The Interplay of Ideological Diversity, Dissents, and Discretionary Review in the Judicial Hierarchy: Evidence from Death Penalty Cases

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Abstract
We use an original dataset of death penalty decisions on the Courts of Appeals to evaluate how the institutions of multimember appellate courts, dissent, and discretionary higher court review interact to increase legal consistency in the federal judicial hierarchy. First, beginning with three-judge panels, we show the existence of ideological diversity on a panel—and the potential for dissent—plays a significant role in judicial decision making. Second, because of the relationship between panel composition and panel outcomes, considering only the incidence of dissents dramatically underestimates the influence of the institution of dissent—judges dissent much less frequently than they would in the absence of this relationship. Third, this rarity of dissent means they are informative: when judges do dissent, they influence en banc review in a manner consistent with the preferences of full circuits. Taken together, these results have important implications for assessing legal consistency in a vast and diverse judicial hierarchy.

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A central concern of judicial legitimacy is ensuring consistency in legal decision making.¹ In the United States, federal courts hear thousands of cases each year, which are heard by hundreds of different judges. In many areas of the law, these judges may hold different legal preferences—some judges might prefer to decide a case one way, while others might prefer to decide the same case differently. It is difficult, therefore, to ensure that similarly situated defendants receive similar treatment, which can lead to inconsistency in judicial decisions.

Complete uniformity across case outcomes is unobtainable, of course. But the American federal judiciary features several institutions that increase the prospects for consistency. First, like most judiciaries, it is organized hierarchically. Every trial court decision is subject to appellate review at the Courts of Appeals (if the losing litigant at the trial stage appeals). In turn, decisions made by panels of the Courts of Appeals are subject to review by a full circuit sitting *en banc* and the Supreme Court. Appellate courts can thus correct erroneous lower court decisions. Second, the number of judges who hear any given case differs across levels of the hierarchy. While trial court decisions are made by a single judge, initial appeals are heard by three-judge panels. Having multimember courts hear appeals creates the potential for gains from deliberation; it also reduces the chances that a single judge whose preferences are distant from the mainstream of her court will be able to unilaterally make an “outlying” decision. Third, in many countries, multimember appellate courts issue collective opinions, thereby preventing judges from writing separate opinions (such as dissents) that argue against the decision and reasoning of the majority. In the United States, by contrast, separate opinions are possible—judges on multimember panels may dissent (or concur) when they disagree with either the result or rationale offered by their colleagues. The possibility of dissent may lead judges to decide differently than they would in the absence of dissent.

Rather than existing in a vacuum, these institutions can interact to increase consistency

¹Replication code and data and supporting materials needed to reproduce the numerical results can be found on the Dataverse Network at http://dx.doi.org/10.7910/DVN/25587.
in judicial decision making at multiple stages of a case’s progress through the hierarchy. In particular, judges on the Courts of Appeals deliberate in the shadow of dissents and review. Thus, each judge considers whether he agrees with his colleagues or whether to write his own opinion—which consideration may lead him to voice disagreements and opinions he might otherwise have not. His colleagues, in turn, may be persuaded by his disagreements, and may consider whether he will dissent, and how that will affect the reception of their decision. The result of this interaction will be either a unanimous decision, or one that features a dissent. This information, in turn, can be extremely valuable to a higher court that has to decide whether to review a given panel’s decision.

While ideological diversity on three-judge panels, dissents, and higher court review have been studied in significant detail, most research has ignored the potential for the interaction of these institutions. In this paper, we ask and answer three questions that address this nexus of diversity, dissent, and review. First, beginning with three-judge panels, how does ideological diversity on a panel—and the potential of a dissenting opinion—influence case outcomes? Second, when should judges actually write a dissent? Third, moving to a reviewing court, which cases should it invest its scarce resources in reviewing, conditional on three factors: the preferences of the judges on the panel; the direction of the majority’s dispositional vote; and the presence or absence of a dissent?

We examine these questions by developing a theory that evaluates the interplay of diversity, dissents, and review. We test several of the theory’s predictions using an original dataset of death penalty decisions on the Courts of Appeals from 1983 to 2012. In this period, both the Supreme Court and the Courts of Appeals largely favored a conservative doctrine in death penalty cases. At the same time, Democratic appointees were more likely to overturn death sentences than Republican appointees. These facts allow us to gain leverage on the interaction of ideological diversity, dissents, and discretionary review.

First, we find that ideological diversity (or lack thereof) plays a large role in the outcome
of death penalty cases. Panels with more Republican judges are significantly more likely to uphold a death sentence than panels with fewer Republican judges. In particular, we find an enormous difference (28 percentage points) in the predicted probability that a unified Democratic panel upholds a death sentence compared to a unified Republican panel. At the same time, we find that “mixed panels” are more likely to produce “majority-inconsistent” decisions—that is, decisions less in line with the preferences of the ideological majority on a panel. This result is consistent with the potential for dissent influencing decision making on three-judge panels. Thus, ideological diversity, in tandem with the institution of dissent, is important for appellate outcomes. A defendant on death row only approaches a 50% chance of winning relief from a panel when he is lucky enough to draw three Democratic appointees via random assignment—a rare occurrence due to the conservative tilt of the circuits hearing such cases in our period of study.

Second, we show that because of the relationship between a panel’s composition and its decision, considering only the incidence of dissents dramatically underestimates the influence of the institution of dissent—judges dissent much less frequently than they would in the absence of this relationship. In particular, judges on mixed panels almost never dissent from majority-inconsistent decisions. This, in turn, has implications for the value that dissent has as a signal to the entire circuit that review of a panel’s decision may be warranted.

Third, we find that consistent with a conservative hierarchy skeptical of liberal decisions in death penalty cases, full circuits sitting en banc are more likely to review liberal decisions accompanied by dissents than conservative decisions with dissents. This difference is particularly dramatic in circuits with a majority of Republican judges. Taken together, these results demonstrate how the institutional features of the judiciary can increase legal consistency across a vast and diverse hierarchy.
The Courts of Appeals in the Judicial Hierarchy

The respective relationships between judging in the federal hierarchy and ideological
diversity, dissent, and discretionary review have received extensive study by scholars of the
court, and a full review of each is unnecessary here. It is worth nothing that our theoretical
and empirical approach effectively integrates the literatures on panel effects, the incidence of
dissent, and higher court review, which have been largely considered as separate phenomena.
In the spirit of backward induction, we consider them in reverse chronological order.

