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Politics from the Bench? Ideology and Strategic Voting in the U.S. Supreme Court

Abstract

Supreme Court justices often vote along ideological lines. Is this due to a genuinely different interpretation of the law, or does it reflect justices' desire to resolve politically charged legal questions in accordance with their personal views? To learn more about the nature of decision-making in the Court, we differentiate between votes that were pivotal and those that were not. When a justice's choice decides the outcome of a case, her ideology plays an even greater role in determining her vote - both relative to her choices on other cases and relative to other justices voting on the same case. We develop and empirically assess a model of voting in which judges trade off expressive and instrumental concerns. The evidence we present suggests that justices vote strategically, at least in part, to affect precedent.

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“Judges and justices are servants of the law, not the other way around. Judges are like umpires. Umpires don’t make the rules; they apply them. [...] Judges are not politicians. [...] If I am confirmed, I will confront every case with an open mind. I will fully and fairly analyze the legal arguments that are presented. [...] And I will remember that it’s my job to call balls and strikes and not to pitch or bat.”

— Chief Justice John Roberts, Sept. 12, 2005

1 Introduction

Judges do not only dispense justice to the litigants appearing before them. In the process of resolving individual cases, they often also make new law. A central question in the political science of judging is how judges decide when both of these functions conflict, i.e., when serving justice to one litigant precludes a judge from shaping the law as he or she thinks most appropriate. Are judges ideologically motivated actors who (ab)use their power to influence public policy? Or, are they, in the words of Chief Justice Roberts, “umpires” who simply apply the rules as they understand them?

The question of what determines judicial decisions is particularly important in the context of the U.S. Supreme Court, where the justices have virtually complete discretion over which cases to hear. In fact, the justices consistently state that it is not their objective to merely correct injustices from lower-court decisions; rather they step in to clarify areas of the law that are ambiguous or incomplete (see, e.g., Perry 1991). As a consequence, the cases that the Court decides tend to be exactly those that create room for discretion—either because the relevant parts of the law contain open-ended language, or because the drafters did not foresee the issue at hand.

A large literature in political science documents that justices’ votes on the merits of a case are closely related to measures of their ideological predispositions (e.g., Pritchett 1948; Segal and Cover 1989; Segal and Spaeth 2002). Why ideology predicts votes, however, remains unknown. Are judges politicians in robes, who try to resolve politically charged legal

questions in accordance with their personal views? Or, do the liberals and conservatives on the bench simply adjudicate based on different legal philosophies, with different implications for the correct ruling in a subset of cases? Even if the justices are sincerely trying to call the balls and strikes, when they have to interpret law—the Constitution, statutes, regulations, etc.—their decisions may inadvertently end up having an ideological tinge. According to Posner (2016), “this is not an usurpation of power but an inevitability.”

In this paper, we ask whether Supreme Court justices’ interest in shaping the law affects their votes on who should prevail in a particular case. In the first part of the paper, we present evidence to suggest that justices are, in fact, strategic actors who are, at least in part, motivated by instrumental considerations. We arrive at this conclusion by differentiating between situations in which a justice’s vote is pivotal and those in which it is not. The key idea behind our approach is that a justice’s interpretation of the law should not depend on whether her own vote determines which litigant wins. From a consequentialist perspective, however, the outcome of a case may be important because it affects the Court’s opinion and, therefore, legal precedent. Strikingly, we find that when a justice’s vote is decisive, ideology has a far greater influence on her decision-making than usual. In situations in which it matters the most, justices polarize rather than moderate.

Figure 1 illustrates this finding in the raw data. The figure plots a justice’s share of votes in the conservative direction (y -axis) against how conservative she was thought to be when she took the bench (x -axis). The panel on the left restricts attention to cases in which her vote was irrelevant for the Court’s ruling, whereas the panel on the right focuses on situations in which her choice was decisive, i.e., votes that were *ex post* pivotal. Evidently, ideological cleavages magnify when a justice’s vote determines the outcome of the case.

We show that this hitherto unknown pattern in the data is not due to the potentially confounding effects of unobserved justice- and case-specific characteristics. Identification in our empirical setup comes from comparing justices’ votes on cases in which they are *ex post* pivotal with (i) their own choices in other (close) cases, and (ii) the votes of their colleagues

on the same case. Focusing on either source of variation leads to qualitatively very similar results. We find evidence of ideology-driven strategic voting for cases across all areas of the law, all decades since World War II, and the vast majority of justices who served on the Court since then.

In the second part of the paper, we develop a simple game-theoretic framework of decision-making in the Supreme Court that has the potential to rationalize our descriptive results. In the model, justices have both expressive and instrumental preferences.¹ Specifically, we assume that justices derive utility from correctly applying the law *as they see it*. This may be due to an intrinsic motivation to uphold the role of a justice as an umpire and applier of the law, or it might be because justices are concerned about their personal reputation or that of the Court. At the same time, they care about the outcome of the case insofar as it affects the evolution of precedent.

In equilibrium, a justice who knows that her vote is not going to be pivotal will decide based on her belief about the correct ruling on legalistic grounds. Since liberal and conservative justices differ in their judicial philosophies, i.e., their perception of the legal status quo, votes will generally be correlated with ideology. A justice who is pivotal, however, may face a trade-off between affecting future jurisprudence and upholding the law in a particular case. That is, a conservative (liberal) justice might wish to cast a conservative (liberal) vote in order to move the legal status quo further to the right (left), even when she knows that her interpretation of the law favors a liberal (conservative) disposition. As a result, justices' ideology plays an even greater role in determining pivotal votes.

We implement a series of empirical tests in order to distinguish between our theory and alternative explanations for why Supreme Court justices might polarize. In particular, we find no evidence that pivotal justices fall back on their ideology as a form of tiebreaker when the law is unclear. Instead, the evidence implies that justices behave strategically, at least in part, to affect legal precedent.

¹For a point of comparison, see Cameron and Kornhauser (2017).

Broadly summarizing, our results suggest that the justices trade off deciding correctly under the law with their concerns over the evolution precedent. They do not appear to be impartial umpires.

2 Judicial Preferences and Voting

Scholarship on the determinants of judicial behavior has at its core two questions that together have spurred a century of empirical research. First, since the rise of legal realism in the early 20th century, scholars have debated the nature of judicial preferences. Do judges have preferences over the content of law or over the outcomes of cases? Second, beginning with the institutional revolution in political science, the literature has asked how legal and political institutions shape the incentives that judges face. Although past research establishes a number of theoretical and empirical primitives on which our analysis builds, it also highlights the difficulty in distinguishing among competing models of judging.

2.1 The Nature of Judicial Preferences

The idea that judges are ideological has become accepted wisdom in nearly every discipline that studies the courts. However, why ideology matters for how judges decide remains an open question. During the late 20th century, the attitudinal model dominated political-science approaches to judicial decision-making. According to the attitudinal model, judges have a degree of latent affinity for each party in a case. Case facts act as stimuli that trigger these affinities and, thereby, induce a preference for one litigant over another (Segal and Spaeth 2002).

In recent decades, however, the case-space framework has come into prominence among institutionally oriented scholars (see, e.g., Cameron 1993; Cameron and Kornhauser 2017; Kornhauser 1992*b*). According to this alternative approach, each case is defined by a bundle of facts, which can be represented by a point in the “fact space.” Judges in turn vary in

their view about the correct disposition for each bundle of facts. These views give rise to preferences over legal rules that partition the fact space into dichotomous decisions. In the case-space model, judges regard legal rules as the central element of choice. Litigants and their disputes are fungible.

Thus, the main distinction between the two canonical perspectives on judicial decision-making is whether judges have preferences over litigants or legal rules. In either approach, the fundamental source of disagreement between judges is normative—different judges hold different views of the world. In an attitudinal framework, certain classes of litigants are to be preferred over others; while in a case-space framework, only some bundles of case facts are deemed acceptable.

A closely related, but theoretically distinct, question is whether judges are motivated by expressive or instrumental concerns. Do judges derive utility from how they themselves vote in a particular case or do they primarily care about the court's action, i.e., the ultimate disposition of the dispute? Expressive motivations may, for instance, be due to an intrinsic desire to apply the appropriate legal rule or to side with a particular type of litigant. Consequentialist judges, however, view their votes as a means to an end, i.e., to shape precedent and ensure that the proper standard is applied to future cases.

In contrast to normative or political approaches, team models of adjudication conceive of judges as pursuing a common objective subject to information asymmetries. That is, all judges on a panel ultimately have the same goal, but they differ in the quality and nature of the information that they possess (Kornhauser 1995). Iaryczower and Shum (2012) explicitly model judges who resolve cases based on both an ideological predisposition and a malleable belief about the correct decision under the law. Their empirical results for the Supreme Court imply that in a remarkable 44% of cases, justices' final votes differed from their predispositions by virtue of the (private) information they received.

2.2 Institutional Incentives for Strategic Voting

Assuming that judges pursue some kind of ideological objective, scholars have employed various theoretical models to study judicial voting, judges' interactions across levels of the judicial hierarchy, and interactions among courts and other branches of government. Among these studies, a frequent point of contention is whether judges are strategic decision makers.

Political scientists studying the Supreme Court have pointed out two possible rationales for strategic behavior. First, since the Court is a collegial body that decides by majority rule, justices may have an incentive to vote strategically in order to influence who wins the case. Which litigant ends up victorious is important insofar as it affects the content of the Court's opinion, which constitutes precedent and law. The second reason to expect strategic behavior stems from the Court's interactions with other branches of government. Since these can exercise checks and balances through separation-of-powers institutions, the justices have a collective incentive to avoid triggering backlash from Congress (e.g., Clinton 1994; Epstein and Knight 1998; Eskridge 1991; Gely and Spiller 1990, 1992; Knight and Epstein 1996) or even the public (e.g., Casillas, Enns and Wohlfarth 2011; Clark 2011).

Surprisingly, the most widely documented evidence suggests there is little strategic behavior by Supreme Court justices (Segal 1997; Segal and Spaeth 2002). Concerning the first rationale, scholars have argued that the long-run nature of the justices' relationship coupled with concerns for collegiality, the small size of the Court, and judicial norms about the role of law in adjudication all limit the incentive to vote strategically on case outcomes (see, for example, Caminker 1999). A notable exception to this general pattern is Chief Justice Burger, who has been suspected of voting strategically as the chief justice in order to control who writes the majority opinion (e.g., Epstein and Knight 1998; Johnson, Spriggs and Wahlbeck 2005; Maltzman and Wahlbeck 1996).² Concerning the second rationale for strategic behav-

²For example, Johnson, Spriggs and Wahlbeck (2005) argue that, during conference, the chief justice is especially likely to delay his vote until after the other justices have announced their views. By strategically joining the majority, the chief justice can control who writes the Court's opinion and thereby exert some influence over its content. We show in Appendix C that our finding of strategic voting is not limited to the chief justice.

ior, scholars have pointed to the Supreme Court’s institutional insulation and independence, as well as justices’ lack of career-advancement incentives, as mitigating factors (e.g., Segal 1997; Segal and Spaeth 2002).

Despite the general lack of evidence of strategic behavior, some literature in law and economics argues that one of the judges’ primary concerns is how their own decisions affect the outcome of cases (e.g., Posner 1993). In fact, most formal and informal rational-choice theories of the Supreme Court lay out clear incentives for strategic voting. In these models, a justice who has an interest in the outcome of a case—for whatever reason—should act strategically whenever her vote is pivotal.

Where the disjoint occurs is between the theoretical models that identify incentives for strategic voting and the empirical designs used to study actual votes. In fact, one of the lessons past research makes clear is that it can be very difficult to detect strategic behavior.

Some studies examine only case outcomes, rather than the votes of individual justices (e.g., Bergara, Richman and Spiller 2003; Segal and Westerland 2005; Segal, Westerland and Lindquist 2011; Spiller and Gely 1992). Since the Court is not a unitary decision maker, it is unclear whether final dispositions adequately reflect the individual-level incentives that the justices faced. Other studies examine all justices’ votes in order to evaluate whether there is a consistent pattern across justices (e.g., Segal 1997), or on-average evidence of strategic voting (Maltzman and Wahlbeck 1996). Yet, there is no reason to expect that strategic incentives manifest themselves for all justices either uniformly or on average. If a justice is not pivotal, then she cannot possibly affect the case outcome. She has, therefore, no reason to act strategically.

Segal, Westerland and Lindquist (2011) examine whether the median justice, who is thought to be most likely to be pivotal, exhibits evidence of strategic voting. However, in any minimal winning coalition, every justice in the majority is *ex post* pivotal, not just the median. Moreover, in most spatial models of judicial decision-making, the median justice is *ex ante* the closest to being indifferent over case outcomes and thus has the smallest incentive

to cast a strategic vote.

We depart from past research in two ways. First, we show that we observe patterns of strategic voting precisely where theory predicts we ought to—among the justices who were *ex post* pivotal. Second, we develop a formal model of judicial decision-making that explains this previously overlooked pattern in the data. By delivering a rich set of comparative statics, the model also clarifies how strategic voting allows us to learn more about the nature of justices’ preferences. Specifically, our results suggest that justices have both expressive and instrumental concerns. Justices care about the disposition of the case before them. They do so, at least in part, because determining the outcome of the dispute allows them to shape the law. The latter finding is consistent with the case-space approach to judging but difficult to rationalize through the lens of the attitudinal model.

3 A First Look at the Data

We begin our analysis with descriptive evidence on how Supreme Court justices vote on the merits of cases. In particular, we study the relationship between justices’ decisions and their ideological orientations, both when they are pivotal and when they are not.

3.1 Data Sources & Descriptive Statistics

Our empirical work draws on the Supreme Court Database (Spaeth, Epstein, Ruger, Whittington, Segal and Martin 2017). For our purposes, the most important piece of information is expert assessments of the ideological direction of each vote by each justice. These assessments are determined by use of a detailed rubric that maps categories of litigants, the substantive issue at hand, and the identity of the winning party into discrete categories for whether the outcome is “conservative,” “liberal,” or, less commonly, “unspecifiable.”³ For example, when an employer opposes the government in a case involving employment discrim-

³About 1.6% of case outcomes are classified as “unspecifiable.” These disputes are excluded from our analysis.

ination, a disposition in favor of the government (employer) is coded as liberal (conservative). In a case involving Fourth Amendment protections, however, a pro-government (individual) vote would be coded as conservative (liberal).⁴

In addition, we rely on Segal–Cover scores to measure justices’ ideological preferences and qualifications (Segal and Cover 1989; Segal, Epstein, Cameron and Spaeth 1995). Segal–Cover scores are constructed from newspaper editorials published between the justice’s nomination by the president and the confirmation vote in the Senate. They measure how much of the editorial content suggests the nominee has a liberal, conservative, or moderate orientation. We rescale Segal and Cover’s original index so that a value of zero corresponds to “unanimously liberal,” while a value of one corresponds to “unanimously conservative.” Justices’ qualifications are assessed in the same fashion.

Going back to Figure 1, most justices who were thought to be conservatives when they took the bench were, indeed, appointed by Republican presidents, while their more liberal colleagues tend to be Democratic nominees.⁵ The figure also shows that, despite their simplicity, Segal–Cover scores correlate strongly with the ideological direction of justices’ votes.

Descriptive statistics for the most important remaining variables are presented in Table 1. Overall, we observe 37 different justices deciding more than 8,500 disputes. About 40% of cases are resolved unanimously, while almost 18% end up with a minimal winning coalition. The latter set of cases allows us to detect strategic voting on the Supreme Court and shed new light on the nature of justices’ preferences.

⁴We show in Appendix C that our main result is qualitatively and quantitatively robust to using the “corrected” coding of cases due to Epstein, Landes and Posner (2013). We also show that, if anything, the evidence of strategic voting becomes stronger when we implement the sample restrictions recommended by McGuire, Vanberg, Smith and Caldeira (2009).

⁵Although Segal–Cover scores are far from perfect, some of the apparent outliers can be explained by politics. For instance, President Eisenhower is widely believed to have appointed the liberal William J. Brennan Jr. in order to appeal to swing voters shortly before the 1956 presidential election. Similarly, Eisenhower is thought to have appointed Chief Justice Earl Warren to repay a campaign debt from 1952. According to Purdum (2005), he later regretted his decision, calling it “the biggest damn fool mistake I ever made.”

3.2 Empirical Approach

To be clear, by strategic voting we mean that justices condition their choice on the actions of their colleagues. An implication of strategic voting is that a justice may behave differently if her decision affects the outcome of the case, i.e., if her vote is pivotal. By contrast, a justice is said to act sincerely if her own vote does not depend on those of her colleagues.⁶ Both types of behavior are conceptually distinct from justices' underlying motivations. That is, strategic voting may, but need not be, driven by a desire to affect legal precedent. Similarly, justices may vote sincerely based on the merits of the case vis-à-vis the perceived legal status quo; or they may vote sincerely according to their deep ideological convictions.

In the remainder of this section, we present evidence that Supreme Court justices do, in fact, vote strategically. We do not directly address the question of what drives this behavior until Section 5. In order to disentangle sincere and strategic decision-making, we rely on variants of the following econometric model:

$$v_{i,c} = \beta piv_{i,c} + \delta Ideology_i \times piv_{i,c} + \mu_i + \kappa_c + \varepsilon_{i,c}, \quad (1)$$

where $Ideology_i$ denotes justice i 's rescaled Segal–Cover score, $piv_{i,c}$ is an indicator variable equal to one if and only if her vote was *ex post* pivotal in deciding case c , and $v_{i,c}$ indicates whether i voted in the conservative as opposed to the liberal direction. We control for unobserved justice- and case-specific heterogeneity by including justice as well as, in some specifications, case fixed effects, i.e., μ_i and κ_c .⁷ The parameters of interest are β and δ . Under the null hypothesis of sincere voting, both ought to be zero. Nonzero point estimates would imply that Supreme Court justices behave differently when their vote matters for the resolution of the case.⁸

⁶We adopt this terminology because it corresponds to the standard notion of sincere and strategic voting in the rational-choice literature (see, e.g., Austen-Smith and Banks 1996; Feddersen and Pesendorfer 1998; Iaryczower and Shum 2012).

