ that is immune to a counter-proposal is the alternative in the interval that is closest to the ideal point of the median justice of the proto-coalition, x_2. If $x_2 \in [x_3 - K; x_1 + K]$, the opinion will be written at x_2. If $x_2 < x_3 - K$, the opinion is written at $x_3 - K$. If $x_2 > x_1 + K$, the opinion will be written at $x_1 + K$.

Case 3: $|x_3 - x_1| > 2K$ and $|x_4 - x_2| < 2K$. In this case, only the coalition of justices 2 to 4 is sufficiently homogenous to create precedent. These three justices prefer an opinion inside the interval $[x_4 - K; x_2 + K]$ to an opinion that does not create precedent, i.e., an opinion outside of this interval. (This must be true by the argument above – each justice is pivotal to creating precedent, and prefers to do so for opinions inside this interval.) As a result, bargaining will only occur over the alternatives in this set. The justice in this proto-coalition who is assigned as opinion writer would like to make the closest proposal to his ideal point that is immune to a counter-proposal.

Given costless bargaining under majority rule, the only proposal in $[x_4 - K; x_2 + K]$ that is immune to a counter-proposal is the alternative in the interval that is closest to the ideal point of the median justice of the proto-coalition, x_3. If $x_3 \in [x_4 - K; x_2 + K]$, the opinion will be written at x_3. If $x_3 < x_4 - K$, the opinion is written at $x_4 - K$. If $x_3 > x_2 + K$, the opinion will be written at $x_2 + K$.

Case 4: $|x_3 - x_1| < 2K$ and $|x_4 - x_2| < 2K$. In this case, both coalitions (justices 1 to 3 and justices 2 to 4) are sufficiently homogenous to create precedent. Define the following set:

$$P = [x_3 - K; x_1 + K] \cup [x_4 - K; x_2 + K]$$

That is, the set *P* identifies the possible precedent-generating opinions that can be supported by the two coalitions. Suppose justice 1 is assigned as the opinion writer. The best proposal she can make is $\hat{p} = \min_{p \in P} |x_2 - p|$, i.e., the proposal in *P* that is closest to the ideal point of justice 2. The proposal is immune to counter-proposals. Justices 1 and 2 can block any move to the right, and justices 2 and 3 will block any move to the left. It is the closest proposal that 1 can make to her ideal point because any proposal to the left of $\hat{p}$ will elicit a counter-proposal from justices 2 and 3 that moves the opinion to the right.

Suppose justice 4 is assigned as the opinion writer. The best proposal she can make is $\hat{p} = \min_{p \in P} |x_3 - p|$, i.e., the proposal in *P* that is closest to the ideal point of justice 3. The proposal is immune to counter-proposals. Justices 1 and 2 can block any move to the right, and justices 3 and 4 will block any move to the left. It is the closest proposal that 4 can make to her ideal point because any proposal to the right of $\hat{p}$ will elicit a counter-proposal from justices 2 and 3 that moves the opinion to the left.

Suppose justice 2 is assigned as the opinion writer. As in the case of justice 1, the best proposal she can make is $\hat{p} = \min_{p \in P} |x_2 - p|$, i.e., the proposal in *P* that is closest to her ideal point. The reasoning is analogous to the proposal by justice 1. Note that this will allow justice 2 to choose which proto-coalition she prefers. The reasoning is the same for justice 3 as the opinion writer, except that she will propose $\hat{p} = \min_{p \in P} |x_3 - p|$.

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