A central challenge for a higher court with a discretionary docket is selecting which cases
to review. One strategy is to rely on various cues to separate worthy appeals from unworthy
ones. These cues allow higher courts to select cases that are legal errors that need correcting
or to clarify the law in a manner that increases uniformity in the lower courts (Hall 2009).
For both the Supreme Court and the Courts of Appeals sitting *en banc*, the relationship
between the ideology of the panel and the decision the panel makes influences the decision
to grant review. Decisions that are inconsistent with a panel’s assumed preferences (e.g. a
liberal lower court making a conservative decision) are less likely to be reviewed (Cameron,
Segal and Songer 2000, Giles, Walker and Zorn 2006, Clark 2009). In addition, it is well
documented that the presence of a dissent on a three-judge panel of the Courts of Appeals
increases both the probability that a circuit will review that decision *en banc* (George 1999,
Giles, Walker and Zorn 2006, Clark 2009), as well as the probability that the Supreme Court
will review the decision (Perry 1991, Caldeira, Wright and Zorn 1999).

One reason that dissent increases the rate of review is that it is relatively rare on the
Courts of Appeals. From 1990 to 2007, dissents occurred in only 2.6% of all Courts of Appeals cases termi-
nated on the merits, and 7.8% of published cases (Epstein, Landes and Posner 2011, 106-7).
signals of disharmony in the lower courts—and in the law. Of course, the rarity of dissents is not exogenous, but rather the result of the behavior of judges on the Courts of Appeals. The endogeneity of dissent has been explored in the literature on “panel effects,” or how the propensity of a member of a three-judge panel to vote liberally increases with every Democratic appointee she sits, and vice versa (Revesz 1997, Sunstein et al. 2006). There are several potential mechanisms that explain the existence of panel effects, and adjudicating between them is quite difficult (Fischman 2013, Kastellec 2013). But it is clear that the existence of panel effects is tied directly to the high rate of unanimity on the Courts of Appeals. Liberal and conservative judges tend to vote differently in many areas of the law; if they voted sincerely in most cases we would not observe panel effects—we would observe far more dissents. Instead, the empirical evidence points to two related patterns. First, in many cases, a single judge who disagrees with the panel majority goes along with its decision rather than writing a dissent; second, that minority judge may instead convince the majority to go along with the judge’s preferred outcome, again producing a unanimous vote.

The institution of dissent directly affects the ability of a judge to convince her colleagues in a given case, in two ways. First, in their seminal paper on whistleblowing in the judicial hierarchy, Cross and Tiller (1998) argue that a single judge on a three-judge panel of the Courts of Appeals who is aligned with a higher court and against her two colleagues could act as a potential dissenter; the threat of the single judge’s dissent, and possible triggering of higher court review, could in some cases constrain the majority from deviating from the higher’s court preferred outcome (see also Kim 2008, Kastellec 2011). But, as Cross and Tiller (1998) also recognized, the influence of judicial disagreement can also work in subtler ways. If a judge can cite precedents issued by a higher court in support of her view on a particular case, such citation may have a persuasive effect on a lower court majority, even if they are less worried directly about a dissent triggering higher court review.

This mechanism is also a consequence of the institution of dissent. Endorsing the seriatim
practice used by English courts, in which each judge stated their opinions in a case, Thomas Jefferson argued that prohibiting dissent shielded “the lazy, the modest and the incompetent” from having to develop their opinions fully (quoted in Jackson 1969, 23). Similarly, Justice William Brennan argued that “vigorous debate improves the final product by forcing the prevailing side to deal with the hardest questions urged by the losing side” (Brennan 1985).

It follows that the deliberation that ensues from preference heterogeneity occurs only when judges know they may write if they ultimately disagree; if this option did not exist, they would resign themselves to their colleagues’ majority position. And, of course, in some cases judges will not be able to reach agreement, and thus one judge will decide to write a dissent.

This rate of observed dissent varies based on the ideological heterogeneity of a three-judge panel (Epstein, Landes and Posner 2011), the relationship of the preferences of the lower court judges to the court or courts above them (Hettinger, Lindquist and Martinek 2006), and macro-level factors such as workload, circuit size, and circuit norms (Songer 1986). But, as we describe below, it is also inherently tied to the rate of observed panel effects.

Thus, we have evidence about the ex post effects of judicial dissent on higher court review, as well as evidence that in some cases dissent can exert ex ante influence on voting by majorities on three-judge panels. We also have a broad sense of the conditions under which judges are more likely to cast dissents. However, we have little understanding of how these institutions connect to influence decision making in the judicial hierarchy.

**Theoretical Approach**

To study the interplay of ideological diversity, dissent, and discretionary review in the judicial hierarchy, we employ the logic of the theory developed in Beim, Hirsch and Kastellec (2014), which analyzes the interactions between a higher court and a three-judge lower court. The model demonstrates how the possibility of dissent on panels can influence decision making, and how dissent signals a higher court of non-compliance. Importantly, in this
model, dissents are most informative when they are rare, which helps generate the theoretical predictions about how the institution and incidence of dissent shape judicial behavior.

We assume all judges have preferences over case dispositions, which potentially diverge. We also assume lower court judges understand a higher court’s preferred doctrine; thus, our model is one of law application rather than law creation. The theory assumes a higher court has much less information about a case than a lower court does, unless the higher court chooses to engage in costly review of the lower court’s decision. However, higher courts have complete knowledge of the preferences of lower courts.

Again in the spirit of backward induction, we begin with a higher court deciding whether to review a lower court’s decision. If a conservative higher court observes a uniformly liberal lower court make a conservative decision, it can be sure it will also agree, since the lower court is making a decision against its own relative bias (Cameron, Segal and Songer 2000). Thus, there is no need to review such a decision. We call this the opposite decision result. However, if the uniformly liberal lower court makes a liberal decision, a conservative higher court faces a problem. Without knowing the facts of the case, the higher court does not know whether the lower court is behaving non-compliantly, or if the facts would lead the higher court to choose a liberal outcome. Under such conditions, the conservative higher court will review some liberal decisions by liberal lower courts, but not all of them—since it knows it might agree with the decision, review will not always seem worthwhile.