⁷Specifications without justice fixed effects also control for $Ideology_i$ by itself.

⁸In Appendix C, we replicate our main result using a logit specification in lieu of the linear probability model in equation (1).

It is important to point out that the justices are free to change their votes at any time until the outcome of the case has been formally announced in court. In this sense, the justices are playing a strategic game in which they best-respond to each other’s votes. Critical for our purposes, justices know whether or not they are pivotal.⁹

To see how β and δ are identified, it is useful to consider an example. Suppose Justice Kennedy observes that four of his colleagues vote in the conservative direction, while the remaining four vote liberally. He is, therefore, aware that his decision determines the disposition of the case. By including justice fixed effects, our linear probability model relies on *within*-justice variation in pivotality. That is, we contrast Justice Kennedy’s votes on cases in which he is pivotal with those in which he is not.

Note, these comparisons are not limited to the median member of the Court. In a 5–4 split *all* five justices siding with the majority are pivotal, which means that they find themselves in a position in which they have to best-respond to their colleagues casting four liberal and four conservative votes. By contrast, all four justices in the minority know that their decision is irrelevant for the outcome of the case. Further note, whether a particular justice is pivotal is determined by the choices of the *other* members of the court. It is independent of her own vote.

Since there is also *within*-case variation in pivotality, we estimate a second set of models that rely solely on this alternative source of identification. By controlling for case fixed effects, we compare the votes, *on the same case*, of justices who are pivotal with those who are not. Our most-inclusive specifications contain justice as well as case fixed effects, as in equation (1). This corresponds to an individual-level difference-in-differences design, which holds both case and justice characteristics fixed. Intuitively, the difference-in-differences design compares deviations from justices’ usual voting patterns across those who were and were not pivotal on a particular case. As we show below, our findings are qualitatively equivalent, irrespective of the source of identifying variation.

⁹For background information on the institutional setting, see Appendix D.

In order to account for correlation in the residuals among votes on the same case, and to allow for serial dependence across cases, we cluster standard errors by Supreme Court term.

3.3 Strategic Voting in the Court

Focusing on votes that have a clear ideological direction, Table 2 presents results from estimating variants of equation (1) on our data. The upper panel uses Segal–Cover scores to proxy for justices’ ideology, while the lower one relies on the party affiliation of the appointing president instead. Within each panel, the first column replicates the well-known result that justices’ (perceived) ideology predicts their votes. The second column establishes a previously unknown fact. The correlation between ideology and votes is far stronger when a justice is pivotal.

The third column adds justice fixed effects, while the fourth one also controls for the case being decided by a minimal majority. Columns (5) and (6) account for case fixed effects, either separately or in conjunction with justice fixed effects. Taking the coefficients in the last column at face value, when a “unanimously liberal” justice is pivotal, she becomes almost 13 percentage points *less* likely to cast a conservative vote—both relative to how she ordinarily votes and relative to her colleagues deciding the same case. By contrast, when pivotal, a “unanimously conservative” justice is about 29 percentage points *more* likely to vote conservatively than usual.¹⁰

The results in the lower panel demonstrate that our finding of polarization is not an artifact of using Segal–Cover scores. Although these models yield no evidence to conclude that Democratic appointees change their behavior in response to being pivotal, Republican ones become almost 16 percentage points more likely to vote conservatively.¹¹ Regardless of the

¹⁰Interestingly, if anything, controlling for case characteristics increases the relevant point estimates. We note though that changes in the coefficients of interest are particularly stark when we rely on Segal–Cover scores as proxies for justices’ ideological outlook. Estimates that instead use the party of the appointing president or the clerk-based ideology scores of Bonica, Chilton, Goldin, Rozema and Sen (2017) do not exhibit a similarly large increase (cf. Table 2(b) and Appendix C).

¹¹The raw data in Figure 1 suggest that the apparent lack of effect on Democratic appointees is because some of them behave more like Republicans to begin with. For instance, Justices Jackson, Vinson, Frank-

proxy for justices' ideology and irrespective of the specifics of the econometric specification, given p -values of less than .001, we always reject the null hypothesis of sincere voting. All in all, the evidence implies that, on average, justices' votes depend more heavily on their personal ideology when their decision determines the Supreme Court's ruling in a particular case. Justices vote strategically.

One potential concern with the results in Table 2 is that some cases may be more divisive on ideological grounds than others. If the former are also more likely to be decided by a minimal majority, and if case fixed effects do not adequately control for the divisiveness of the issue, then the estimates above might be biased away from zero. In order to ameliorate this and similar concerns, we take a two-pronged approach.

First, in Table 3 we present results from models that let the baseline impact of ideology vary flexibly across time and subject matter of the controversy. That is, we explicitly allow for, say, civil-rights cases to be more divisive than First Amendment disputes, which, in turn, might load more heavily on ideology than issues of federalism or judicial power. In total, the Supreme Court Database distinguishes between more than 250 different legal issues. Despite this great level of detail, the estimates in column (4) show that letting each of these issues be differentially controversial has almost no impact on the coefficients of interest. Columns (5) and (6) allow for even greater flexibility by controlling for justice-by-issue and justice-by-issue-by-term fixed effects. Again, the evidence points to ideology-driven strategic voting.

Second, to further probe the robustness of our main finding, we conduct a placebo test. Specifically, *within* each case that was decided by a minimal majority, we randomly reassign which justices happened to be pivotal. We then regress their actual votes on the new pivotality indicator, its interaction with a justice's ideology, and justice fixed effects. Repeating this procedure sufficiently many times, we can reject the null hypothesis of no polarizing

furter, and Burton all have conservative voting records in cases in which they were not pivotal, and they decide even more conservatively when they are. In line with the results in the upper panel of Table 2, estimates that use Bonica et al.'s (2017) ideology scores imply that both liberal and conservative justices polarize (cf. Appendix C).

effect if the true $\hat{\delta}$ exceeds 95% of the placebos.

Figure 2 shows the placebo distribution. More than 99.9% of simulated coefficients are smaller than their counterpart in Table 2 (depicted by the vertical line). This leads us to conclude that being pivotal causes justices to polarize along ideological lines.¹²

We now return to our workhorse model in column (6) of Table 2 and study the comparative statics of this hitherto unknown effect. Splitting the data by decade and a broad categorization of legal issues, Figures 3 and 4 present evidence of ideologically driven strategic voting during all decades since the end of WW II and across all areas of the law. Although most estimates of δ in these figures are rather imprecise, it appears that the strategic polarization of the Court has increased since the 1980s.¹³ Spenkuch, Montagnes and Magleby (2018) document a similar increase in strategic voting in the U.S. Senate, consistent with the idea that deepening ideological cleavages raise the (perceived) opportunity cost of sincere behavior.

Next, we examine individual-level heterogeneity in the extent to which justices polarize when they are pivotal. To this end, we estimate

$$v_{i,c} = \beta_i \text{piv}_{i,c} + \mu_i + \kappa_c + \varepsilon_{i,c}, \quad (2)$$

where β_i denotes the *justice-specific* effect of casting a decisive vote. Figure 5 plots the estimated coefficients and the associated 95%-confidence intervals. Known conservatives, such as Justices Alito and Rehnquist, decide more conservatively, while known liberals, such as Justices Goldberg and Warren, judge even more liberally when they are pivotal. Although we are unable to reject the null of no effect for 10 out of 37 justices, Figure 5 suggests that

¹²Note, one should not expect the placebo estimates in Figure 2 to be centered around zero, especially if the null hypothesis of no effect does not hold. In any 5–4 split, *at least* one of the justices who ended up being pivotal in reality will also be assigned to be pivotal in the surrogate data set, i.e., after random reassignment. In fact, the number of justices who are pivotal both in actuality and in the resampled data follows a hypergeometric distribution with a mean of about 2.78. The important takeaway from Figure 2 is that the true point estimate is larger than almost all placebos, which helps to rule out that unobserved heterogeneity related to which cases see minimal winning coalitions is driving our main result.

¹³The point estimates for the 1970s and 1980s are more precise than those for other decades due to the greater number of narrowly decided cases during these years.

our finding of strategic voting applies to the majority of them.¹⁴

In sum, our analysis documents a novel empirical regularity. Supreme Court justices vote strategically. When it matters the most, i.e., when their vote determines the disposition of the case, justices' decisions depend even more on their ideology than usual. They polarize.

4 A Model of Strategic Decision-Making in the Court

Building on Kornhauser (1992*a,b*) and Gennaioli and Shleifer (2007), we now develop a simple theory of decision-making at the Supreme Court. The purpose of our model is to rationalize the empirical findings above and to identify additional observational implications, which we take to the data in Section 5. The key difference between existing work and ours is that, in our model, justices have both expressive and instrumental preferences, which causes them to vote strategically.

4.1 Model Primitives

Players, Actions, and the Legal Environment. There is an odd number of Supreme Court justices, indexed by $i = 1, 2, \dots, N$, who collectively decide the disposition of the case at hand, $d \in \{0, 1\}$. Each justice can either cast a conservative vote, $v_i = 1$, or a liberal one, $v_i = 0$. Cases are decided by majority rule, so that $d = 1$ if and only if $\sum_{i=1}^N v_i \geq \frac{N+1}{2}$.

A case is comprised of a combination of legal and conceptual facts. For simplicity, we assume that these facts can be summarized by a unidimensional index over the unit interval, x , with higher values favoring a liberal decision. Since all justices have access to the same case-related background information, receive the same set of legal briefs, and hear the same oral arguments, we impose the assumption that x is common knowledge.

In addition to the legal facts, each case is decided in light of an existing body of law. Let Q denote the legal status quo or precedent. A status quo of Q implies that, under an objective

¹⁴In Appendix Figure A.1, we show that strategic voting decreases slightly with justices' tenure on the Court.

reading of current law, all cases with facts $x \geq Q$ should be decided liberally, whereas cases with facts $x < Q$ ought to be decided conservatively.¹⁵ Since a higher threshold results in conservative decisions for a wider range of case facts, we interpret Q as the conservativeness of current precedent.

For example, in a search and seizure case, x might represent the degree of intrusiveness of the search, while Q demarcates what constitutes permissible police conduct. If $x \geq Q$, then the police overstepped its authority and the evidence obtained from the search should have been excluded at trial. More concretely, in the recent Supreme Court case *Collins v. Virginia*, the police had, without a warrant, entered a private driveway and removed a tarp from a parked motorbike in order to identify the bike as stolen. In the past, the Court has ruled that the Fourth Amendment does not only protect the home against warrantless searches but also the curtilage, i.e., the area directly surrounding one's house. In *Carroll v. United States*, however, the justices carved out an automobile exemption, according to which police officers need only have probable cause to search a motor vehicle. The key question for the Court to decide is thus whether the exception in *Carroll* was meant to apply to the curtilage. If not, then $x \geq Q$, meaning that the search of the motorbike was illegal.

Evolution of Precedent. There are two forces in our model that might lead justices to disagree about the appropriate ruling. (i) Justices may differ in their reading of current law and, therefore, in their perception of Q . (ii) Some may also find the legal status quo undesirable, which causes them to seek new precedent.

Let P be the precedent that results from the Supreme Court's ruling on the case. If the Court's decision accords with the status quo (i.e., $d = 1 \Leftrightarrow x < Q$), then the precedent remains unchanged, so that $P = Q$. If, however, the disposition is inconsistent with the extant body of law (i.e., if $x \geq Q$ and $d = 1$, or $x < Q$ and $d = 0$), then the case at hand sets a new precedent, and $P = x$.

¹⁵The decision to break ties in favor of a liberal decision has no bearing on our results.

Preferences. Consistent with the idea that Supreme Court justices are policy seekers, we assume that they have instrumental preferences over P , as this affects the resolution of similar disputes that subsequently come before lower courts. At the same time, justices also care about their vote on the merits of the case at hand. In particular, a justice derives expressive utility from her own vote being consistent with her reading of the law. These expressive preferences may be due to an unmodeled concern for her personal reputation, concerns about the legitimacy of the Court, concerns related to collegiality, or an intrinsic motivation to honor the role of judges as neutral umpires and applicers of the law.

Whatever the ultimate source of justices' preferences, in order to rationalize the data, we let both their expressive as well as their instrumental inclinations depend on their ideology. That is, a justice's personal views may not only affect the ideal legal rule by which she would like future cases to be resolved, but her ideology might also color her interpretation of existing law or, more generally, her judicial philosophy. As a consequence, justices disagree as *policy makers* over where the ideal legal rule should lie; and they may disagree as *umpires* over how to interpret the extant set of rules.

Formally, each justice has an indifference point, J_i , which represents her preferred delin-
 eation between conservative and liberal decisions. Since justice i favors $d = 1$ if and only if $x < J_i$, a higher J_i is associated with a more conservative outlook.

To capture the dependence between a justice's ideology and her interpretation of the law, we let the latter be given by $q_i \equiv q(Q, J_i)$, with (i) $q(Q, Q) = Q$, (ii) $0 < \frac{\partial q}{\partial Q} \leq 1$, and (iii) $0 < \frac{\partial q}{\partial J_i} \leq 1$. Intuitively, the first of these assumptions states that a justice whose ideal legal rule coincides with current precedent reads the law correctly. The second assumption ensures that justices' perception of the legal status quo correlates with reality, and the third assumption allows for a systematic ideological bias. That is, a conservative justice interprets the law as more conservative than a more-liberal one.¹⁶

¹⁶The requirement that the derivatives of q do not exceed unity ensures that q_i falls between Q and J_i . That is, a justice interprets the law with a self-serving bias, but she does not "overshoot." The latter helps to guarantee the existence of a pure-strategy equilibrium. In general, our assumptions on q are sufficient but not necessary to rationalize the empirical results in the previous section.

Justices' instrumental payoffs depend on their ideal legal rule, their own vote, as well as the votes of their colleagues. The latter two matter because they determine the Court's ruling and, therefore, P . Specifically, we assume that a justice's consequentialist aims are served when the new precedent more-closely aligns with her preferred rule, as in

$$D_i(v_i, v_{-i}) = -|P(v_i, v_{-i}) - J_i|.$$

By contrast, her expressive payoff depends on her own vote as well as how the facts of the case relate to her interpretation of *current* precedent:

$$E_i(v_i) = \left(\frac{1}{2} - v_i\right) (x - q(Q, J_i)).$$

In words, a justice derives positive expressive utility from casting a liberal vote if and only if she perceives the case facts to lie to the right of the status quo. Combining both types of concerns, and assuming that justices put weight γ on their consequentialist motives, total utility is given by

$$U(v_i, v_{-i}) = (1 - \gamma)E_i(v_i) + \gamma D_i(v_i, v_{-i}).$$

4.2 Strategies, Equilibrium, and Testable Implications

To solve the model, we assume that justices' actions constitute a Nash equilibrium. We focus on Nash equilibria because long-held norms of collegiality dictate that Supreme Court justices accommodate each other's requests to change their votes. It would be highly unusual for the majority to announce a verdict before all members of the Court have agreed that they are satisfied with all aspects of their own decision. In other words, the institutional setting strongly suggests that justices' final votes are mutual best responses.¹⁷

Since justice i observes v_{-i} , she knows whether her vote is pivotal. If her decision is

¹⁷We further note that almost all of the Nash equilibria in our game are coalition-proof. That is, there does not exist a group of justices that could guarantee themselves a higher payoff through coordinated joint deviations.

irrelevant for the outcome of the case (and thus P), her calculus of voting is straightforward. Comparing the utility from casting a conservative vote to that from a liberal one, her decision rule reduces to a consideration of her expressive preferences. It is, therefore, optimal to vote conservatively if and only if she interprets current precedent to warrant a conservative decision.

If justice i knows that she is pivotal, then her calculus of voting becomes more complicated because there may be situations in which her expressive and instrumental preferences conflict. For example, a conservative justice might know that the law demands a liberal vote. At the same time, she may find the current status quo so objectionable that she is willing to incur expressive disutility in order to set new precedent further to the right.

Proposition 1 formalizes these intuitions.