It is clear that this model will generally apply in the range of cases in which higher courts and lower courts disagree. These tensions between the courts increase as their preferences become more divergent, and decrease as precedent grows clearer. In cases where the law is clear (for example, frivolous appeals by death penalty defendants), liberal lower courts may issue conservative decisions even if they would prefer the doctrine to be more liberal. Thus,

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3Throughout this section we assume the higher court is more conservative than the lower court. The results apply to the symmetric case when the higher court is more liberal.
the state of the law is important in considering judicial behavior by lower court judges.

Next consider the scenario where the lower court contains a majority of liberal judges, but the panel also includes a conservative judge. Following Kastellec (2011), denote this member of the panel a “counter-judge”—one whose preferences (but not necessarily her vote) differ from the panel majority. The counter-judge may dissent if the liberal majority makes a decision that she disagrees with. If a higher court observes that the conservative counter-judge has written a dissent, the higher court’s uncertainty about case facts is greatly reduced: compared to unanimous decisions, liberal decisions accompanied by dissent are more likely to have been decided against the higher court’s preferences. This increased assurance that the decision should be reversed makes the higher court believe the case is more worthy of its attention. As a result, a conservative higher court will be more likely to review liberal decisions with dissents than those without dissent. We call this the review upon dissent prediction—this captures the ex post effect of dissent. (Note the same prediction holds if a liberal judge dissents against a liberal decision by two liberal colleagues. We focus on the case of a conservative counter-judge here for expositional purposes, but test the more general prediction in the empirical analysis.)

Of course, if counter-judges always dissented from decisions they disagreed with, the value of their signal to a higher court would quickly diminish. Accordingly, a foresighted counter-judge will know that his dissent can increase the probability of review and reversal, which might incentivize him to pay the cost of writing a separate opinion. But he will also know that dissents are most informative when they are rare, which will lead him to dissent only from the decisions he disagrees with most. (Indeed, the “equilibrium” of low dissent rates and low discretionary review, with a direct relationship between the two, is exactly what we observe in the judicial hierarchy.)

Working back a step to the panel’s decision, the presence of the conservative counter-judge can affect the liberal majority’s decision making in two ways, as discussed above.
First, the liberal judges know a dissent by their conservative colleague may lead to review and reversal. If the judges fear reversal sufficiently, compared to their preferences over the outcome of the case, they may vote against their preferred outcome rather than vote sincerely and risk reversal. Second, even if the liberal judges do not fear outright reversal, legal arguments may also be influential, as the conservative counter-judge can call upon conservative precedents. These arguments—and the associated threat of writing a dissent that exposes the majority’s legal rationale—may lead the judges in the majority to decide a case differently than they otherwise would. Therefore, in some cases the liberal judges would rule liberally on a panel without a counter-judge, but may choose to rule conservatively—against their preferred outcome—when a conservative counter-judge is present on the panel. Thus, the presence of a potential dissenter and the associated deliberation will lead a liberal lower court to make fewer non-compliant liberal decisions. We call this the counter-judge effect result, which captures the ex ante influence of the institution of dissent.

Finally, when we combine the implications of the ex ante and ex post influences of dissent, we generate empirical insights on when we should expect judges to actually dissent. Whenever the liberal majority votes conservatively, there is no need for the conservative judge to write a dissent, since the majority is complying with his preferred outcome. We call this the unnecessary dissent prediction. Thus, dissents should be conditional upon case dispositions—that is, the outcome the panel majority reaches.

**Analyzing Death Penalty Cases**

To test these predictions, we turn to an original dataset of death penalty cases. The advantages of using this issue area are several. First, the importance of consistency in outcomes of death penalty cases is perhaps unparalleled, given what is at stake. Indeed, normative and empirical debates about the legitimacy of the death penalty have often centered around whether death sentences are handed out in a consistent manner. For example, the famous “Baldus study” referenced in *McClesky v. Kemp* (481 U.S. 279) was motivated by the ques-
tion of whether Georgia’s courts were effectively implementing the doctrine of comparative sentence review, under which “a court determines whether a death sentence is consistent with the usual pattern of sentencing decisions in similar cases or is comparatively excessive” (Baldus, Pulaski and Woodworth 1983, 663). With respect to the federal courts in particular, the oversight of capital punishment is extremely important because they are the only avenue (save executive clemency) for relief from death row, once a defendant has exhausted his state appeals (Gelman et al. 2004). Second, in most death penalty cases, a defendant will exhaust all of his avenues for appeal; this mitigates the potential for selection bias induced by litigants deciding whether to appeal their case. Third, because of the gravity of death penalty cases, higher courts with discretionary dockets are likely to care about the outcome (or disposition) of the case as much as law creation—this fits well with our theory, which stresses error correction as opposed to law creation or the modification of legal rules. In these cases, the disposition can determine whether the defendant is eventually executed.

The price of these advantages, however, is that the dynamics we study may be more concentrated in death penalty cases compared to other areas of the law. Doctrine on capital punishment is fairly clear and relatively settled, and the issue is highly ideological. In issues where the law is less clear or judges less polarized, we might expect these effects to be more muted. As a result, we make no claims as to the generalizability of our results beyond death penalty cases. At the same time, there are many areas of the law that match or approach the salience and polarity of death penalty law; Sunstein et al. (2006), for example, find multiple issue areas with panel effects present. We would not be surprised if our findings extend to such areas, and future research is certainly warranted.

The data

The full details of our case selection procedures can be found in the appendix. To summarize, using Westlaw, we sought to collect cases (both published and unpublished) in which the death sentence of a defendant was under review by a three-judge panel of the
Courts of Appeals. Our search of Westlaw revealed that the Courts of Appeals did not begin to receive death penalty appeals in significant numbers until 1983; thus, we begin our dataset with that year, and sample cases from 1983 to 2012.

Evaluating the *ex post* influence of dissent requires having a sample with both a sufficient number of cases with dissent and of cases that are reviewed by a higher court. Because both dissent and review are relatively rare, a random sample would likely leave us with an insufficient number of cases for analysis. With this in mind, we undertook a sampling design that employs a “choice-based” (or “case control”) selection procedure (Manski and Lerman 1977). First, we oversampled non-unanimous decisions of three-judge panels. Second, we oversampled cases that were reheard *en banc* by the full circuits. (We explain below why we chose *en banc* cases to examine rather than decisions by the Supreme Court.) Our dataset thus includes every death penalty decision with a dissent, every decision of a three-judge panel that was reviewed *en banc*, and a random sample of unanimous cases that were not reviewed *en banc*. Throughout our analyses, we employ sampling weights to correct for over- and under-representation of various types of cases (see the appendix for more details).