Proposition 1. *Consider a generic case with facts x . If justice i is not pivotal, i.e., if $\sum_{j \neq i} v_j \neq \frac{N+1}{2} - 1$, then she casts a conservative vote whenever $x < q_i$. If justice i is pivotal and*

(i) *if $\gamma < \frac{q_i - J_i}{Q + q_i - 2J_i}$, then she votes conservatively if and only if $x < \frac{q_i - \gamma(Q + q_i)}{1 - 2\gamma}$,*

(ii) *if $\gamma \geq \frac{q_i - J_i}{Q + q_i - 2J_i}$, then she votes conservatively if and only if $x < \gamma(2J_i - Q) + (1 - \gamma)q_i$.*

Proof. All proofs are collected in Appendix A. □

To better convey the nature of justices' strategies, Figure 6 illustrates how their optimal decisions depend on the case facts as $\gamma \rightarrow 1$. In this special case, pivotal justices base their votes (solely) on their instrumental preferences. Smaller γ yield qualitatively identical rules, but with different cutoffs. The upper panel of Figure 6 considers a justice whose ideal legal rule is considerably more liberal than current precedent, while the lower one depicts the decision rule of a justice who is slightly more conservative than the status quo. As indicated by the labelled arrows, both would always vote liberally (conservatively) when the facts lie far enough to the right (left). For intermediate ranges, however, their decisions differ. Since the liberal justice's perception of the legal status quo is further to the left than that of the

conservative one, she votes liberally on a larger set of cases than the latter, even when neither is pivotal. As a result, our model predicts that:

Implication 1. *A justice’s vote correlates with her ideology, irrespective of whether she is pivotal.*

The figure also makes clear that, as long as the case facts are not too far removed from the legal status quo, pivotal justices are willing to deviate from their role as umpire in order to more-closely align the new precedent with their ideal rule. As a result, when pivotal, justices vote in the direction of their ideological predisposition for a wider range of x . Moreover, the further away a justice’s ideal point is from the status quo, the larger is the interval of case facts for which her decision depends on being pivotal. Intuitively, an ideal rule that is far removed from current precedent implies a larger set of facts that, if $P = x$, would improve upon the status quo. We, therefore, obtain two additional empirical implications.

Implication 2. *If a justice is pivotal, then ideology exerts an even greater influence on her decision than usual.*

Implication 3. *The effect of being pivotal is larger for justices who are ideologically more extreme relative to the status quo.*

Another testable prediction follows from the observation that when justices put more weight on aligning the law with their personal ideology, it becomes optimal to vote against their expressive preferences for a wider range of case facts. Since the trade-off between a justice’s expressive and consequentialist concerns is only relevant when a single vote decides the outcome of the case, being pivotal exerts a larger impact as γ increases. Thus:

Implication 4. *If justices perceive the outcomes of some cases as more important than those of others, then being pivotal has a larger effect on votes in the former set of disputes.*

Before we formally characterize the game’s equilibria, it is useful to introduce some additional notation. Let $\bar{x}_i(\gamma)$ be the conservative-voting threshold that Proposition 1 prescribes for justice i when she is pivotal.¹⁸ Further, let $L \equiv \{i : x \geq \max\{q_i, \bar{x}_i(\gamma)\}\}$ and

¹⁸Specifically, $\bar{x}_i(\gamma) \equiv \frac{q_i - \gamma(Q + q_i)}{1 - 2\gamma}$ if $\gamma < \frac{q_i - J_i}{Q + q_i - 2J_i}$, and $\bar{x}_i(\gamma) \equiv \gamma(2J_i - Q) + (1 - \gamma)q_i$ if $\gamma \geq \frac{q_i - J_i}{Q + q_i - 2J_i}$.

$C \equiv \{i : x < \min\{q_i, \bar{x}_i(\gamma)\}\}$ denote the sets of *unconflicted* agents, i.e., justices who vote either liberally or conservatively regardless of the choices of their colleagues; and define $\tilde{L} \equiv \{i : \bar{x}_i(\gamma) \leq x < q_i\}$ and $\tilde{C} \equiv \{i : q_i \leq x < \bar{x}_i(\gamma)\}$ as the group of justices who do so if, and only if, their vote is pivotal. We say that these justices are *conflicted*. Lastly, let $\#\cdot$ denote the cardinality of the respective set. With this notation in hand, we can state a useful lemma.

Lemma 1. *For a generic arrangement of legal status quo, case facts, and preferences, there exists at most one type of conflicted justice. That is, either (i) $\#\tilde{C} = \#\tilde{L} = 0$, (ii) $\#\tilde{C} = 0$ and $\#\tilde{L} \geq 1$, or (iii) $\#\tilde{C} \geq 1$ and $\#\tilde{L} = 0$.*

The intuition behind this result simple. Given the self-serving bias with which justices interpret the law, it cannot be the case that a conservative justice (i.e., a member of the Court who would like to set precedent further to the right) perceives that the law demands a liberal decision while a more-liberal colleague of hers believes the opposite. A technical consequence of the lemma is that the game above always admits an equilibrium in pure strategies.

Proposition 2. *For a generic arrangement of legal status quo, case facts, and preferences, there always exists at least one pure-strategy Nash equilibrium. In any equilibrium, all unconflicted justices vote their expressive preferences. Further,*

- (i) *if $\max\{\#C, \#L\} \geq \frac{N+1}{2}$, then all conflicted justices vote according to their expressive preferences. The resulting equilibrium is unique, and $d = 1 \Leftrightarrow \#C \geq \frac{N+1}{2}$.*
- (ii) *if either $\#C = \frac{N+1}{2} - 1$ and $\#\tilde{C} \geq 1$, or $\#L = \frac{N+1}{2} - 1$ and $\#\tilde{L} \geq 1$, then exactly one of the conflicted justices votes against her expressive preferences. The resulting equilibria are outcome-equivalent insofar as $d = 1 \Leftrightarrow \#C + \#\tilde{C} \geq \frac{N+1}{2}$.*
- (iii) *if $\max\{\#C, \#L\} < \frac{N+1}{2}$ and either $\#C < \frac{N+1}{2} - 1$ and $\#\tilde{C} \geq 2$, or $\#L < \frac{N+1}{2} - 1$ and $\#\tilde{L} \geq 2$, then there exist multiple equilibria with different outcomes:*
 - (a) *Exactly $\frac{N+1}{2} - \#C$ ($\frac{N+1}{2} - \#L$) of the conflicted justices vote against their expressive preferences and $d = 1$ ($d = 0$).*
 - (b) *All conflicted justices vote according to their expressive preferences, so that $d = 0$ ($d = 1$) even if $\#C + \#\tilde{C} \geq \frac{N+1}{2}$ ($\#L + \#\tilde{L} \geq \frac{N+1}{2}$).*

In words, part (i) of the proposition states that, whenever a majority of unconflicted justices agrees on the correct ruling, all members of the Court vote according to their own interpretation of the law. Parts (ii) and (iii) consider situations in which the Court lacks a clear-cut majority of unconflicted justices. In these cases, consequentialist considerations may induce some justices to vote strategically in order to affect precedent. Interestingly, there is also the potential for coordination failures. That is, there exist Nash equilibria in which the Court’s ideological *minority* prevails because the conflicted members of the majority faction vote according to their interpretation of current law.¹⁹ We note that, with the exception of (iii)(b), all of the equilibria in Proposition 2 are coalition-proof. In other words, unless the justices fail to coordinate, it is not possible for any subset of them to improve their payoffs by *jointly* deviating.

Proposition 2 also implies that any equilibrium in which one or more justices vote against their sincere reading of the law must be a 5–4 victory for the Court’s ideological majority. To see this, note that if the vote of a conflicted justice is not needed to establish new precedent, then it is optimal for her to follow her expressive preferences, even if she strongly dislikes the current status quo. As a consequence, when strategic agents have conflicting expressive and instrumental concerns, wins become endogenously close.²⁰ The effect of strategic voting on losses, however, is the opposite. If the Court’s ideological majority loses a case, then, in equilibrium, *all* of its conflicted members defect, which exacerbates the defeat. Hence, our last testable implication:

Implication 5. *The Court’s ideological majority should be more likely to barely win a case than to just lose it.*

¹⁹Note, normal refinements such as a restriction to weakly undominated strategies do not apply here. When a justice is not pivotal, she strictly prefers to vote according to her expressive preferences.

²⁰See Spenkuch, Montagnes and Magleby (2018) for a similar result pertaining to strategic voting in legislatures.

4.3 Discussion

Before turning to an empirical examination of the model’s implications, we note a number of features that warrant discussion. First, our representation of legal change is stark. We do not explicitly model bargaining among the justices, which is a rich area of analysis in extant research. In particular, some recent work examines how bargaining takes place in a setting similar to ours, where justices have preferences over both case dispositions and the content of opinions written by majorities (Parameswaran, Cameron and Kornhauser 2018). Rather than explicitly modeling the bargaining process that gives rise to opinions, in our model the law evolves according to a simple function of the case facts, the disposition, and the legal status quo. Our theory, therefore, focuses on a particular set of incentives for strategic voting. If, by joining the majority, a justice is able to exert additional influence on the Court’s opinion, then her incentive to behave strategically may be heightened. While we cannot make precise statements about equilibria in alternative games, it is worth pointing out that this incentive is absent from our framework.

We further note that our assumption on how exactly the law changes (i.e., the new precedent being located at x) is not necessary to obtain similar qualitative predictions. As long as a conservative (liberal) ruling that is inconsistent with current precedent would move the status quo further to the right (left), our model’s empirical implications would continue to go through.

Second, our distinction between expressive and instrumental concerns merits discussion. Consistent with previous research, we assume that justices derive (instrumental) utility from the evolution of precedent, which is determined inside the model. They also receive (expressive) utility from how they themselves vote. The latter might, for instance, be due to concerns for their collective or individual reputations, which are not directly modeled but could be “instrumental” in the sense that they help justices achieve subsequent goals. As such, the distinction between instrumental and expressive concerns may be one of degree.

Finally, we have not explicitly modeled the microfoundations of justices’ preferences. On

one hand, a justice might care about opinion content because of its implications for how other litigants will be treated by other judges in the future. If correct, then the extent to which justices have consequentialist preferences can be thought of as a metric of their future discounting. On the other hand, justices might be subject to information asymmetries. As in Iaryczower and Shum (2012) and Iaryczower and Katz (2016), rational justices trying to reach the correct verdict would apply different standards to the same case, depending on whether or not their vote is pivotal. There are, of course, other microfoundations one might choose to adopt. What is crucial for our model's predictions is that justices' payoffs depend on both the outcome of the case as well as their own vote.

5 Model Tests and Alternative Explanations

Implications 1 and 2 serve as verification that the model rationalizes the empirical regularities in Section 3. Below, we present evidence in support of Implications 3, 4, and 5, as well as the assumption that justices care about precedent. In addition, we test and reject an alternative explanation for our main result, namely that legalistic ambiguity forces justices to fall back on their ideology as a form of tie breaker (Epstein, Landes and Posner 2013; Posner 2016).

5.1 Model Tests

A crucial assumption in our model is that justices care about the outcome of a case because it shapes legal precedent. Although the predictions of the theory would continue to go through almost unchanged if justices cared about the case disposition *per se*, different reasons for strategic behavior may carry different normative implications. It is, therefore, important to speak to justices' underlying motivation. To this end, Table 4 presents an empirical test for whether justices' decisions are influenced by their ability to affect precedent.

Specifically, the regressions in Table 4 distinguish among whether a justice is decisive for the outcome of the case (i.e., which litigant wins), whether she is pivotal for the majority

opinion constituting precedent, or both. Although 94% of the time justices are either pivotal on both dimensions or neither, the respective events are conceptually distinct. To see why, note that for a majority opinion to be regarded as precedent-setting, a (strict) majority of the justices participating in the case must sign on to it. A justice who agrees with the majority's preferred outcome but not the legal reasoning in its opinion may vote with the majority on the merits of the case but issue a special concurrence, i.e., write a separate opinion. There are thus situations in which a justice observes that five of her colleagues agree on the correct disposition, but only four are willing to sign the majority opinion. Such a justice is pivotal with respect to precedent but not with respect to the outcome of the case. In total, our data contain almost 3,600 of these constellations. There are also about 800 instances in which a justice's choice determined the final disposition but not precedent, say because four of her colleagues favored a particular ruling, yet only a subset of them were willing to sign the opinion.

Relying on the admittedly limited independent variation in the data, the results in Table 4 suggest that justices care about the disposition of cases *as well as* precedent. Interestingly, the coefficients with respect to precedent are larger in absolute value than those pertaining to the outcome of the case—though the observed differences are not always statistically significant—and the effects of both margins appear to be approximately additive. More importantly, the evidence in Table 4 supports the conclusion that Supreme Court justices are, at least in part, motivated by “making new law.”

Next, we probe the prediction that being pivotal has a greater impact on the behavior of justices who are ideologically more extreme relative to the status quo. To test Implication 3, we divide justices into quartiles based on their perceived ideology, i.e., their Segal–Cover scores. We then estimate the effect of being pivotal on casting a conservative vote for each quartile. The first two columns of Table 5 present the results. When a justice's vote is pivotal, the difference in the probability of voting conservatively widens between moderates and more-extreme members of the Court on *both* sides of the ideological spectrum. That

is, relative to their more-moderate counterparts, staunchly liberal justices vote even more liberally, whereas staunch conservatives judge even more conservatively. Thus, if one believes that, on average, the legal status quo in 5–4 splits lies in the middle of the ideological spectrum, then Implication 3 is supported by the data.

Columns (3) and (4) of Table 5 study the prediction that being pivotal has a greater effect on justices’ votes in cases that are perceived as important, i.e., Implication 4. To proxy for the importance of Supreme Court disputes, we rely on a media coverage–based measure of case salience due to Clark, Lax and Rice (2015). Since a salience measure that is partially based on reports about the disposition of the case might be problematic for evaluating the impact of salience on justices’ behavior, Clark et al. produce two different versions of their index. The first one is estimated from the universe of articles on Supreme Court cases, including the decision itself. The second one is based only on coverage up to, and including, oral argument, but excluding reports on the (pending) outcome. We rely on the latter index in order to mitigate the potential for reverse causality, i.e., that a polarized Court draws media coverage and, thereby, increases salience.

The key condition for our test of Implication 4 to be reasonable is that, on average, justices perceive cases that receive more newspaper coverage as more important. We do not mean to suggest that media attention causes justices to care about a particular dispute, but simply that justices’ and newspaper editors’ assessment of the importance of a case are correlated. In fact, since Clark et al.’s measure relies on contemporaneous coverage, it may better capture the perceived importance of an issue than expert-generated lists, which inevitably rely on hindsight. If one accepts the assumption that newspaper coverage correlates with γ in our theoretical model, then the evidence in columns (3) and (4) of Table 5 supports Implication 4.

In these columns, we split the sample of cases with an available salience measure into terciles, and we estimate a separate δ -coefficient for each set of disputes. The results imply that justices polarize even on obscure cases, i.e., matters that receive very little attention

in the press. At the same time, we observe higher levels of ideology-driven strategic voting for cases in the second and third salience terciles. Although we cannot rule out a potentially nonmonotonic effect of salience—consistent with the idea that justices also worry about public scrutiny (e.g., Casillas, Enns and Wohlfarth 2011; Clark 2011)—relative to the least important cases, justices exhibit a greater degree of strategic polarization when the dispute at hand draws significant media coverage.

Finally, we test Implication 5 by examining whether the Court is more likely to issue a narrowly decided conservative (liberal) ruling than a narrowly decided liberal (conservative) one when the majority of its members leans conservatively (liberally). According to most anecdotal accounts, the Supreme Court had a clear liberal majority from 1962 (when President Kennedy appointed the union lawyer Arthur Goldberger) until 1969 (when Nixon began reshaping the Court by appointing Warren E. Burger as Chief Justice). Before and after, the median justice was either clearly conservative or moderately so.²¹

Figure 7 indicates that 5–4 liberal decisions outnumber 5–4 conservative splits when the Court’s majority consisted of liberals, while the opposite is true when conservatives held the reigns. Although the evidence is consistent with Implication 5, we readily acknowledge that our test is weak in the sense that sincere rather than strategic voting might yield similar patterns. Nonetheless, Figure 7 does constitute a test of our model, as failing to observe a “discontinuity” in case outcomes would have forced us to reject the theory.

Broadly summarizing, the results above lend support to the key testable implications of the model in Section 4 as well as its core assumption, i.e., that Supreme Court justices are motivated by affecting precedent.

²¹This assessment is consistent with the results of Martin and Quinn (2002), who rely on justices’ voting records to recover their ideological ideal points (under the assumption of sincere behavior). Taking Martin and Quinn’s estimates at face value, between the end of WW II and the death of Justice Frankfurter, the median member of the court was conservative-leaning. Justice Goldberger’s appointment in 1962 caused the Court’s median to shift to decidedly liberal, while the appointment of Chief Justice Burger in 1969 had the opposite effect.

5.2 Alternative Explanations

We now turn to testing the main alternative explanation for our finding that justices polarize when pivotal. Epstein, Landes and Posner (2013) and Posner (2016) argue that many cases that the Court agrees to hear are ambiguous on legalistic ground; yet somehow a decision has to be reached. When the law is unclear, and in light of the lack of rigorous rules on which justices could rely to navigate gray areas, they cannot help but fall back on their personal experiences and intuitions, which are often flavored with ideology. According to this account of decision-making in the Court, justices would like to call the balls and strikes, but because of imprecision in what distinguishes a ball from a strike, their ideological predispositions wind up shaping how they exercise discretion.

For this theory to explain why justices who are pivotal put more weight on ideology than their nonpivotal colleagues who decide the same case, it must be that being pivotal is associated with greater legalistic uncertainty. As in Iaryczower and Shum (2012), justices may look to the decisions of others for cues about the correct ruling. Almost by definition, a justice whose vote is pivotal has obtained the same number of liberal and conservative signals from the actions of her colleagues, whereas a justice whose vote is irrelevant for the outcome of the case has observed strictly more signals of one kind than of the other. It is, therefore, plausible that being pivotal goes hand in hand with uncertainty about the appropriate ruling on legal grounds. If this explanation is correct, then pivotal justices should polarize more the greater the degree of (subjective) legalistic uncertainty.

We test this implication in three different ways. First, we divide justices into terciles based on their legal qualifications, as measured by Segal and Cover (1989). Since the least qualified justices presumably face greater uncertainty about the correct ruling under the law, one might expect them to polarize more than their more-qualified counterparts. Second, we differentiate between cases in which the lower court issued a unanimous verdict and those in which the panel of lower-court judges was split. If legalistic uncertainty causes Supreme Court justices to fall back on their ideology, then we would expect greater polarization in

the latter set of cases. Third, we turn to legal issues on which different lower courts issued conflicting verdicts. Again, if legalistic uncertainty drives our main result, then we would expect greater effects of pivotality on cases that resolved circuit splits than on those that did not.

Perhaps surprisingly, Table 6 demonstrates that none of these predictions is borne out in the data. Not only do we fail to find any evidence in support of the uncertainty explanation, but the pattern of coefficients always goes in the “wrong” direction. That is, if anything, strategic polarization seems to be muted when legalistic uncertainty is high.

We further note that an explanation based on uncertainty about the correct ruling in a particular case would need to be amended in order to rationalize why the effect of pivotality is greater for ideologically more extreme justices and more important cases. Based on the comparative statics in Tables 5 and 6, we conclude that legalistic uncertainty is unlikely to explain why justices polarize when they are pivotal.

6 Concluding Remarks

“[W]hen judges engage in legal interpretation, they often change the existing set of rules so extensively it would be misleading to say that they are not making new law” (Epstein and Knight 1998, p. 183). In this paper, we ask whether aligning the law with their own preferences is a key motivation of Supreme Court justices. Our answer is “yes.” When the opportunity permits, justices behave more like politicians in robes than impartial umpires trying to interpret and apply the extant set of rules.

We arrive at this conclusion by differentiation between situations in which a justice’s vote is pivotal and those in which it is not. Our primary contribution is to demonstrate that if a justice decides the outcome of a case, ideology plays an even greater role than usual in determining her choice. We test and reject alternative explanations according to which justices fall back on their political beliefs as a form of tiebreaker in legalistically indeterminate

cases. Our results suggest that most, but not all, justices engage in strategic voting, and that an important motivation for doing so is to shape legal precedent.

These findings have potentially important implications for our understanding of the Supreme Court and the evolution of the law. For example, research on case selection by the Court has examined the possibility that justices engage in strategic agenda-setting, avoiding cases they anticipate losing while seeking cases that, on the merits, are likely to result in favorable outcomes (Boucher and Segal 1995). Related work has theoretically studied the incentives for case selection in order to strategically clarify the law (Callander and Clark 2017; Clark and Kastellec 2013). What our analysis suggests, though, is that justices' strategy goes far beyond choosing on which areas of the law they work. It extends to the actual resolution of specific disputes. This behavior highlights the challenge of considering the Supreme Court a place of justice for individual litigants, as opposed to an institution that uses cases as vehicles to make law.

Indeed, past research considers how individual justices can affect the Court's policy output. While theoretical models of bargaining and opinion-writing make competing predictions about justices' ability to use their votes in order to shape precedent (Cameron and Kornhauser N.d.; Carrubba, Friedman, Martin and Vanberg 2012; Hammond, Bonneau and Sheehan 2005; Lax and Cameron 2007), recent empirical work suggests ways in which votes do matter for the content of opinions. Lax and Rader (2015), for example, show that the extent to which a justice is marginal is closely related to the influence she exerts over the majority's opinion. Our analysis goes beyond extant work by evaluating how much strategic voting takes place, and what it tells us about the nature of justices' preferences. Our findings imply that models of adjudication that do not contemplate the interaction between case resolution and legal development are misspecified. As a consequence, they may overlook incentives that are potentially consequential for the decisions of individual justices as well as for the actions of the Court as a whole.

We also contribute to the long-standing, but empirically intractable, debate about whether

judges are, in fact, “politicians in robes.” Do the justices bring a policy objective to the bench, or do they simply “call balls and strikes?” The evidence above suggests that they do both. That is, justices seem to have both instrumental and expressive preferences. More importantly, our theoretical framework provides guidance on how and under what conditions the justices trade off both types of concerns. The theory may, therefore, pave the way for future research that precisely quantifies how much this trade-off affects the Court’s decision-making.

More generally, our findings have implications for both the scholarly discourse on how judging takes place in the U.S., as well as for the notion of a tripartite approach to dispute resolution. Is it possible for judges to create precedent and develop law all the while maintaining neutrality in resolving individual cases?

Finally, our analysis speaks to the role of “sympathetic litigants” in the process of impact litigation. Social scientists, legal academics, historians, and journalists have long argued that finding a litigant whose case is factually compelling is an important element of building an attractive case for changing the law. Litigants who have been clearly wronged have played a critical role in areas of the law as salient as affirmative action, school segregation, civil rights, abortion, gender equality, free speech, and LGBTQ rights. Our study suggests that the extent to which a litigant’s case is compelling to individual justices interacts with their willingness to vote strategically to shape precedent. In other words, whether and how Supreme Court justices will use a dispute to modify the law depends not only on the law itself but also on the particular features of the case before the Court. In this sense, legalistic considerations constrain justices’ politics.

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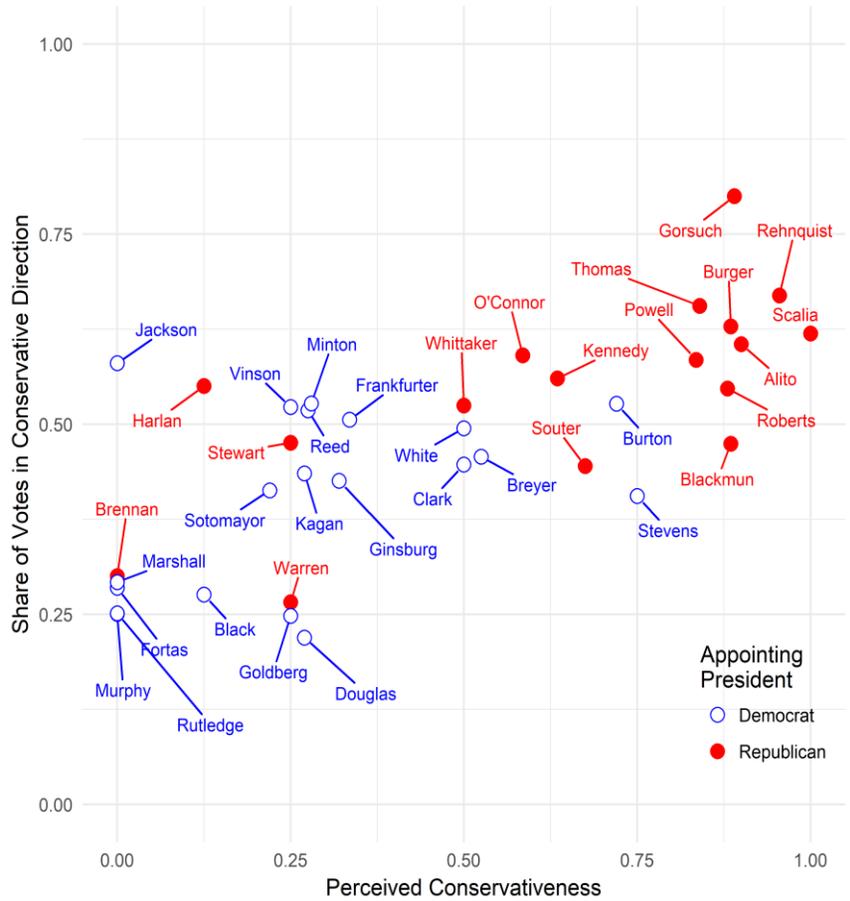
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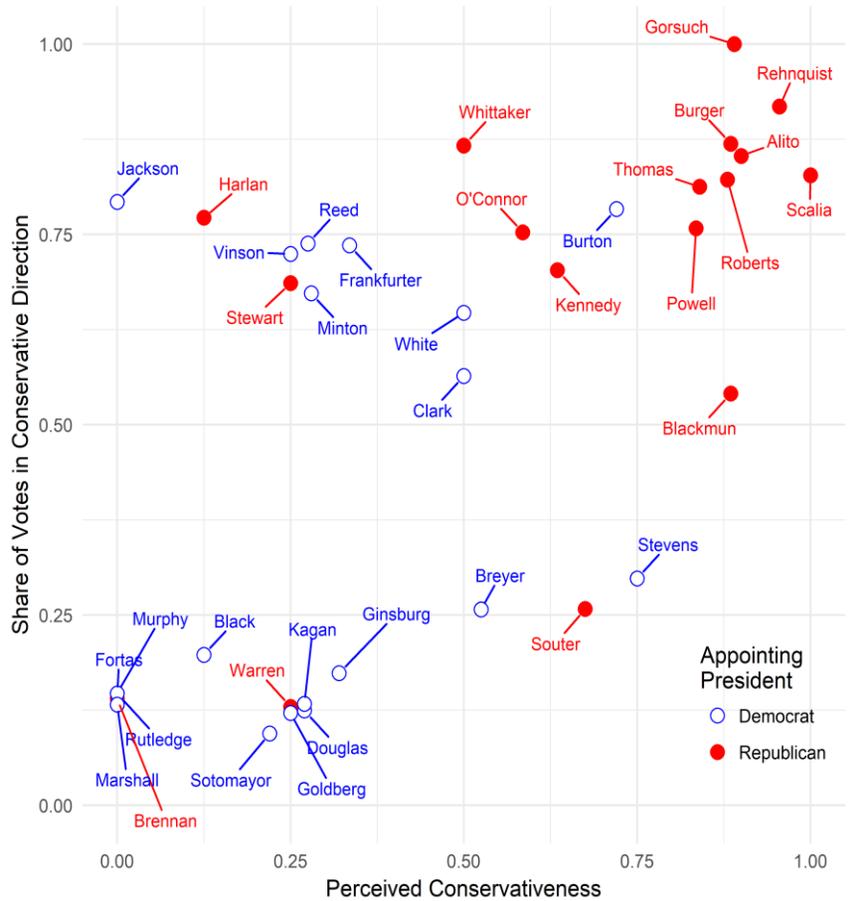
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Figure 1: Polarization in the Raw Data

A. Nonpivotal Votes

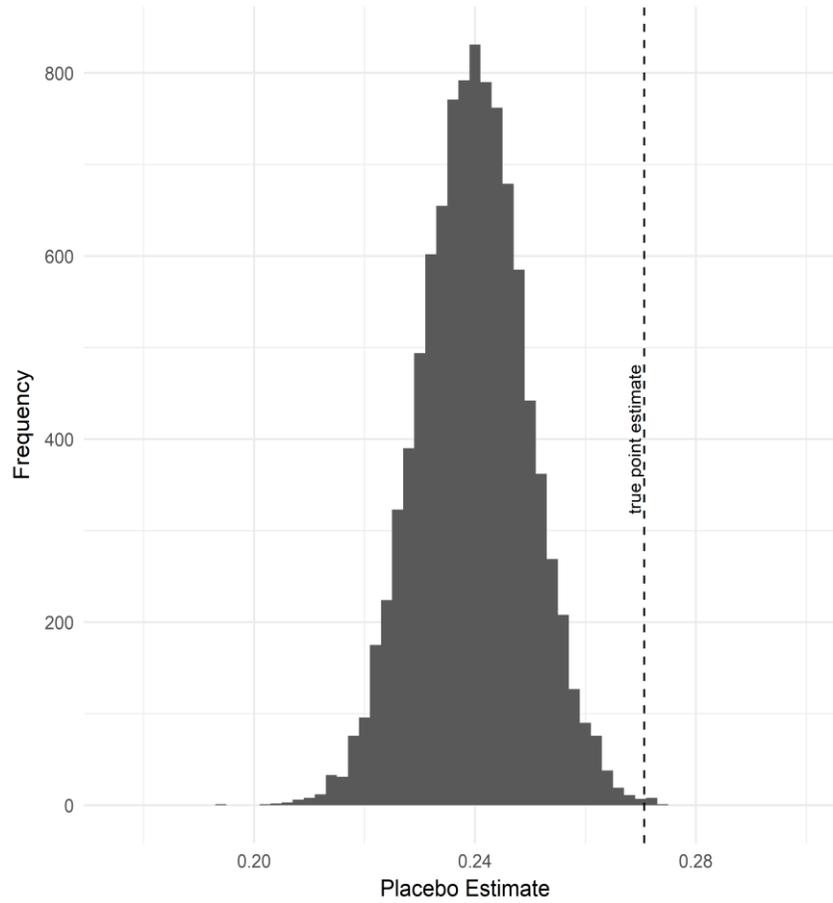


B. Pivotal Votes



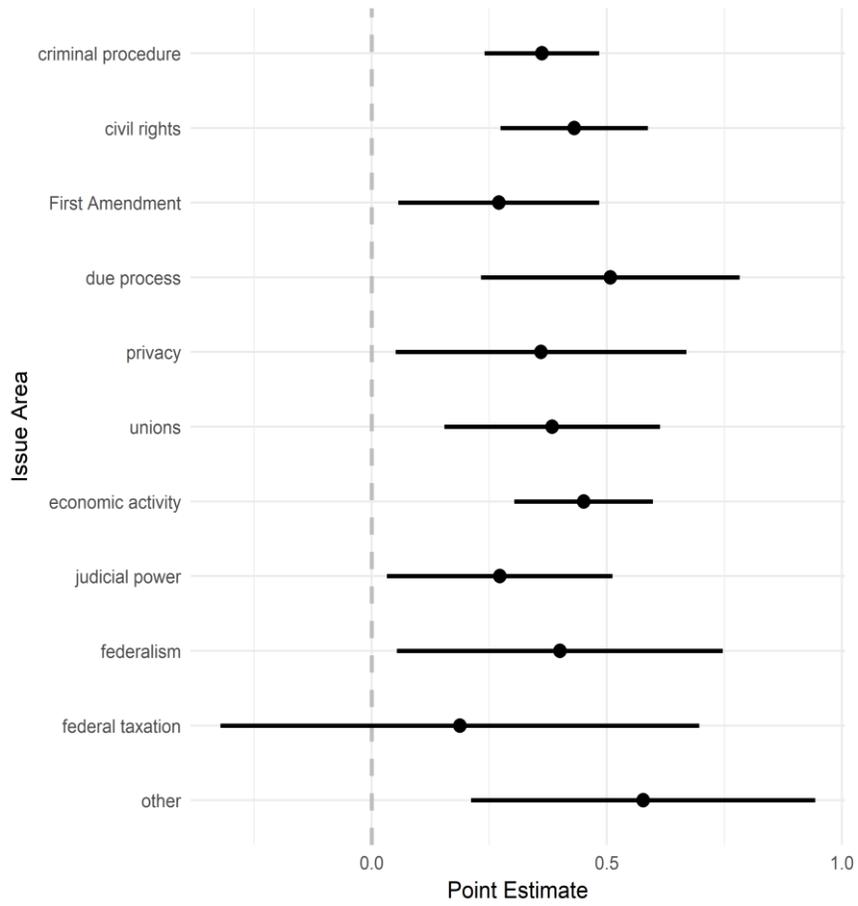
Notes: Figure shows the association between justices' perceived ideology at the time of their appointment to the Supreme Court and the conservativeness of their voting record in situations in which their choice is irrelevant for the outcome of the case (left panel) vis-à-vis those in which their vote is pivotal (right panel). Justices' votes on the merits of a case are classified as either liberal or conservative according to the expert assessments in the Supreme Court Database (Spaeth et al. 2017), while Segal–Cover scores proxy for justices' ideology (Segal and Cover 1989). For detailed descriptions of these data, see Section 4 and the Data Appendix.

Figure 2: Distribution of Placebo Estimates



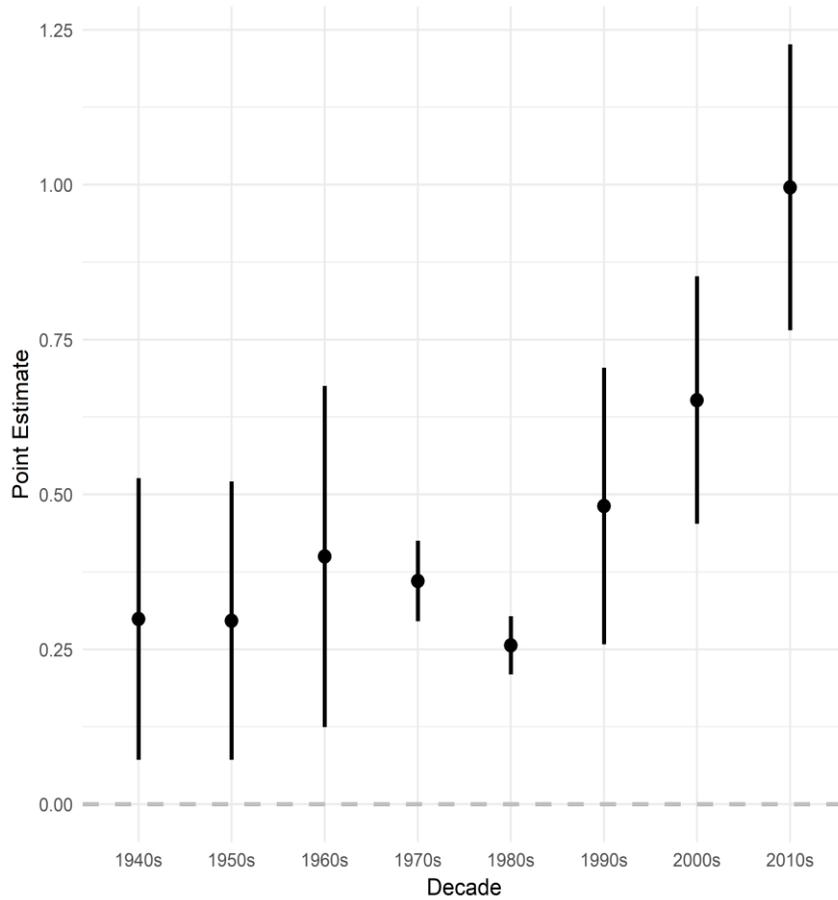
Notes: Figure depicts the distribution of 10,000 placebo estimates for δ , obtained by randomly reassigning which justices happened to be pivotal in cases that saw a minimal winning coalition. The vertical line marks the true point estimate from column (3) of Table 2, which exceeds slightly more than 99.9% of placebo coefficients.