Our search resulted in a dataset of 1,412 death penalty cases decided by three-judge panels from 1983 to 2012. In the majority of these cases, the issue is *not* the conviction of the defendant, but whether his sentence of death should be carried out, with the defendant seeking to have the court either overturn his sentence or remand to a lower court for further proceedings. This includes habeas corpus cases. In a minority of cases, the state was challenging an adverse ruling by a lower court. For each case, we coded the dispositional votes of each judge as well as the outcome reached by the panel. If a judge or panel granted the defendant any relief from his death sentence, we code this as “relief” (or “liberal”). If the disposition went completely against the defendant, we code this as “no relief” (or “conservative”). Liberal dispositions are coded as 1. Note that we code the presence of a dissent consistent with this rule for coding dispositions. That is, if the panel majority
granted the defendant relief on one issue, but a judge dissented because she would have gone farther and granted more relief to the defendant, each judge is coded as issuing a liberal vote, and thus no dissent is coded in the case. (92% of the dissents we uncovered were in fact consistent with our coding rules.) For each judge in each three-judge panel, we gathered biographical information, including the party of their appointing president (see the appendix for further details). Finally, we coded whether each decision was reviewed *en banc*, and the proportion of Republican-appointed judges on the circuit in which a given case was heard.

**Preferences in the judicial hierarchy**

We now turn to applying our theory to death penalty cases heard in the judicial hierarchy. We begin by considering the preferences of the Supreme Court. In 1983, the year our data begins, the Court turned toward a conservative death penalty jurisprudence, a trend that continued during the remainder of the tenure of Chief Justice Burger (until 1986) and most of the tenure of Chief Justice Rehnquist (1986 to 2005) (Haas 2007). In its later years (2002 to 2005), the Rehnquist Court did make a number of notable liberal rulings, including banning the death penalty for those under age 18 and the mentally retarded. Still, “the Court did not stray too far from its tendency to uphold ... laws and procedures that work to the advantages of capital prosecutors”—a tendency that has continued in the jurisprudence of the Roberts Court (Haas 2007, 394). Two quantitative measures align with this qualitative account: both the percentage of conservative decisions (as estimated from Spaeth et al. (2010)) and death penalty-specific ideal points estimated by Lauderdale and Clark (2014) reveal that the Court has trended conservatively over time since it first started hearing capital punishment cases in significant numbers (see Figure A-1 in the appendix.)

Next, we consider the preferences of judges on the Courts of Appeals. Our approach is straightforward. We rely on the party of the appointing president as a proxy for judicial ideology, assuming that Republican-appointed judges are more conservative than Democratic-appointed judges. Thus, we assume that, on average, the threshold for Republican judges to
find that the defendant deserves relief from his sentence is higher than that for Democratic judges. Indeed, as detailed below, we find striking differences in voting between Democratic and Republican judges. While more nuanced (but imperfect) measures of judicial ideology exist, a binary approach facilitates the empirical connection of \textit{ex ante} and \textit{ex post} influences of dissent, as well as the incidence of dissent, as seen below.

Finally, we consider the preferences of full circuits, which effectively sit between three-judge panels and the Supreme Court, and which can use \textit{en banc} proceedings to review the decisions of three-judge panels. As it turns out, 77\% of the cases we collected were decided in circuits controlled by Republican appointees. (Figure A-2 in the appendix depicts the proportion of active Republicans on each circuit from 1983 to 2012, as well as the distribution of cases in our data across circuits.) This is because Republicans have comprised a majority of the federal judiciary over most of the past three decades. Moreover, the circuits from which most death penalty cases arise have tended to be overwhelmingly Republican—such as the 5th Circuit, which includes Texas—while the circuits that have been more Democratic, like the 1st and 2nd Circuits, cover states in the Northeast that do not employ the death penalty. The only circuits that feature a significant number of cases decided under Democratic control are the 9th and the 11th Circuits. Thus, more conservative judges have tended to set death penalty law at both the Supreme Court and circuit levels in recent decades, meaning that the two higher levels of the judicial hierarchy have been largely aligned. This fact has important implications for assessing the interplay of ideological diversity, dissent and review, to which we now turn.

**Panel decisions and the \textit{ex ante} influence of dissents**

We begin our analysis of death penalty decisions by exploring the relationship between panel composition and case outcomes on three-judge panels of the Courts of Appeals.\footnote{We choose to use the panel’s decision as the unit of the analysis because our focus is on how the presence of a counter-judge affects the outcome of the case, and not any individual...}
our interest extends beyond whether panel effects exist in death penalty cases, it is worth noting that different studies have reached different conclusions. Sunstein et al. (2006) found that while Republican judges and Democratic judges vote differently from each other in such cases, their votes do not depend on panel composition. On the other hand, using a different dataset, Fischman (2013) found substantial panel effects. Our dataset is much more comprehensive than the ones analyzed in either of these studies.

We measure panel ideology by using the four possible combinations of party types that can occur on three-judge panels: unified Democratic (DDD), mixed with a Democratic majority (DDR), mixed with a Republican majority (RRD), and unified Republican (RRR). Importantly, panels are effectively assigned randomly, meaning that, within a given circuit, the types of cases heard should not vary systematically across panel types.\textsuperscript{5} The unified panels are those in which all judges share the same preferences. The mixed panels, by contrast, are those with potential dissenters. To be sure, it is possible that to the extent ideology varies within party, certain judges on unified panels who differ ideologically from their colleagues could act as counter-judges. We do not deny this—in fact, we leverage it in our analysis of review decisions below. Rather, our assumption is simply that mixed panels are more likely to feature ideological discord, meaning we can more clearly observe the effects of potential dissent by comparing decision making on unified panels to mixed panels.

judge’s vote. In addition, this choice allows for continuity across the three analyses we conduct—judges dissent from decisions, not from a colleague’s vote, and it is the decision of the panel, not an individual judge’s vote, which can be reviewed by a higher court. As a robustness check, we estimated two judge-level models (presented in the appendix), which produced statistically and substantively identical results as the panel-level models below.

\textsuperscript{5}As a randomization check, we examined the direction of the district court vote (described below) across each panel type. The distribution of liberal district court votes was substantively and statistically the same across each of the four types, which strongly suggests there is no link between the nature of the case and the judges assigned to it.
Based on the panel effects literature, we would expect the propensity of a panel to reach a conservative decision to increase monotonically with every additional Republican judge on the panel. In other words, we would expect to see counter-judge effects across both types of majority panels: adding a Democratic counter-judge to an otherwise unified Republican panel should increase the probability of ruling for the defendant; adding a Republican counter-judge to an otherwise unified Democratic panel should decrease the probability of ruling for the defendant. However, the fact that the Supreme Court and most circuits have been conservative in this period leads to the prediction that the counter-judge effects should be asymmetric—that is, the counter-judge effects should be larger for Republican judges who join Democratic majorities. Two mechanisms underly this prediction. First, due to the conservatism of the upper levels of the hierarchy, conservative dissents from liberal decisions should be more likely to lead to review and reversal. Second, even absent the outright threat of dissent, because the law has been largely conservative, potential dissenters who favor denying relief should be more persuasive in convincing their colleagues than those who favor granting relief. Under either mechanism, the institution of dissent would interact with judicial diversity to promote conservative uniformity.

Across our data, panels ruled for the defendant (that is, liberally) 25% of the time, meaning only one out of every four defendants was granted relief by a panel. How does this vary across panel composition? We begin by simply looking at the data, and find substantial panel effects. Beginning first with Republican-majority panels, RRR panels vote liberally only 15% of the time. RRD panels do so at a slightly higher rate, 22%. Turning to Democratic-majority panels, in stark contrast to RRR panels, DDD panels grant relief 51% of the time, a 36-percentage point difference. Finally, DDR panels grant relief 31% of the time. Thus, at the data level, we find that: a) the addition of every Republican decreases the probability of a liberal vote; and b) the difference in liberal voting between DDD and DDR panels is larger than the corresponding difference between RRR and RRD panels. The
solid points in Figure 1A depict these rates (with the dashed lines depicting 95% confidence intervals); the point sizes are weighted by the frequency of panel types. As a reference, the dashed horizontal line shows the overall mean rate of liberal voting.

We now turn to three logit models of panel decisions, which are presented in Table 1. In each, the dependent variable is coded 1 if the panel granted relief (i.e. reached the liberal outcome) and 0 otherwise. Model 1 includes only the four panel types—we use DDD panels as the omitted category, meaning the intercept captures the probability of granting relief on DDD panels. Models 2 and 3 include several control variables. First, for each case, we coded the direction of the lower court’s decision (i.e. whether the district court voted to grant relief or not); this variable is called *Liberal lower vote*. This helps account for the broad tendency of three-judge panels to uphold district court decisions. To account for possible circuit-level influence on case outcomes, we include the proportion of Republicans (among active judges) on the circuit the case was heard (*GOP Circuit Proportion*). In addition, Model 2 includes fixed effects for circuits and years, to account for any heterogeneity across time and space. Finally, Model 3 includes random effects for circuit and years; because the intercept in Model 2 is sensitive to the choice of reference categories for the fixed effects, we use the estimates from Model 3 to calculate predicted probabilities.

In each model, the coefficients on DDR panels, RRD panels, and RRR panels are interpretable as the difference in liberal voting compared to DDD panels. Each is negative and statistically significant. Of more interest is the difference between each of the respective panel types (moving from DDD to DDR to RRD to RRR). For each model, we present the estimated coefficient on the difference between each type, along with 90% confidence intervals, calculated via simulation (we use 90% intervals so as to approximate one-tailed tests). The difference between the panel types is always positive and statistically larger than zero (with the sole exception of $DDR - RRD$ in Model 3, where the confidence interval slightly includes zero). Thus, consistent with the panel effects literature, the probability of granting
relief declines significantly with every additional Republican on a panel. Finally, we test our prediction that counter-judge effects across Republican- and Democratic-majority panels are asymmetric. While the difference between DDD panels and DDR panels is, as predicted, larger than the corresponding difference between RRR and RRD panels, the confidence interval of the difference includes zero, so we cannot reject the null of no difference.

Returning to Figure 1A, the open dots depict the average predicted probability the defendant is granted relief by the panel, with vertical lines displaying 95% confidence intervals. The model-based estimates largely mirror the raw means in the data: DDD panels are predicted to vote liberally 45% of the time, compared to 16% for RRR panels. Thus, when ideological counter-judges are not present, the divide across panels is enormous. Only when a defendant draws no Republican judges to a panel (a relatively rare occurrence) does he approach a predicted 50% chance of receiving relief. Adding a counter-judge to a panel leads to more moderation: DDR panels are predicted to vote liberally 29% of the time (a shift of 16 percentage points from DDD panels), with RRD panels at 25% (a shift of 9 percentage points from RRR panels). Thus, the institutional features of the judiciary allow us to find evidence consistent with ex ante effects of the institution of dissent.

Although the asymmetry between counter-judge effects is not statistically significant, the fact that most cases have been heard by panels with at least one Republican (reflected in the point sizes in Figure 1A) means that there is still much more consistency in voting than there otherwise would be. In the absence of ideological diversity, the convergence towards conservative outcomes due (in part) to the presence of counter-judges on panels would be greatly diminished. We can see this most clearly among Democratic-majority panels: even among panels with two Democrats, the predicted probability of voting liberally is only slighter higher compared to RRD panels.

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6Here (and in Figure 1B, discussed below), we use the observed-value approach advocated by Hanmer and Ozan Kalkan (2013).
In addition, even though DDD panels grant relief at much higher rates than RRR panels, the former deny relief as much as they grant it; it seems that the relatively clear state of the law in this area compels conservative decisions even among liberal judges who might prefer a more liberal capital punishment jurisprudence. Also, the lower court’s decision is strongly predictive of how a panel will rule, demonstrating significant legal uniformity across the district courts and Courts of Appeals. Thus, the combination of the fact that conservative judges have largely developed the law in this issue area with the mutual effects of ideological diversity and the institution of dissent means that the superiors in the hierarchy are seeing their subordinates make conservative decisions in the vast majority of cases.

**Ex ante influence and the incidence of dissent**

The existence of *ex ante* counter-judge effects has important implications for assessing the decision to dissent. When a panel majority reaches the outcome the counter-judge prefers, there is no need for that judge to actually dissent. In this section we test this *unnecessary dissent* prediction. We begin by examining when counter-judges (consistently) dissent. Define a *majority-consistent* decision as one we would predict from a naïve mapping between political preferences and outcomes: Democratic-majority panels act consistently when they grant relief to defendants (the liberal outcome) and Republican-majority panels act consistently when they deny relief (the conservative outcome).