Figure 3: Estimated Interaction Term (δ), by Issue Area



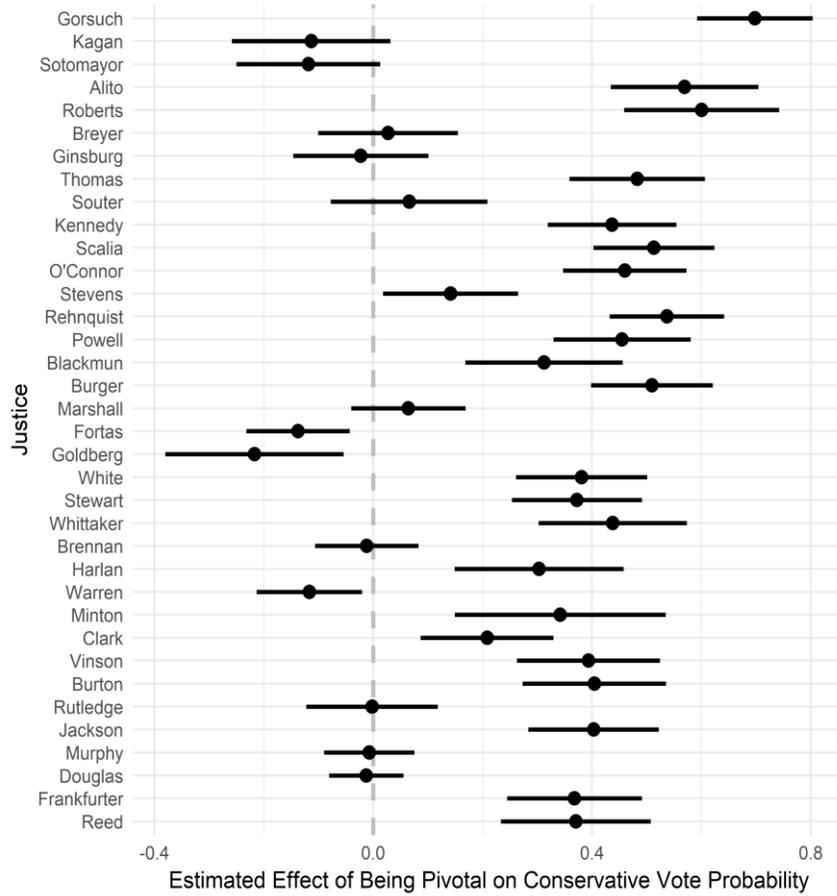
Notes: Figure shows point estimates and 95%-confidence intervals for δ in equation (1), estimated separately by issue area.

Figure 4: Estimated Interaction Term (δ), by Decade



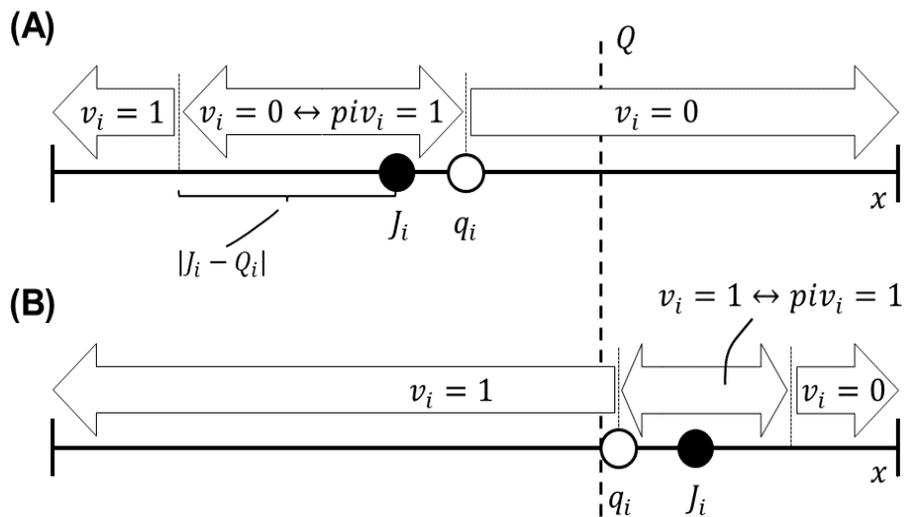
Notes: Figure shows point estimates and 95%-confidence intervals for δ in equation (1), estimated separately by decade.

Figure 5: Justice-Level Heterogeneity



Notes: For each justice, the figure shows point estimates and 95%-confidence intervals for β_i in equation (2), i.e., the effect of being pivotal on voting conservatively on the merits of the case.

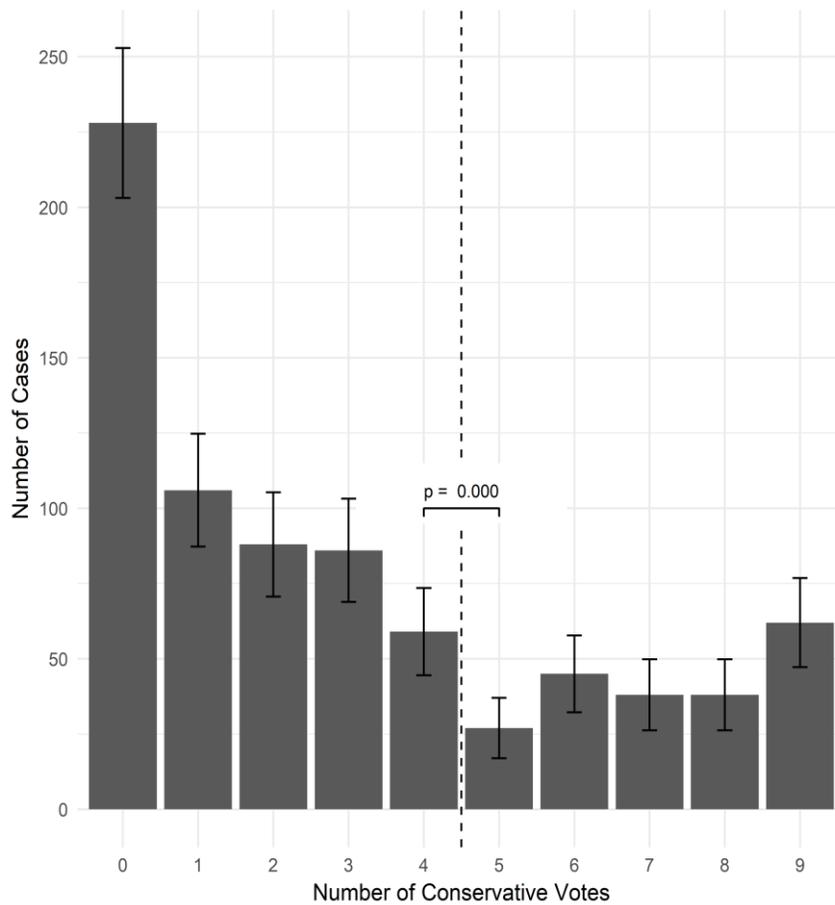
Figure 6: Justices' Decision Rule as γ Approaches Unity



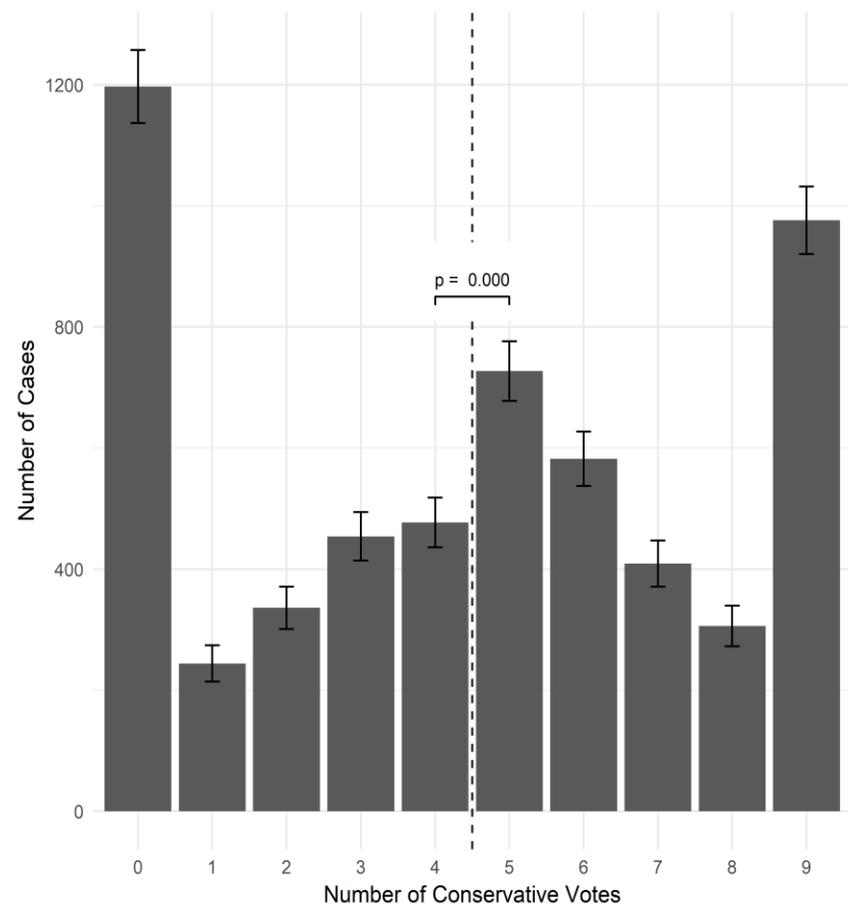
Notes: Figure shows the set of case facts (x) for which justices would vote liberally ($v=0$) or conservatively ($v=1$) as $\gamma \rightarrow 1$. For a general characterization of justices' decision rule, see Proposition 1.

Figure 7: Observed Case Outcomes

A. Liberal-Leaning Majority (1962–1968)



B. Conservative-Leaning Majority (1946–1961 & 1969–2016)



Notes: Figure compares the distribution of justices' votes during terms in which the Supreme Court is thought to have had a clear liberal-leaning majority (left panel) with that in which it did not (right panel), restricting attention to cases in which all nine justices participated. As explained in Section 4, votes are classified as liberal or conservative according to the expert assessments in the Supreme Court Database (Spaeth et al. 2017).

Table 1: Summary Statistics

Variable	Mean	SD	Min	Median	Max
<i>Term Level (N = 71):</i>					
Number of Cases	120.7	35.2	69	120	191
Number of Distinct Justices	9.1	0.3	9	9	11
<i>Justice Level (N = 37):</i>					
Republican Appointee	0.459	0.505	0	0	1
Ideology Score	0.451	0.329	0.000	0.335	1.000
Qualification Score	0.813	0.234	0.125	0.890	1.000
Ever Chief Justice	0.135	0.347	0	0	1
Number of Votes	2,013	1,378	17	1,964	5,087
<i>Case Level (N = 8,573):</i>					
Saliency	0.000	1.000	-2.000	-0.356	6.000
Conservative Outcome	0.486	0.500	0	0	1
Unanimous Decision	0.399	0.490	0	0	1
Minimal Majority	0.180	0.384	0	0	1
Number of Justices Voting	8.689	0.615	5	9	9
<i>Issue Area:</i>					
Criminal Procedure	0.231	0.422	0	0	1
Civil Rights	0.165	0.371	0	0	1
First Amendment	0.078	0.268	0	0	1
Due Process	0.040	0.196	0	0	1
Privacy	0.013	0.114	0	0	1
Unions	0.041	0.199	0	0	1
Economic Activity	0.197	0.398	0	0	1
Judicial Power	0.140	0.347	0	0	1
Federalism	0.046	0.210	0	0	1
Federal Taxation	0.036	0.187	0	0	1
Other	0.012	0.109	0	0	1
<i>Vote Level (N = 74,489):</i>					
Conservative Vote	0.472	0.499	0	0	1
Ex Post Pivotal	0.103	0.304	0	0	1

Notes: Entries are descriptive statistics for the most important variables used throughout the analysis. For precise definitions of all variables, see the Data Appendix.

Table 2: Evidence of Strategic Voting*A. Based on Segal–Cover Scores*

	Conservative Vote					
	(1)	(2)	(3)	(4)	(5)	(6)
Ideology × Pivotal		0.271** (0.031)	0.271** (0.028)	0.271** (0.028)	0.422** (0.047)	0.415** (0.040)
Pivotal		-0.059* (0.028)	-0.069** (0.025)	-0.050 (0.030)	-0.112* (0.045)	-0.127** (0.038)
Ideology	0.328** (0.013)	0.297** (0.013)			0.282** (0.011)	
Close Case				-0.020 (0.018)		
Constant	0.312** (0.010)	0.318** (0.010)				
H ₀ : Sincere Voting [p-value]	--	0.000	0.000	0.000	0.000	0.000
Justice FE	No	No	Yes	Yes	No	Yes
Case FE	No	No	No	No	Yes	Yes
R-Squared	0.047	0.052	0.094	0.094	0.567	0.605
Number of Observations	74,489	74,489	74,489	74,489	74,489	74,489

B. Based on Party of Appointing President

	Conservative Vote					
	(7)	(8)	(9)	(10)	(11)	(12)
Republican Appointee × Pivotal		0.136** (0.024)	0.130** (0.022)	0.131** (0.022)	0.164** (0.024)	0.161** (0.022)
Pivotal		0.019 (0.026)	0.0001 (0.024)	0.019 (0.029)	0.033 (0.037)	0.001 (0.031)
Republican Appointee	0.139** (0.009)	0.124** (0.009)			0.118** (0.007)	
Close Case				-0.020 (0.018)		
Constant	0.397** (0.010)	0.395** (0.010)				
H ₀ : Sincere Voting [p-value]	--	0.000	0.000	0.000	0.000	0.000
Justice Fixed Effects	No	No	Yes	Yes	No	Yes
Case Fixed Effects	No	No	No	No	Yes	Yes
R-Squared	0.019	0.025	0.092	0.092	0.548	0.602
Number of Observations	74,489	74,489	74,489	74,489	74,489	74,489

Notes: Entries are coefficients and standard errors from estimating variants of the empirical model in equation (1) by OLS. The upper panel relies on Segal–Cover scores to proxy for justices' perceived conservativeness, rescaled so that a value of zero (one) corresponds to the most liberal (conservative) justices. The lower panel uses the party affiliation of the appointing president instead. Heteroskedasticity robust standard errors are clustered by Supreme Court term and reported in parentheses. ** and * denote statistical significance at the 1% and 5% levels, respectively.

Table 3: Sensitivity Checks

	Conservative Vote					
	(1)	(2)	(3)	(4)	(5)	(6)
Ideology \times Pivotal	0.415** (0.040)	0.411** (0.040)	0.411** (0.041)	0.362** (0.041)	0.337** (0.035)	0.350** (0.073)
Pivotal	-0.127** (0.038)	-0.127** (0.038)	-0.129** (0.039)	-0.107** (0.038)	-0.103** (0.032)	-0.131* (0.060)
H ₀ : Sincere Voting [p-value]	0.000	0.001	0.001	0.005	0.000	0.000
Controls:						
Term \times Ideology	No	Yes	No	No	No	No
Issue \times Ideology	No	No	No	Yes	No	No
Justice FE	Yes	Yes	No	Yes	No	No
Justice \times Term FE	No	No	Yes	No	No	No
Justice \times Issue FE	No	No	No	No	Yes	No
Justice \times Issue \times Term FE	No	No	No	No	No	Yes
Case Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
R-Squared	0.605	0.607	0.613	0.619	0.691	0.864
Number of Observations	74,489	74,489	74,489	74,489	74,489	74,489

Notes: Entries are coefficients and standard errors from estimating more-flexible variants of the empirical model in equation (1). The first column reports the baseline estimates from column (6) of Table 2. Columns (2) and (3) account for time-varying effects of ideology and time-varying heterogeneity across justices. Columns (4) and (5) allow for different effects across 259 distinct areas of the law. The estimates in the last column control for time- and issue-specific idiosyncrasies of justices. Heteroskedasticity robust standard errors are clustered by Supreme Court term and reported in parentheses. ** and * denote statistical significance at the 1% and 5% levels, respectively.

Table 4: Precedent vs Case Disposition

	Vote Conservatively and Join Maj. Opinion		Vote Liberally and Join Maj. Opinion	
Ideology × Pivotal for Disposition Only	0.118*	0.047	-0.208**	-0.121**
	(0.049)	(0.053)	(0.048)	(0.046)
Ideology × Pivotal for Precedent Only	0.200**	0.089**	-0.281**	-0.152**
	(0.033)	(0.026)	(0.036)	(0.029)
Ideology × Pivotal for Both	0.350**	0.177**	-0.407**	-0.222**
	(0.033)	(0.024)	(0.034)	(0.020)
H ₀ : All Interaction Terms = 0 [p-value]	0.000	0.000	0.000	0.000
H ₀ : Piv. for Disp. = Piv. for Prec. [p-value]	0.108	0.444	0.169	0.544
Controls:				
Pivotal for Disposition Only	Yes	Yes	Yes	Yes
Pivotal for Precedent Only	Yes	Yes	Yes	Yes
Pivotal for Both	Yes	Yes	Yes	Yes
Justice FE	Yes	Yes	Yes	Yes
Case FE	No	Yes	No	Yes
R-Squared	0.075	0.790	0.045	0.783
Number of Observations	74,489	74,489	74,489	74,489

Notes: Entries are coefficients and standard errors from regressing the outcome at the top of each column on separate indicator variables for whether a justice was pivotal for either the disposition of the case, for the majority opinion setting legal precedent, or both, as well as interactions between these indicators and a justice's perceived conservativeness. Within each set of regressions, the specification in the column on the right includes justice and case fixed effects, while that on the left only accounts for the former. Heteroskedasticity robust standard errors are clustered by Supreme Court term and reported in parentheses. ** and * denote statistical significance at the 1% and 5% levels, respectively.

Table 5: Comparative Statics

	Conservative Vote			
	(1)	(2)	(3)	(4)
Pivotal × Stalwart Liberal	-0.076** (0.023)	-0.106** (0.030)		
Pivotal × Moderate Liberal	0.030 (0.028)	-0.023 (0.041)		
Pivotal × Moderate Conservative	0.107** (0.021)	0.140** (0.028)		
Pivotal × Stalwart Conservative	0.152** (0.020)	0.222** (0.028)		
Ideology × Pivotal			0.224** (0.036)	0.357** (0.057)
× Case Salience in 1 st Tercile				
Ideology × Pivotal			0.385** (0.034)	0.470** (0.057)
× Case Salience in 2 nd Tercile				
Ideology × Pivotal			0.299** (0.028)	0.476** (0.050)
× Case Salience in 3 rd Tercile				
H ₀ : All Interaction Terms Equal [p-value]	0.000	0.000	0.000	0.082
H ₀ : Moderates = Stalwarts [p-value]	0.000	0.000	--	--
H ₀ : First Tercile = Third Tercile [p-value]	--	--	0.017	0.031
Controls:				
Pivotal	No	No	Yes	Yes
Justice FE	Yes	Yes	Yes	Yes
Case FE	No	Yes	No	Yes
R-Squared	0.093	0.605	0.103	0.610
Number of Observations	74,489	74,489	60,968	60,968

Notes: Entries are coefficients and standard errors on δ in equation (1), which is allowed to vary based on a justice's relative ideological extremeness (columns (1) and (2)) and case salience (columns (3) and (4)). The number of observations is smaller in the last two columns because salience measures are only available for cases that were heard between 1955 and 2008. Heteroskedasticity robust standard errors are clustered by Supreme Court term and reported in parentheses. ** and * denote statistical significance at the 1% and 5% levels, respectively. For a precise description of all variables, in particular our measure of case salience, see the Data Appendix.

Table 6: Reliance on Ideology, by Justice and Case Characteristics

	Conservative Vote					
	(1)	(2)	(3)	(4)	(5)	(6)
Ideology × Pivotal	0.219**	0.377**				
× Qualification Score in 1 st Tercile	(0.040)	(0.044)				
Ideology × Pivotal	0.278**	0.411**				
× Qualification Score in 2 nd Tercile	(0.026)	(0.037)				
Ideology × Pivotal	0.270**	0.422**				
× Qualification Score in 3 rd Tercile	(0.033)	(0.046)				
Ideology × Pivotal			0.229**	0.362**		
× Split Vote in Lower Court			(0.040)	(0.060)		
Ideology × Pivotal			0.288**	0.435**		
× Unanimous Vote in Lower Court			(0.029)	(0.045)		
Ideology × Pivotal					0.210**	0.351**
× Lower-Courts Conflict					(0.044)	(0.070)
Ideology × Pivotal					0.289**	0.432**
× No Lower-Courts Conflict					(0.028)	(0.041)
H ₀ : Interaction Terms Equal [p-value]	0.112	0.321	0.096	0.263	0.096	0.263
Controls:						
Pivotal	Yes	Yes	Yes	Yes	Yes	Yes
Justice FE	Yes	Yes	Yes	Yes	Yes	Yes
Case FE	No	Yes	No	Yes	No	Yes
R-Squared	0.094	0.605	0.094	0.605	0.094	0.605
Number of Observations	74,489	74,489	74,489	74,489	74,489	74,489

Notes: Entries are coefficients and standard errors on δ in equation (1), which is allowed to vary based on a justice's qualification (columns (1) and (2)), whether the judges on the lower court deciding the same case were split (columns (3) and (4)), and whether different lower courts had previously issued contradictory rulings on the same legal issue (columns (5) and (6)). Heteroskedasticity robust standard errors are clustered by Supreme Court term and reported in parentheses. ** and * denote statistical significance at the 1% and 5% levels, respectively.

APPENDIX MATERIALS

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A Proofs

Proof of Proposition 1.

Case A: Justice is not pivotal

If justice i casts a liberal vote ($v_i = 0$) she gets utility $U_i(0, v_{-i}) = (1 - \gamma)E_i(0) + \gamma D_i(0, v_{-i})$ and if she casts a conservative vote ($v_i = 1$) she gets utility $U_i(1, v_{-i}) = (1 - \gamma)E_i(1) + \gamma D_i(1, v_{-i})$. She strictly prefers to vote conservative if and only if $U_i(1, v_{-i}) > U_i(0, v_{-i})$. Since she is not pivotal and $D_i(0, v_{-i}) = D_i(1, v_{-i})$, she votes conservative if and only if $(1 - \gamma)E_i(1) > (1 - \gamma)E_i(0)$ or $(-\frac{1}{2})(x - q_i) > (\frac{1}{2})(x - q_i)$, which is equivalent to $x < q_i$. Given our assumption on breaking indifference towards voting liberal, this condition is necessary and sufficient, as required.

Case B: Justice is pivotal

We will consider the justices' decision rule in five cases. We begin by considering two simple cases in which there is no conflict between a justice's expressive and instrumental preferences. These cases occur when the case facts sufficiently favor a liberal or conservative disposition relative to the status quo and the justice's ideal rule.

Case B-i: $x \geq Q$

Because $x \geq Q$, a liberal disposition is consistent with the status quo and thus $P(0) = Q$ and $P(1) = x$. Instrumentally, a conservative vote results in a precedent weakly further from the justice's ideal rule. In symbols, $|x - J_i| \geq |Q - J_i|$, since $J < Q$. Similarly, a conservative vote also results in a strict expressive loss as $q_i \in (J_i, Q)$, which implies $x > q_i$. Since the justice strictly prefers a liberal vote on the expressive dimension and weakly prefers a liberal vote on the instrumental dimension, she votes liberal whenever $x \geq Q$.

Case B-ii: $x < 2J_i - Q$

Note that $2J_i - Q = J_i - (Q - J_i) < Q$ since $J < Q$. Therefore, $x < 2J_i - Q$ implies $x < Q$, which means that a conservative disposition is consistent with the status quo and $P(1) = Q$ and $P(0) = x$. Instrumentally, a liberal vote results in a precedent strictly further from the justice's ideal rule because $|x - J_i| > |(2J_i - Q) - J_i| = |Q - J_i|$. Similarly, a liberal vote also results in a strict expressive loss since $q_i \in (J_i, Q)$, which implies $x < q_i$. Since the justice strictly prefers a conservative vote on the expressive and instrumental dimensions, she votes conservative whenever $x < 2J_i - Q$.

Case B-iii: $x \in [q_i, Q)$

Because $x \leq Q$, a conservative disposition is consistent with the status quo and $P(1) = Q$ and $P(0) = x$. Instrumentally, a liberal vote results in a precedent strictly closer to the justice's ideal rule. After all, $J < q_i < Q$ implies that $|x - J_i| < |Q - J_i|$. Similarly, the

justice expressively prefers to vote liberal since $x > q_i$. Note, if $x = q$, while the justice is expressively indifferent, she has a strict instrumental preference to vote liberal. As her expressive and instrumental preference both favor a liberal vote, the justice votes liberal for all $x \in [q_i, Q)$

Case B-iv: $x \in [J_i, q_i)$

Because $x < Q$, a conservative disposition is consistent with the status quo and $P(1) = Q$ and $P(0) = x$. Note that in this region, while the justice's expressive preference is to vote conservative as $x < q_i$, she instrumentally prefers to vote liberal because it brings the precedent closer to her ideal rule by at least $|Q - q_i|$. The resolution of this conflict depends on the weight she places on her instrumental and expressive concerns. The utility she derives from a liberal vote is $U(0, v_{-i}) = (1 - \gamma)\frac{1}{2}(x - q_i) + \gamma(-|x - J_i|)$ and the utility she derives from a conservative vote is $U(1, v_{-i}) = (1 - \gamma)\frac{1}{2}(q_i - x) + \gamma(-|Q - J_i|)$. Let $\Delta_{lib}(x, \gamma)$ be the net utility of voting liberal when the case facts are x and the weight on instrumental preferences is γ , and note that, in this range, $\Delta_{lib}(x, \gamma) = (1 - \gamma)(x - q_i) + \gamma(Q - x)$, where $(1 - \gamma)(x - q_i)$ is the net expressive cost of a liberal vote and $\gamma(Q - x)$ is the net instrumental gain of a liberal vote. We can further decompose the instrumental component into a fixed benefit that does not depend on x , $\gamma(Q - q_i)$, and a variable component, $\gamma(q_i - x)$, that does. The variable component is minimized when $x = q_i$ and increases as $x \rightarrow J_i$ (i.e., as x decreases). In particular, note that when $x = q_i$, the variable instrumental and expressive portions are both equal to 0 and all that remains is the fixed instrumental portion. That is,

$$\Delta_{lib}(q_i, \gamma) = \gamma(Q - q_i) > 0.$$

Hence, $\forall \gamma \in (0, 1)$, the justice has a strict incentive to vote liberal at q . As $x \rightarrow J$, the variable instrumental benefit increases but so does the expressive cost. The net effect on Δ_{lib} as $x \rightarrow J_i$ depends on the relative utility weights on instrumental concerns. In particular, $\frac{\partial \Delta_{lib}}{\partial x} = (1 - 2\gamma)$. So if $\gamma = \frac{1}{2}$, then there is no change in the net value of a liberal vote as $x \rightarrow J_i$ and, given the fixed benefit, $\Delta_{lib}(x, \frac{1}{2}) > 0 \forall x \in [J_i, q_i)$.

If $\gamma > \frac{1}{2}$, then the instrumental gains outweigh the expressive costs, and the net value of a liberal vote *increases* as $x \rightarrow J_i$. Thus, $\Delta_{lib}(x, \gamma) > 0 \forall x \in [J_i, q_i)$ if $\gamma > \frac{1}{2}$.

If $\gamma < \frac{1}{2}$, then the net benefit of a liberal vote decreases as $x \rightarrow J_i$ (i.e., $\frac{\partial \Delta_{lib}}{\partial x} > 0$). However, given the fixed instrumental benefit, $\gamma(Q - q_i)$, there exists $\bar{\gamma} \in (0, \frac{1}{2})$ such that the justice prefers to vote liberally at J_i for all $\gamma \geq \bar{\gamma}$. Since $\frac{\partial \Delta_{lib}}{\partial x} > 0$, if $\Delta_{lib}(J_i, \gamma) \geq 0$ for all $\gamma \geq \bar{\gamma}$, then $\Delta_{lib}(x, \gamma) > 0$ for $\forall x \in [J_i, q_i]$ and $\gamma \geq \bar{\gamma}$. To find $\bar{\gamma}$, we solve $\Delta_{lib}(J_i, \gamma) = 0$ for γ and arrive at the solution $\gamma = \frac{q_i - J_i}{Q + q_i - 2J_i}$, which is strictly less than $\frac{1}{2}$ since $Q > q$. Thus, combining the above, we know that if $\gamma \geq \bar{\gamma}$, then $\Delta_{lib}(x, \gamma) \geq 0 \forall x \in [J_i, q_i]$. If

$0 < \gamma < \bar{\gamma} < \frac{1}{2}$, then we know (a) $\Delta_{lib}(q_i, \gamma) > 0$, (b) $\frac{\partial \Delta_{lib}}{\partial x} > 0$, and (c) $\Delta_{lib}(J_i, \gamma) < 0$. By the Intermediate Value Theorem and strict monotonicity, there exists a unique $\bar{x}(\gamma)$ for each $\gamma < \bar{\gamma}$ such that (i) $\Delta_{lib}(x(\gamma), \gamma) = 0$, (ii) $\Delta_{lib}(x, \gamma) > 0 \forall x > \bar{x}(\gamma)$, and (iii) $\bar{x}(\gamma) = \frac{\gamma(Q+q_i)-q_i}{2\gamma-1}$. This implies that if $\gamma < \bar{\gamma}$, then a justice votes liberally whenever $x \geq \frac{\gamma(Q+q_i)-q_i}{2\gamma-1}$.

Case B-v: $x \in [2J_i - Q, J_i)$

Because $x < Q$, a conservative disposition is consistent with the status quo and $P(1) = Q$ and $P(0) = x$. Note that in this region, while the justice's expressive preference is to vote conservative because $x < q_i$, she instrumentally prefers to vote liberal as it brings the precedent closer to her ideal rule. As before, $U(0, v_{-i}) = (1 - \gamma)\frac{1}{2}(x - q_i) + \gamma(-|x - J_i|)$ and the utility she derives from a conservative vote is $U(1, v_{-i}) = (1 - \gamma)\frac{1}{2}(q_i - x) + \gamma(-|Q - J_i|)$. Taking into account that $x < J_i$, the net utility of a liberal vote in this region is $\Delta_{lib}(x, \gamma) = (1 - \gamma)(x - q_i) + \gamma(Q + x - 2J_i)$. We can similarly decompose the instrumental utility into a component fixed in x , $\gamma(Q - J_i)$, and a component variable in x , $\gamma(x - J_i)$. Now, however, as $x \rightarrow 2J_i - Q$ both the variable instrumental component and the expressive components are decreasing (i.e., they are increasing in x). Formally, $\frac{\partial \Delta_{lib}}{\partial x} = 1 > 0$ in this region. This implies that as $x \rightarrow 2J_i - Q$, the net value of a liberal vote decreases. Thus, if for some γ , $\Delta_{lib}(J_i, \gamma) \leq 0$, then $\Delta_{lib}(x, \gamma) < 0 \forall x \in (2J_i - Q, J_i)$. It is easy to confirm that $\Delta_{lib}(J, \gamma) = 0$ if and only if $\gamma = \bar{\gamma}$, $\Delta_{lib}(J, \gamma) < 0$ for all $\gamma < \bar{\gamma}$, and that $\Delta_{lib}(J, \gamma) > 0$ for all $\gamma \in (\bar{\gamma}, 1)$. Finally, note that $\Delta_{lib}(2J_i - Q, \gamma) < 0$ for all $\gamma \in (0, 1)$. So, again, by the Intermediate Value Theorem and monotonicity, we know there exists a unique $\bar{x}(\gamma) \in (2J_i - Q, J_i)$ for each $\gamma > \bar{\gamma}$, such that $\Delta_{lib}(\bar{x}(\gamma), \gamma) = 0$ and the solution $\bar{x}(\gamma)$ is defined by setting $(1 - \gamma)(\bar{x} - q_i) + \gamma(\bar{x} - J_i) + \gamma(Q - J_i) = 0$ or $\bar{x}(\gamma) = \gamma(2J_i - Q) + (1 - \gamma)q_i$. Finally, note that since $\frac{\partial \Delta_{lib}}{\partial x} > 0$, in the region relevant to this case, it is a best response to vote liberal whenever $x > \bar{x}(\gamma)$ if and only if $\gamma > \bar{\gamma}$.

Collecting the cases, we arrive at the voting rule described in the proposition. \square

To simplify the remaining proofs, we introduce the following lemma:

Lemma A.1. $sgn(J_i - q_i) = sgn(\bar{x}_i(\gamma) - q_i)$

Proof of Lemma A.1. We prove the lemma for the case where $sgn(J_i - q_i)$ and $sgn(\bar{x}_i(\gamma) - q_i)$ are negative. The same logic applies when they are positive.

(\Rightarrow) First, note that by the definition of q_i , if $J_i < q_i$, then $q_i < Q$. Now, consider $\gamma < \frac{q_i - J_i}{Q + q_i - 2J_i} < \frac{1}{2}$. In this case, $\bar{x}_i(\gamma) < q_i$ iff $\frac{q_i - \gamma(Q + q_i)}{1 - 2\gamma} < q_i$, iff $(1 - \gamma)q_i < (1 - \gamma)Q$, or $q_i < Q$, which is true by our assumption. Next, consider $\gamma > \frac{q_i - J_i}{Q + q_i - 2J_i}$. In that case, $\bar{x}_i(\gamma) < q_i$ iff $\gamma(2J_i - Q) + (1 - \gamma)q_i < q_i$, which is equivalent to $2J_i < Q + q_i$. The last expression is true

by $J_i < q_i < Q$.