We can now evaluate how often counter-judges dissent on mixed panels (DDR and RRD) across consistent and inconsistent decisions. We expect counter-judges not to dissent when the majority seems to have voted against its naïve preferences, so we expect Republican counter-judges not to dissent when Democratic majorities deny relief and we expect Democratic counter-judges not to dissent when Republican majorities grant relief. Consider first DDR panels. In the 275 cases where the panel denied relief, the Republican counter-judge dissented only four times (the weighted mean is .4%). Conversely, when a DDR panel granted relief, the Republican counter-judge dissented 24% of the time. The mirror result holds for
RRD panels. In the 136 cases in our data in which a RRD panel ruled for the defendant (again, majority-inconsistently), in only three cases did the Democratic counter-judge dissent (the weighted mean is .7%). Conversely, when a RRD panel denied relief, the Democratic counter-judge dissented 12% of the time. Thus we see that the counter-judge’s decision to dissent is conditional on the disposition reached by the panel majority.

We now turn to a more systematic analysis of the likelihood of dissent in all cases in our data. Table 2 presents three logit models predicting whether a dissent occurred. Model 1 simply includes an indicator for whether there is a counter-judge present—that is, the panel is mixed rather than unified. The coefficient shows, intuitively, that panels with preference heterogeneity are more likely to produce a dissent than unified panels. But this increase in the probability of dissent masks the way dissents are conditional upon dispositions. Therefore, Model 2 adds majority-consistent decision as a predictor along with its interaction with counter-judge present. Model 3 adds controls for whether the decision was published, whether the panel reversed the district court judge, and circuit and year fixed effects.

The key results in Models 2 and 3 are as follows. The coefficient on counter-judge present is statistically insignificant—this means that a dissent from a majority-inconsistent decision is no more likely when a counter-judge is present than when the panel is unified. Thus, when the panel makes a majority-inconsistent decision, mixed panels are no more likely to feature dissent than unified panels: when a panel majority votes against its preferred outcomes, a counter-judge does not need to dissent. Thus, we find strong support for the unnecessary dissent prediction. This lower overall rate of dissent, in turn, helps higher courts in their review decisions. However, turning to the interaction term, a dissent is much more likely to occur when a panel with a counter-judge makes a majority-consistent decision, compared to when a unified panel makes a majority-consistent decision. In these cases, the influence of dissent is not sufficient to compel ex ante changes in behavior, and the counter-judge chooses to dissent. And, once a dissent is written, that dissent may serve as a signal to higher courts
that a panel’s decision is worthy of discretionary review.

*En banc* review and the *ex post* influence of dissent

What happens when the *ex ante* influence of dissent does not work and a judge actually writes a dissenting opinion? The final step in our analysis is to evaluate the review behavior of a higher court, and thus evaluate the *review upon dissent* prediction. We choose to examine *en banc* decisions, rather than Supreme Court review, because *en banc* review accords more with our theoretical model. Whereas the Supreme Court does not usually engage in error correction, the *en banc* process is designed to function in part as an error-correction institution (George 1999). Thus, our predictions about review apply more centrally to full circuits considering whether to review a panel’s decision. At the same time, the Supreme Court’s conservative stance generates the incentives for *en banc* review that we study.

Whereas before we relied on panel types to identify potential dissenters, in considering review we can take a broader approach that allows the full circuits to evaluate the content of a dissent. For instance, a Democratic dissent from a liberal decision made by a unified Democratic panel may actually be more informative to a conservative higher court than a Republican dissent from a liberal decision by a DDR panel, since Democrats tend to favor relief when sitting together. Rather than evaluating dissents across panel types and panel decisions, we separate dissents into two types: ideologically *correct* dissents, and ideologically *incorrect* dissents. Specifically, define the following types of dissent as *correct*, meaning that they are consistent with the assumption that Republican-appointed judges are more conservative than Democratic judges: any dissent from a unified panel (of either type); a Democratic dissent from a conservative decision by either a RRD panel or a DDR panel; or

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7One alternative would be to compare the rate of review across every combination of panel type, disposition, unanimity or not, and which judge dissented. Unfortunately, given both the number of combinations and the fact that *en banc* review is relatively rare, we quickly run into problems of perfect separation between the predictors and the dependent variable.
a Republican dissent from a liberal decision by either a RRD panel or a DDR panel. An incorrect dissent is any other type of dissent. For example, a Republican dissent from a RRD panel’s conservative decision is incorrect, since that would mean a Republican judge favored the liberal outcome while the Democratic judge favored the conservative outcome. As it turns out, of the dissents in our data, 93% were ideologically correct.

We then compare the probability of *en banc* review of liberal decisions with dissent and conservative decisions with dissent, in line with our theoretical expectations. Following previous studies, we expect that decisions with dissent—correct dissents, in particular—are more likely to be reviewed *en banc* than unanimous decisions. In the data, 3% of cases decided by three-judge panels were reheard *en banc*. Only one case with an incorrect dissent was reheard—also a rate of 3%. Conversely, 17% of cases with correct dissents were reviewed. Unanimous cases, on the other hand, were reheard less than 1% of the time. Thus, in death penalty cases, a correct dissent is nearly a necessary (if not sufficient) condition for review.

Our theory, however, suggests that not all dissents should be equally likely to trigger review, given the incentives created by conservative control of the judicial hierarchy in death penalty cases. In general, the Supreme Court’s conservative position leads us to expect conservative dissents to be more influential than liberal dissents in triggering review. That is, we expect liberal decisions accompanied by dissent to be reviewed more often than conservative decisions accompanied by dissent—particularly in circuits where a majority of the judges are Republican appointees, given their alignment with the Supreme Court. In Democratic circuits, our predictions are less clear, since *en banc* review may still be used to review panels’ decisions in a manner consistent with the preferences of the circuit (Clark 2009).