(\Leftrightarrow) Assume $\bar{x}_i(\gamma) < q_i$. Consider first, $\gamma < \frac{q_i - J_i}{Q + q_i - 2J_i} < \frac{1}{2}$. In this case, $\bar{x}_i(\gamma) < q_i$ is equivalent to $\frac{q_i - \gamma(Q + q_i)}{1 - 2\gamma} < q_i$, which implies $q_i < Q$. Again, by the definition of q_i , $q_i < Q$ implies $J_i < q_i$. Next, if $\gamma > \frac{q_i - J_i}{Q + q_i - 2J_i}$, then $\bar{x}_i(\gamma) < q_i$ is equivalent to $\gamma(2J_i - Q) + (1 - \gamma)q_i < q_i$, which implies $2J_i < Q + q_i$. Assume by way of contradiction that $J_i > q_i$. This implies, by definition of q_i , that $q_i > Q$ and so $2J_i > Q + q_i$, which is a contradiction. Therefore, $J_i < q_i$ as required. \square

Proof of Lemma in Main Text. First, we establish that case (i) can occur. Assume that the arrangement of case facts and the status quo are such that $x > Q$ and $Q > J_i$ for all $i \in N$. By the definition of q_i , $J_i < q_i < Q$ for all $i \in N$ and by lemma A.1 above, $\bar{x}_i(\gamma) < q_i < Q$. Hence, for all $i \in N$, $x > \max\{\bar{x}_i(\gamma), q_i\}$, which implies that $\#\tilde{C} = \#\tilde{L} = 0$.

In order to show that both types of conflicted justices cannot exist simultaneously, let $\#\tilde{L} \geq 1$ and assume by way of contradiction that $\#\tilde{C} \geq 1$ as well. $\#\tilde{L} \geq 1$ implies there exists at least one justice i such that $\bar{x}_i(\gamma) < x < q_i$. By lemma A.1 and the definition of q_i , this implies $J_i < q_i < Q$ and thus $x < Q$. Similarly, $\#\tilde{C} \geq 1$ implies there exists at least one justice j such that $q_i < x < x_i(\gamma)$. By lemma A.1 and the definition of q_i , this implies $J_i < q_i < Q$. Thus, $x > Q$, which is a contradiction. \square

Proof of Proposition 2. First, notice that given the lemma in the main text, our subcases span the set of possible arrangements of types. Thus, if we establish the existence of a pure strategy NE in all subcases, then we establish that there always exists a pure strategy NE.

Case i: WLOG we consider the case where $\#C \geq \frac{N+1}{2}$ and note that the analysis is analogous when $\#L \geq \frac{N+1}{2}$. By definition of types, for each $i \in C$, $v_i = 1$ is a dominant strategy. Since $\#C \geq \frac{N+1}{2}$, this implies that the outcome is $d = 1$ regardless of how any other justice votes. Hence, no justice in $N \setminus C$ is pivotal. By proposition 1, it is a strict best response for all other types to vote according to their expressive preferences. Therefore, all justices, conflicted and otherwise, voting their expressive preferences constitutes the unique equilibrium. This also proves that $\#C \geq \frac{N+1}{2}$ implies $d = 1$. To see the converse, consider the contra positive of $d = 1 \implies \#C \geq \frac{N+1}{2}$: $\neg(\#C \geq \frac{N+1}{2}) \implies \neg(d = 1)$ or $\#C < \frac{N+1}{2} \implies d = 0$. By way of contradiction, assume, $\#C < \frac{N+1}{2}$ but $d = 1$. Since $\#C < \frac{N+1}{2}$ and the assumption of the subcase is $\max\{\#C, \#L\} \geq \frac{N+1}{2}$, it must be that $\#L \geq \frac{N+1}{2}$. But since for each $i \in L$, $v_i = 0$ is a dominant strategy, it must be the case that $\sum v_i < \frac{N+1}{2}$ and that $d = 0$, which is a contradiction. So, $\#C < \frac{N+1}{2} \implies d = 0$ as required.

Case ii: WLOG we consider the case where $\#C = \frac{N+1}{2} - 1$ and $\#\tilde{C} \geq 1$. By lemma 1 in the main text, $\#\tilde{C} \geq 1$ implies that $\#\tilde{L} = 0$. For all $i \in C$ (*resp.* $i \in L$) voting conservative (*resp.* liberal) is a dominant strategy, so $\sum_{i \in LUC} v_i = \frac{N+1}{2} - 1$. Consider first, that for all $i \in \tilde{C}$, $v_i = 0$. That is, all conflicted conservatives vote liberal. Then $\sum_{i \in N} v_i = \frac{N+1}{2} - 1$ and $d = 0$; but then any member of \tilde{C} is pivotal and has a strict incentive to vote conservative, so it cannot be an equilibrium. Consider instead the possibility that $\#\tilde{C} > 1$ and 2 or more members of \tilde{C} vote conservative, so that $\sum_{i \in N} v_i > \frac{N+1}{2}$ and $d = 1$, but then no member of \tilde{C} is pivotal and so all have a strict incentive to vote liberal, so that also cannot be an equilibrium. Finally, consider that exactly 1 member (possibly the unique member) of \tilde{C} votes conservative, then $\sum_{i \in N} v_i = \frac{N+1}{2}$ and $d = 1$. In such an arrangement $i \in \tilde{C}$ is pivotal if and only if $v_i = 1$. Thus, the only conflicted conservative voting conservative is pivotal and best-responding. Further, all the conflicted conservatives voting liberal are non-pivotal and best-responding. Hence, we have an equilibrium. As we have considered all cases, this is the unique set of equilibria, and in all equilibria, $\#C + \#\tilde{C} \geq \frac{N+1}{2} \implies d = 1$. To see the converse, assume $d = 1$ but by way of contradiction $\#C + \#\tilde{C} < \frac{N+1}{2}$, since the conditions on the case are either $\#C = \frac{N+1}{2} - 1$ and $\#\tilde{C} \geq 1$, or $\#L = \frac{N+1}{2} - 1$ and $\#\tilde{L} \geq 1$. By our assumption, this implies that $\#L = \frac{N+1}{2} - 1$ and $\#\tilde{L} \geq 1$; but by the reasoning above, exactly 1 member of \tilde{L} votes liberal and $\sum_{i \in N} v_i = \frac{N+1}{2} - 1$ and $d = 0$, which is a contradiction.

Case iii: WLOG we consider the case where $\#C = \frac{N+1}{2} - 1$ and $\#\tilde{C} \geq 2$. By lemma 1 in the main text, $\#\tilde{C} \geq 2$ implies that $\#\tilde{L} = 0$. Since $\max\{\#C, \#L\} < \frac{N+1}{2}$, it must be the case that $\#C + \#\tilde{C} \geq \frac{N+1}{2}$. While members of C and L have dominant strategies to vote conservative ($v_i = 1$) and liberal ($v_i = 0$), members of \tilde{C} find it optimal to vote conservative if and only if they are pivotal. Let $M \subseteq \tilde{C}$ be the set of conflicted conservatives that do vote conservative. We first establish that it cannot be an equilibrium to have $\#M > \frac{N+1}{2} - \#C$. To see this, note that the total number of conservative votes is $\sum_{i \in N} v_i = \#C + \#M > \frac{N+1}{2}$. Since there would be a strict majority of conservative votes, no single justice is pivotal and it is a best response for all $i \in \tilde{C}$ to vote liberal, contradicting $\#M > \frac{N+1}{2} - \#C > 0$. Next, we establish that it cannot be an equilibrium to have $0 < \#M < \frac{N+1}{2} - \#C$. To see this note that the total number of conservative votes would be $\#C + \#M < \frac{N+1}{2}$ and $d = 0$. Consider, a change in vote by any member of M to a liberal vote ($v_i = 0$). This implies that the total number of conservative votes is one lower and the outcome remains $d = 0$. Thus, no member of M is pivotal and it is a strict best response for all $i \in \tilde{C}$ to vote liberal, contradicting $\#M > 0$. We now establish that the two remaining cases are in fact equilibria, but with different outcomes. To see that exactly $\#M = \frac{N+1}{2} - \#C$ is an equilibrium note that the total number of conservative votes is $\#C + \#M = \frac{N+1}{2}$ and $d = 1$. Consider, a

change in vote by any member of M to a liberal vote ($v_i = 0$). This implies that the total number of conservative votes would be $\frac{N+1}{2} - 1$, and the outcome changes to $d = 0$. As the outcome changes, all members of M are pivotal and it is a strict best response for all $i \in M$ to vote conservative. It remains to be shown that the remaining conflicted conservatives in $\tilde{C} \setminus M$ are best-responding. Note that since they are not in M they must be voting liberal. If any $i \in \tilde{C} \setminus M$ changes their vote to conservative, the total number of conservative votes is $\frac{N+1}{2} + 1$, and the outcome remains $d = 1$. Thus, no member of $\tilde{C} \setminus M$ is pivotal, which means that it is optimal to vote liberal. Finally, if $\#M = 0$ then $\sum v_i = \#C < \frac{N+1}{2} - 1$ and $d = 0$. Since the deficit in conservative votes needed to change the outcome to $d = 1$ is strictly greater than 1, no single member of \tilde{C} is pivotal and so it is indeed a best response to vote liberal. \square

B Data Appendix

This appendix provides a self-contained description of all data used in the paper, as well as precise definitions together with the sources of all variables.

B.1 Justices' Votes and Case Outcomes

The main data set used in our analysis is the Supreme Court Database (SCDB), the authoritative resource on all cases decided by the Court (Spaeth et al. 2017). There exists a modern and a legacy version of the database. The former covers all cases decided between 1946–2016, while the latter pertains to the period from 1791–1945. Our analysis relies on the modern version for two reasons: (i) We lack proxy measures for the ideology of justices that were appointed before 1937, and (ii) the classification of the decisions in the legacy database as either liberal or conservative continues to be based on only a subset of legal issues that the Supreme Court considered.

The available pieces of information in the database include, among other things, the identity of the lower court whose decision was reviewed, the parties to the suit, the legal provisions considered in a particular case, and the votes of the justices. The data also contain expert assessments of the ideological direction of each decision and vote. These assessments are determined by use of a detailed rubric that maps categories of litigants, the substantive issue at hand, and the identity of the winning party into discrete categories for whether the outcome is “conservative,” “liberal,” or, less common, “unspecifiable.” For example, when an employer opposes the government in a case involving employment discrimination, a disposition in favor of the government (employer) is coded as liberal (conservative). In a

case involving Fourth Amendment protections, however, a pro-government (individual) vote would be coded as conservative (liberal). About 1.6% of cases outcomes are either missing or classified as “unspecifiable.” These disputes are excluded from our analysis. We further exclude all cases for which we do not have Segal–Cover scores for all justices who voted on the case (see below).

Since there remains some ambiguity with respect to the coding of cases, we show in Appendix C that using the “corrected” coding scheme of Epstein et al. (2013) has virtually no effect on our main results. For Epstein et al. (2013), Judge Posner personally reviewed a random sample of 110 cases. His classification coincided with that in the Supreme Court Database 75% of the time. Epstein et al. (2013) propose a revised classification scheme that corrects almost all of the discrepancies.

Our analysis uses the following variables:

Conservative Outcome is an indicator variable equal to one if the SCDB classified the Court’s decision in a particular case as conservative. It is equal to zero if the decision is classified as liberal.

Unanimous Decision is an indicator variable equal to one if, and only if, according to the SCDB, all justices who participated in a particular case voted in the same direction.

Minimal Majority is an indicator variable equal to zero if, and only if, any justice changing her vote would have resulted in the same case disposition. Our coding of this variable takes into account the lower court’s decision in the case of (potential) ties.

Number of Justices Voting is defined as the number of justices who, according to the SCDB, cast a vote in a particular dispute.

Issue Area corresponds to broad categories for the subject matter of the case, as identified in the SCDB. We differentiate between the following issue areas: *Criminal Procedure*, *Civil Rights*, *First Amendment*, *Due Process*, *Privacy*, *Unions*, *Economic Activity*, *Judicial Power*, *Federalism*, *Federal Taxation*, and *Other*. The latter category includes all cases that do not belong to any of the former issue areas.

Issue is a categorical variable that identifies the subject matter of the case. The SCDB differentiates between 259 hand-coded issues.

Close Case is defined in the same way as *Minimal Majority*.

Split Vote in Lower Court is an indicator variable equal to one if, and only if, the Supreme Court’s majority opinion mentioned that one or more of the members of the court whose decision the Supreme Court reviewed dissented (see the coding in the SCDB).

Unanimous Vote in Lower Court is the complement to *Split Vote in Lower Court*.

Lower-Courts Conflict is an indicator variable equal to one if, and only if, according to the SCDB, the Court granted the petition for certiorari because of either a federal court conflict, a federal court conflict and to resolve an important or significant question, a putative conflict, a conflict between a federal court and a state court, or a state court conflict.

No Lower-Courts Conflict is the complement to *Split Vote in Lower Court*.

Conservative Vote is an indicator variable equal to one if, and only, if the SCDB classifies the direction of a justice's vote on a particular case as conservative.

(Ex Post) Pivotal is an indicator variable equal to one if, and only if, a particular justice switching her vote on the merits of the case would have changed that case's disposition. Our coding of this variable takes into account the lower court's decision and the potential of ties.

Pivotal for Disposition Only is an indicator variable equal to one if, and only if, a particular justice changing her decision to side with the majority or the minority would have changed the case's disposition, but not whether the majority opinion sets precedent. Our coding of this variable takes into account the lower court's decision in the case of (potential) ties, and how many (other) justices have joined the majority opinion. We assume that, for a majority opinion to set precedent, a strict majority of the justices voting on the case must join.

Pivotal for Precedent Only is an indicator variable equal to one if, and only if, a particular justice changing her decision to side with the majority or the minority would have changed whether the majority opinion sets precedent, but not the case's disposition. Our coding of this variable takes into account the lower court's decision in the case of (potential) ties, and how many (other) justices have joined the majority opinion. We assume that, for a majority opinion to set precedent, a strict majority of the justices voting on the case must join.

Pivotal for Both is an indicator variable equal to one if, and only if, a particular justice changing his decision to side with the majority or the minority would have changed both whether the majority opinion sets precedent and the case's disposition. Our coding of this variable takes into account the lower court's decision in the case of (potential) ties, and how many (other) justices have joined the majority opinion. We assume that, for a majority opinion to set precedent, a strict majority of the justices voting on the case must join it.

Republican Appointee is an indicator variable equal to one if, and only if, a particular justice had been nominated by a Republican president.

Ever Chief Justice is an indicator variable equal to one if, and only if, a particular justice ever served as Chief Justice of the Court.

Tenure is defined as the number of terms that a justice has served on the Court at the time a particular vote was held.

B.2 Justices’ Ideology and Qualification

Our main analysis uses Segal–Cover scores as proxies for justices’ qualification and ideological leanings *before* being appointed to the Court (Epstein et al. 2017; Segal and Cover 1989). In the literature on judicial politics, Segal–Cover scores have become the *de facto* standard measure of justices’ ideology. They are constructed from newspaper editorials that were published in the *New York Times*, *Washington Post*, *Los Angeles Times*, and *Chicago Tribune* between the justice’s nomination by the president and the confirmation vote in the Senate. For each justice, human coders read the editorial, coding every paragraph as either “liberal,” “moderate,” “conservative,” or “not applicable.” Liberal paragraphs, for instance, mention the nominee’s general liberalism, identification with Democratic party leaders or causes, support for women and minorities in equal rights disputes, for defendants in criminal cases, or for individuals in privacy and First Amendment cases against the government. Statements are coded as conservative if they go in the opposite direction, while moderate paragraphs must explicitly ascribe moderation or both liberal and conservative values to the nominee. Excluding statements coded as “not applicable,” Segal and Cover (1989) define a justice’s perceived ideology as the fraction of liberal paragraphs minus the fraction of conservative ones. We rescale their index so that a value of zero corresponds to “unanimously liberal,” while a value of one corresponds to “unanimously conservative.” Justices’ qualifications are assessed in an analogous manner.¹

In Appendix C, we show that our main results are qualitatively and quantitatively robust to using the Clerk-Based Ideology (CBI) scores of Bonica et al. (2017) as an alternative measure of justices’ ideology. Bonica et al. (2017) use data on political donations of law clerks hired by federal judges to estimate the ideology of the judges themselves. Like Segal–Cover scores, CBI scores sidestep concerns about case selection and strategic behavior that plague vote-based measures of ideology.

Our analysis uses the following variables:

Ideology (Score) is defined as a justice’s perceived ideology, as defined by Segal and Cover (1989). We rescale the original Segal–Cover scores so that one corresponds to zero and zero corresponds to one in Segal and Cover’s coding scheme. As a result, the most conservative (liberal) justices in our data have an ideology score of one (zero).

Qualification Score is defined as a justice’s perceived qualification, as defined by Segal and Cover (1989).

Stalwart Liberal is an indicator variable equal to one if, and only if, a justice’s ideology score is strictly smaller than .25. This approximately corresponds to the most-liberal quartile of

¹Segal and Cover (1989) report a high inter-coder reliability ($\pi = .71$, $p < .001$).

justices in our data.

Moderate Liberal is an indicator variable equal to one if, and only if, a justice’s ideology score is greater or equal than .25 and strictly smaller than .5. This approximately corresponds to the second quartile of justices’ ideology score.

Moderate Conservative is an indicator variable equal to one if, and only if, a justice’s ideology score is greater than or equal to .5 and strictly smaller than .75. This approximately corresponds to the third quartile of justices’ ideology score.

Stalwart Conservative is an indicator variable equal to one if, and only if, a justice’s ideology score is greater or equal to .75. This approximately corresponds to the most-conservative quartile of justices’ in our data.

Qualification Score in 1st Tercile is an indicator variable equal to one if, and only if, the qualification score of the justice associated with a particular vote falls in the bottom tercile of scores in our data.

Qualification Score in 2nd Tercile is an indicator variable equal to one if, and only if, the qualification score of the justice associated with a particular vote falls in the middle tercile of scores in our data.

Qualification Score in 3rd Tercile is an indicator variable equal to one if, and only if, the qualification score of the justice associated with a particular vote falls in the top tercile of scores in our data.

B.3 Case Salience

To proxy for the importance of Supreme Court disputes, we rely on a media coverage-based measure of case salience due to Clark et al. (2015). For each case that the Court decided in its 1955–2008 terms, Clark et al. collect data on the number of stories that were published in the *New York Times*, *Washington Post*, and *Los Angeles Times*. They then define the salience of case c as θ_c in the following measurement equations:

$$Stories_{c,s,n} \stackrel{i.i.d.}{\sim} \text{Poisson}(\lambda_{c,s,n}) \tag{1}$$

$$\log(\lambda_{c,s,n}) = \alpha_{s,n,t} + \beta_{s,n}\theta_c, \tag{2}$$

where t indexes Supreme Court terms, and $Stories_{c,s,n}$ denotes the number of stories about case c that newspaper n published during stage s (i.e., the decision to grant certiorari, oral argument, the pending decision, and after the Court’s ruling has been announced). Using Markov chain Monte Carlo techniques, they estimate the vector of unknown parameters $(\alpha_{s,n,t}, \beta_{s,n}, \theta_c)$.

The idea behind their approach is straightforward. Saliency is the unobserved case characteristic that drives the lion’s share of media coverage. The measurement model in equations (1) and (2) recovers this latent factor, allowing for newspapers to have different propensities to report on Supreme Court disputes during each phase in the lifecycle of a case, all the while accounting for the discrete nature of the outcome variable, i.e., $Stories_{c,s,n}$. Clark et al. show that their estimates correlate highly with other *a priori* reasonable measures of case saliency, such as expert-generated lists of important cases or the number of amicus briefs. Their saliency index also accords with anecdotal accounts according to which cases like *Planned Parenthood v. Casey* or *Miranda v. Arizona* were especially important.

Since a saliency measure that is partially based on reports about the disposition of the case might be problematic for evaluating the impact of saliency on justice’s behavior, Clark et al. produce two different versions of their index. The first one is estimated from the universe of articles on Supreme Court cases, including the decision itself. The second one is based only on coverage up to, and including, oral argument, but excluding reports on the (pending) outcome. We rely on the latter index in order to mitigate the potential for reverse causality in our analysis.

Specifically, we use the following variables:

Case Saliency corresponds to the *ex ante* measure of saliency constructed by Clark et al. (2015), i.e., to the version of their measure that is based only on coverage up to, and including, oral argument, but excluding reports on the outcome. We standardize this variable so that it has a mean of zero and a standard deviation of one within the sample of cases in our final data set.

Case Saliency in 1st Tercile is an indicator variable equal to one if, and only if, *Case Saliency* falls in the bottom tercile of scores in our data.

Case Saliency in 2nd Tercile is an indicator variable equal to one if, and only if, *Case Saliency* falls in the middle tercile of scores in our data.

Case Saliency in 3rd Tercile is an indicator variable equal to one if, and only if, *Case Saliency* falls in the top tercile of scores in our data.

C Additional Sensitivity and Robustness Checks

In this appendix, we present five additional robustness checks for our main result in Table 2. Specifically, in Appendix Table A.1 we replicate the analysis in Table 2 using Epstein et al.’s (2013) coding scheme to classify votes as either “liberal” or “conservative.” As explained in Appendix B, Judge Posner personally reviewed a random sample of 110 cases. His classifi-

cation coincided with that in the Supreme Court Database 75% of the time. Epstein et al. (2013) propose a revised classification scheme that corrects almost all of the discrepancies. The results in Table A.1 demonstrate that using their alternative coding has virtually no effect on our estimates.

Next, we probe the robustness of our main result with respect to the empirical model. Since justices' votes are binary, one may argue that a logit or probit model is more appropriate than a linear OLS estimator. In light of the incidental parameter problem, which plagues probit models with fixed effects (see Greene 2002, ch. 21), we estimate conditional logit models and present the results in Appendix Table A.2. The evidence therein suggests that our conclusions are *not* sensitive to alternative estimators.

In Appendix Table A.3, we implement the sample restrictions recommended by McGuire et al. (2009). McGuire et al. (2009) develop a theory of the interactions between litigants, lower court judges, and Supreme Court justices. Based on this theory, they argue that measuring the Court's ideological output by the direction of its decision suffers from "affirmation bias." They offer sample selection rules that allow researchers to circumvent this bias. Reassuringly, implementing these rules makes our main result stronger (cf. Table A.3).

In Appendix Table A.4, we replicate the analysis in Table 2 using Bonica et al.'s (2017) Clerk-Based Ideology scores instead of Segal-Cover scores. As explained in Appendix B, Bonica et al. (2017) estimate justice's ideology from data on the political donations of the clerks they hire. Using this alternative measure of ideology has very little effect on the estimates of interest.

Lastly, Appendix Table A.5 shows that our results are robust to excluding the votes of the chief justice. The literature provides considerable evidence that the chief justice behaves strategically during conference and in the assignment of opinions (e.g., Maltzman and Wahlbeck, 1996; Maltzman et al., 2000; Still et al., 2010). What Table A.5 shows is that strategic voting is also common among the associate justices.

D Institutional Background

Decision-making at the Supreme Court is characterized by a mix of rigorous institutional rules and procedures and a wide range of activity governed by no formal procedural rules. Cases come to the court through a process known as a petition for a writ of *certiorari*. Certiorari is the mechanism by which the Supreme Court agrees to hear a case from a court below.² Formally, an aggrieved party from a lower court decision asks the Supreme Court

²There are other mechanisms, but the certiorari process is the one that controls more than 99% of the cases that come to the Court.

to hear the case by filing a brief at the Court, within a specified period of time after the lower court decision. The justices then evaluate the brief and vote whether to hear the case. While the decision rule is not written down, there is a strong, well-understood norm that a case will be heard whenever four of the nine justices want to hear the case.

After agreeing to hear a case, the justices typically set the case for oral argument. Lawyers for each side file briefs on the merits of the case, as do other interested parties to whom the Court grants permission to participate (i.e., *amici curiae*). At oral argument, the lawyers present their cases, typically for 30 minutes, during which time the justices interact with the lawyers and each other.

Twice per week, the justices meet “in conference.” At these meetings, they vote on new certiorari petitions and discuss and cast votes on the new cases they have heard. The decision on how to resolve new cases consists of two elements. First, the justices vote on what is essentially a binary question—whether to reverse or affirm the lower court. This decision determines, for all intents and purposes, who “wins.” Second, and in conjunction, the justices decide on the rationale for the decision, i.e., what the opinion will say.

Formally, the voting takes place as follows. The justices go around the table, speaking in order of seniority. The Chief Justice begins, stating what he thinks the relevant legal argument is and then who he believes should win. They then proceed down the ranks. The justices are free to interact and change their votes throughout this process. Once the final vote is settled, and the victorious side is established, the most senior justice in the majority assigns responsibility for writing the majority opinion. Other justices may announce their intentions to write concurring or dissenting opinions at this point.

Importantly, the process for discussing and voting is simply a behavioral norm and is not controlled by any written rules at the Court or elsewhere. Moreover, because no one besides the justices is ever permitted into the room, there has been some debate about the precise order in which they speak and vote, though our account is consistent with the majority of opinions and those of former justices who have spoken publicly about the procedures.³

Once opinions begin to be written, as drafts are circulated among the justices, individual justices are free to decide which opinions they will join and to change their votes if they decide they prefer an outcome different from the one they endorsed at conference. The justices’ votes, and the outcome of the case, are not final until announced formally in Court. In this sense, the justices are playing a strategic game in which they best-respond to each other. Past scholars have often noted the incentives this creates for justices to change their

³In some accounts, the justices have always spoken and voted in order of seniority (Perry, 1991), whereas according to other accounts, the justices for some period of time spoke in order of seniority but then voted in reverse order (Stevens, 2011, pp. 154). Today, it seems, all accounts agree that the justices speak and vote in order of seniority.

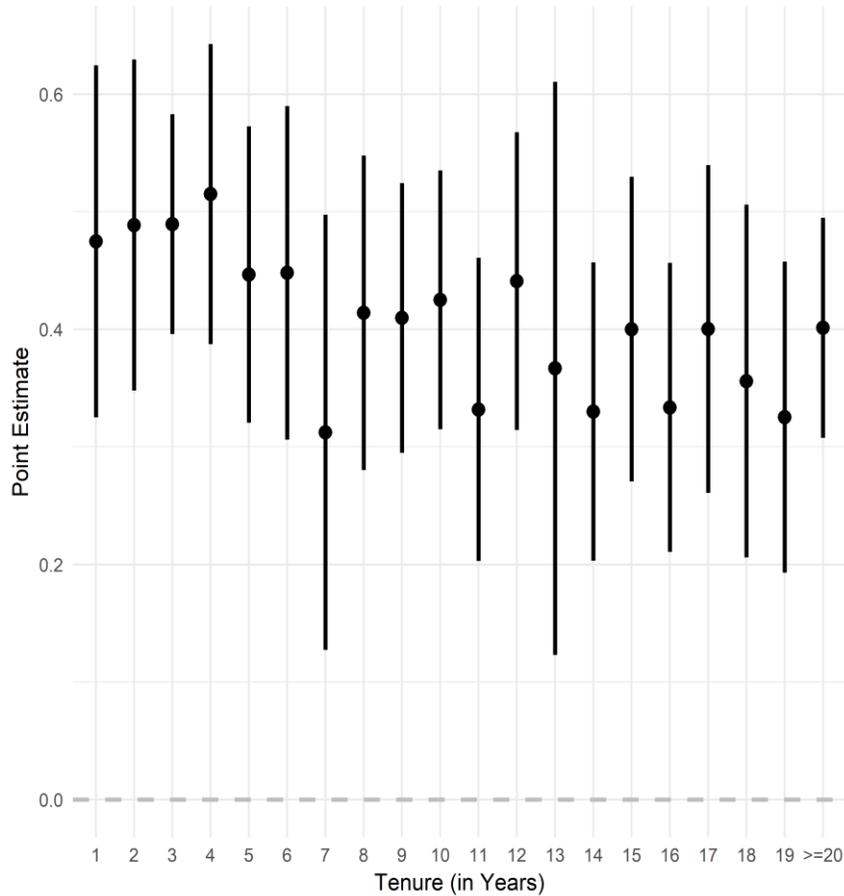
votes in an effort to affect case outcomes or in order to increase the size of the majority coalition (e.g., Brenner, 1980; Brenner et al., 1990; Dorff and Brenner, 1992).

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Figure A.1: Estimated Interaction Term (δ), by Tenure



Notes: Figure shows point estimates and 95%-confidence intervals for δ in equation (1), estimated separately by tenure of the respective justice at the time a case was decided.

Table A.1: Main Result, Epstein et al.'s (2013) Coding of Case Outcomes

	Conservative Vote					
	(1)	(2)	(3)	(4)	(5)	(6)
Ideology × Pivotal		0.269** (0.034)	0.271** (0.030)	0.271** (0.030)	0.428** (0.052)	0.421** (0.044)
Pivotal		-0.055 (0.030)	-0.066* (0.026)	-0.054 (0.032)	-0.117* (0.048)	-0.134** (0.041)
Ideology	0.345** (0.014)	0.313** (0.014)			0.295** (0.012)	
Close Case				-0.014 (0.019)		
Constant	0.299** (0.010)	0.304** (0.011)				
H ₀ : Sincere Voting [p-value]	--	0.000	0.000	0.000	0.000	0.000
Justice FE	No	No	Yes	Yes	No	Yes
Case FE	No	No	No	No	Yes	Yes
R-Squared	0.052	0.057	0.102	0.102	0.563	0.604
Number of Observations	70,383	70,383	70,383	70,383	70,383	70,383

Notes: Entries are coefficients and standard errors from estimating variants of the empirical model in equation (1) by OLS. In a departure from the results reported in the main text, we use the coding scheme suggested by Epstein et al. (2013) to classify votes as either liberal or conservative. Heteroskedasticity robust standard errors are clustered by Supreme Court term and reported in parentheses. ** and * denote statistical significance at the 1% and 5% levels, respectively.

Table A.2: Main Result, Logit Specification

	Conservative Vote					
	(1)	(2)	(3)	(4)	(5)	(6)
Ideology × Pivotal		1.273** (0.084)	1.326** (0.087)	1.327** (0.087)	0.449** (0.104)	0.404** (0.119)
Pivotal		-0.299** (0.051)	-0.363** (0.053)	-0.282** (0.059)	0.127 (0.065)	-0.016 (0.075)
Ideology	1.354** (0.023)	1.223** (0.024)			2.616** (0.048)	
Close Case				-0.089** (0.029)		
Constant	-0.777** (0.014)	-0.750** (0.014)				
H ₀ : Sincere Voting [p-value]	--	0.000	0.000	0.000	0.000	0.000
Justice FE	No	No	Yes	Yes	No	Yes
Case FE	No	No	No	No	Yes	Yes
Number of Observations	74,489	74,489	74,489	74,489	74,489	74,489

Notes: Entries are coefficients and standard errors from estimating variants of the empirical model in equation (1) under the assumption that the error term follows a logistic distribution. ** and * denote statistical significance at the 1% and 5% levels, respectively.

Table A.3: Main Result, Sample Restrictions of McGuire et al. (2009)

	Conservative Vote					
	(1)	(2)	(3)	(4)	(5)	(6)
Ideology × Pivotal		0.386** (0.031)	0.347** (0.028)	0.347** (0.028)	0.688** (0.070)	0.632** (0.060)
Pivotal		-0.134** (0.023)	-0.115** (0.020)	-0.163** (0.046)	-0.343** (0.073)	-0.316** (0.062)
Ideology	0.406** (0.016)	0.365** (0.017)			0.273** (0.015)	
Close Case				0.052 (0.038)		
Constant	0.240** (0.012)	0.253** (0.011)				
H ₀ : Sincere Voting [p-value]	--	0.000	0.000	0.000	0.000	0.000
Justice FE	No	No	Yes	Yes	No	Yes
Case FE	No	No	No	No	Yes	Yes
R-Squared	0.072	0.080	0.117	0.118	0.584	0.617
Number of Observations	37,461	37,461	37,461	37,461	37,461	37,461

Notes: Entries are coefficients and standard errors from estimating variants of the empirical model in equation (1) by OLS. In a departure from the results reported in the main text, we apply the sample restrictions suggested by McGuire et al. (2009). Heteroskedasticity robust standard errors are clustered by Supreme Court term and reported in parentheses. ** and * denote statistical significance at the 1% and 5% levels, respectively.

Table A.4: Main Result, Using CBI Scores of Bonica et al. (2017) as Proxy for Justices' Ideology

	Conservative Vote					
	(1)	(2)	(3)	(4)	(5)	(6)
Ideology × Pivotal		0.391** (0.034)	0.412** (0.032)	0.414** (0.032)	0.458** (0.046)	0.482** (0.042)
Pivotal		-0.079** (0.030)	-0.104** (0.027)	-0.067 (0.037)	-0.071 (0.052)	-0.096* (0.044)
Ideology	0.376** (0.018)	0.327** (0.017)			0.319** (0.021)	
Close Case				-0.041 (0.021)		
Constant	0.345** (0.011)	0.355** (0.012)				
H ₀ : Sincere Voting [p-value]	--	0.000	0.000	0.000	0.000	0.000
Justice FE	No	No	Yes	Yes	No	Yes
Case FE	No	No	No	No	Yes	Yes
R-Squared	0.038	0.044	0.093	0.094	0.580	0.615
Number of Observations	58,940	58,940	58,940	58,940	58,940	58,940

Notes: Entries are coefficients and standard errors from estimating variants of the empirical model in equation (1) by OLS. In a departure from the results reported in the main text, we use the Clerk-Based Ideology (CBI) Scores of Bonica et al. (2017) to proxy for justices' conservativeness, rescaled so that zero corresponds to the most liberal and one to the most conservative justice in the sample. The sample is restricted to cases with available CBI scores for all participating justices. Heteroskedasticity robust standard errors are clustered by Supreme Court term and reported in parentheses. ** and * denote statistical significance at the 1% and 5% levels, respectively.

Table A.5: Main Result, Excluding Chief Justices' Votes

	Conservative Vote					
	(1)	(2)	(3)	(4)	(5)	(6)
Ideology × Pivotal		0.238** (0.031)	0.236** (0.029)	0.236** (0.029)	0.405** (0.049)	0.397** (0.042)
Pivotal		-0.049 (0.027)	-0.059* (0.025)	-0.020 (0.029)	-0.081 (0.046)	-0.098* (0.039)
Ideology	0.309** (0.013)	0.282** (0.013)			0.271** (0.012)	
Close Case				-0.043* (0.021)		
Constant	0.320** (0.009)	0.325** (0.009)				
H ₀ : Sincere Voting [p-value]	--	0.000	0.000	0.000	0.000	0.000
Justice FE	No	No	Yes	Yes	No	Yes
Case FE	No	No	No	No	Yes	Yes
R-Squared	0.040	0.044	0.086	0.087	0.558	0.598
Number of Observations	66,050	66,050	66,050	66,050	66,050	66,050

Notes: Entries are coefficients and standard errors from estimating variants of the empirical model in equation (1) by OLS. In a departure from the results reported in the main text, the sample excludes the votes of the chief justice. Heteroskedasticity robust standard errors are clustered by Supreme Court term and reported in parentheses. ** and * denote statistical significance at the 1% and 5% levels, respectively.