Table 3 presents four logit models of *en banc* review. Each model also controls for whether the panel reversed the district court, which has been shown to predict review (George 1999),

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*Not a single unpublished decision in our data was reviewed *en banc*. Thus, all analyses and statistics from this point forward are based only on published decisions.
and includes circuit fixed effects. There are not enough en bancs granted per year to include year fixed effects, so we employ indicators for five-year periods in our data. In addition, because incorrect dissents are so infrequent, we do not include them as a predictor (that is, they are pooled with unanimous decisions). We focus on whether there was a correct dissent from the panel’s decision and the direction of the panel’s decision. Model 1 simply includes correct dissent as a predictor (besides the controls). Models 2 and 3 include the same predictors, but Model 3 includes only cases decided in Republican-controlled circuits. (We do not have enough observations from Democratic circuits to run a comparable model.) To these models we add the variable liberal panel decision, as well as its interaction with correct dissent. This allows the effect of dissent on review to vary between liberal and conservative decisions, and thus between liberal and conservative dissents. Finally, Model 4 examines how en banc review varies as a function of which party controls the circuit.

Turning to the results, Model 1 simply confirms that cases with correct dissents are significantly more likely to be reviewed than unanimous decisions. Evaluating Models 2 and 3 collectively, the baseline in each model is unanimous conservative decisions. The coefficient on dissent is positive and statistically significant, meaning that dissents from conservative decisions are more likely to be reviewed en banc, compared to this baseline. The interaction term of Correct dissent × liberal panel decision gives the additional increase in the likelihood of review for conservative dissents from grants of relief, relative to the main effect of Correct dissent. As expected, the coefficient is positive and statistically significant in both models; it is also larger in cases decided in GOP circuits, a result that accords with the conservative hierarchical control in death penalty cases.

The substantive magnitude of this difference is quite large. Focusing on cases decided in Republican circuits, the average predicted probability of reviewing a unanimous conservative decision is 1.9% (95% CI of 0.5%, 6.6%); similarly, for a unanimous liberal decision, the probability is 1.7% (0.5%, 6.8%). Thus, both types of unanimous decisions are equally unlikely
to be reviewed *en banc*. However, the likelihood of review increases substantially upon dissent. For a conservative decision accompanied by a dissent, the probability of review rises to 12% (7%, 24%); thus even conservative cases with liberal dissents are more likely to be reviewed than unanimous cases (a result that suggests that the informative value of dissent is quite multifaceted). But the probability of review rises even higher for liberal cases decided by accompanied by a conservative dissent, to 26% (17%, 39%). (The difference between these two predicted probabilities is statistically significant.) Given the overall rarity of *en banc* review, this is a striking result. Thus, we see strong evidence for the review upon dissent prediction, in a manner consistent with conservative control of the hierarchy.

Finally, Model 4 allows the interaction of the direction of the panel decision and the presence or absence of a correct dissent to vary across the proportion of active Republicans sitting in the circuit in which a case was heard. This allows us to see how *ex post* review becomes more or less likely as the circuit’s preferences change. Specifically, we include the predictors *correct dissent*, *liberal panel decision*, and *GOP circuit proportion*, along with the three-way interaction between them and all possible two-way interactions. Given the plethora of constituent terms, combined with the fact that this is a non-linear model, we move directly to a substantive analysis of the predicted probability of review.

The left plot in Figure 1B plots the probability of review across the proportion of Republicans on a circuit, broken down by the two types of dissents: dissents from denials of relief and dissents from grants of relief. The range of the horizontal axis corresponds to the range of the proportion of Republicans on the circuit in the data. The shaded region indicates observations that fall within the mean of Republican circuit control, plus or minus one standard deviation—that is, where most of the cases in our data occur. In the interest of clarity, we suppress the confidence intervals in this plot; both lines are always statistically greater than zero, meaning each type of dissent always increases the probability of review relative to unanimous decisions, across the range of circuit control.
Of more substantive interest is examining the effect of each type of dissent across circuit ideology. As expected, the probability of reviewing a case with a conservative dissent is increasing in the proportion of Republicans on the circuit. In Democratic-controlled circuits, liberal dissents are more likely to trigger review than conservative dissents, while the opposite is true in Republican-controlled circuits. The effects are again substantively large. For example, if a circuit is 70% Republican, the estimated probability of review for a liberal decision with a dissent is 31% (20%, 45%).

The right plot in Figure 1B depicts the estimated difference between the two lines in the left plot, along with the 95% confidence interval. Notably, the probability that a liberal dissent is reviewed is only statistically higher than the probability a conservative dissent is reviewed at very high levels of Democratic control, which is rare in our data. Conversely, as soon as Republicans control more than a bare majority of the circuit (as occurs in most of our cases), the probability of reviewing a grant of relief with dissent is always statistically larger than the probability of reviewing a denial of relief with dissent. The fact that a vast majority of death penalty cases have been decided in Republican-controlled circuits means circuit-level skepticism of liberal decisions with dissent is much more prevalent than the reverse. Thus, the \textit{ex post} dynamics of review support the \textit{ex ante} patterns we discovered above: higher courts can key on particular types of decisions with dissent, thereby increasing the ability of judges to influence their colleagues \textit{ex ante}, and thus increasing the likelihood of uniformity across panels comprising judges with diverse ideologies.

**Discussion and Conclusion**

Our paper constitutes the first systematic analysis that connects the interplay of ideological diversity, dissent, and discretionary review in the judicial hierarchy. Our conclusions are as follows. First, while panel composition and the ideology of judges predicts judicial outcomes, the mapping between majority preferences and outcomes is moderated by the institution of dissent and the presence of counter-judges on a panel. Moreover, the com-
bination of conservative control of death penalty doctrine in recent decades and random assignment to three-judge panels means that the distribution of outcomes is tilted in a conservative direction. Second, the decision to dissent is conditional on the relationship between panel preferences and case outcomes: Republican counter-judges never dissent from dispositions that deny relief to death penalty defendants, while Democratic counter-judges never dissent from dispositions that do provide relief. This conditionality means that the influence of dissent on three-judge panels is seen more among counter-judge effects on panel majorities, rather than in the actual act of dissenting. Finally, full circuits use dissents in their review decisions in a manner predicted by our theoretical approach. In particular, Republican-controlled circuits are much more likely to review dissents that signal possible “liberal non-compliance” by Democratic majorities, than they are to review dissents that signal possible “conservative non-compliance.”

These results have important implications for evaluating legal consistency in the judicial hierarchy. Consider the problem of consistency (or compliance) from the perspective of the Supreme Court, which hears very few cases relative to the lower courts. It has a problem like any superior in a hierarchical setting: how can it get its agents to do what it wants? Recall from Figure 1A the magnitude of the polarization across unified panels, which illustrates the sincere differences in preferences over death penalty cases between Republican and Democratic judges. If there were no counter-judge effects, meaning that Democratic- and Republican-majority panels voted similarly regardless of whether they were unified or mixed, the large difference in preferences would mean that panel assignment would determine the outcome of many more cases than it actually does, and thus consistency would suffer greatly.

In fact, we observe a much weaker mapping between majority preferences and outcomes. As seen in the model-based estimates in Figure 1A, the variance in the propensity to grant relief among panels with at least one Republican judge is relatively small, ranging from 16% among RRR panels to 29% among DDR panels—again, only when a defendant draws
three Democratic appointees (a relatively rare occurrence) does he approach a 50% chance of obtaining relief. To be sure, there still remain differences across panel types. But our results show how the institutional structure of the judiciary—specifically, the combination of having many judges hear appeals and giving them the ability to write and publish dissents—induces much greater moderation in the mapping between majority preferences and outcomes. The result is that the doctrine established by the judicial superiors in the hierarchy is carried out much more than it might be otherwise.

In addition, our paper illuminates the multifaceted role of dissent in the hierarchy. Ex ante, the presence of a potential dissenter may lead colleagues with divergent preferences to decide differently than they would in the absence of a counter-judge. As a result, when dissents occur, they are highly informative in signaling to a circuit that a case is potentially worthy of review. Thus, ex post, not only do dissents lead higher courts to review decisions more often, but they do so in a manner consistent with a dissent’s informational value.

These results on the ex post influence of dissent have implications for evaluating the role of discretionary review in overseeing courts. In particular, they illustrate why focusing squarely on the low rate of review by higher courts with discretionary dockets is misleading. Each year, hundreds of death penalty cases are heard by three-judge panels in the Courts of Appeals. Only a small fraction of those cases are reheard by higher courts—either en banc or by the Supreme Court. From this fact, one could potentially conclude that such selective review can not meaningfully allow the higher courts to oversee the lower courts. Our results suggest an alternative interpretation. First, as we have discussed, the ex ante influence of dissent plays a large role in increasing consistency and can obviate the need for ex post review. Second, because judges dissent conditional on dispositions, and because dissents are informative, higher courts can key on particular decisions to review, helping them overcome the informational asymmetries they face. Thus, whereas the prospect for legal consistency looks daunting at first glance, the institutions of multimember courts,
dissents, and discretionary review paint a more positive picture for consistency in the judicial hierarchy.

References


Figure 1: The ex ante and ex post influence of the institution of dissent. A) The solid dots depict the proportion of decisions (in our data) in which relief is granted across panel types, while the open dots depict the predicted probability of each panel type granting relief, based on Model 3 in Table 1. For both, the point sizes are weighted by the frequency of panel types, and vertical lines depict 95% confidence intervals. The dashed horizontal line shows the overall mean rate of liberal voting. B) The probability of en banc review, as a function of circuit control, panel decisions, and dissents. The left plot depicts the probability of review of the two types of dissents: dissents from denials of relief and dissents from grants of relief. The right plot depicts estimated difference in the effect of the two types of dissent on review, along with 95% confidence intervals. Both plots in Figure 1B are based on the results from Model 4 in Table 3.
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Table 1: Logit models of case outcomes in death penalty cases, by panel composition. In each model, the dependent variable is whether the panel granted relief. Standard errors in parentheses. * indicates p < .05. For comparisons across panel types, each comparison depicts the estimated difference (in terms of coefficients) and 90% confidence intervals, both of which are estimated via simulation.
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Table 2: Logit models of dissent. In each model the dependent variable is whether there was a dissent written in the case. Standard errors in parentheses. * indicates $p < .05$. 
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Table 3: Logit models of en banc review. In each model, the dependent variable is whether the full circuit reheard a case en banc. Standard errors in parentheses. * indicates \( p < .05 \), ** indicates \( p < .10 \).
Appendix

Supplementary Figures

Figure A-1: The increasing conservatism of the Supreme Court in death penalty cases, over time. The left plot depicts a summary of the proportion of conservative decisions in each term from 1970 to 2012, as estimated from Spaeth et al. (2010). To smooth out year-to-year variation that arises from the small number of cases per term, we present a lowess line (span=1) to show the trend over time. The shaded region indicates the years in which we have data (1983 to 2012). The right plot depicts the ideal point of the median justice in death penalty cases from 1970 to 2004, as estimated by Lauderdale and Clark (2014). Both time series show a Supreme Court that has become increasingly conservative over our period of study.
Figure A-2: The proportion of active Republican judges in each circuit in which death penalty cases in our sample were heard, from 1983 to 2012. The numbers in parentheses depict the number of cases heard in each circuit, in our data (note that these samples are partly a function of the dissent and *en banc* rates in each circuit, due to our sampling strategy.)
Case selection and coding procedures

Our data come from death penalty cases heard by three-judge panels in the Courts of Appeals between 1983 and 2012. We define a death penalty case to be one where a death row inmate is a party and the primary question before the Court would have a direct bearing on his pending execution. We exclude, for example, cases brought by death row inmates about prison conditions (because the defendant’s execution is not in question). We also exclude all cases where the defendant is petitioning to be put to death and all habeas corpus cases brought by a next friend.

We collected the data by searching Westlaw and reading the results. Following the protocol used by Fischman (2013), we used the following Westlaw search: (CAPITAL /S (PUNISHMENT MURDER CRIME OFFENSE)) (SENTENC! /S DEATH). Using these terms, we collected all death penalty cases in 1989, 1999, and 2009. These years served as a pilot dataset; from them we learned the frequency with which judges dissent in death penalty cases and the frequency of *en banc* review. From the pilot dataset, we learned that dissent occurs in about 14% of cases and that unanimous decisions are reviewed *en banc* about .64% of the time. Because each of these events occur infrequently, we use a choice-based approach to collect cases from the remaining years, collecting all cases where we observe dissent, all cases reviewed *en banc*, and a random sample of unanimous cases that were not reviewed.

We implement this as follows. For all years between 1983 and 2012 (except 1989, 1999, and 2009), we used the Westlaw search terms (CAPITAL /S (PUNISHMENT MURDER CRIME OFFENSE)) (SENTENC! /S DEATH) & SY,DI(DISSENT!) to collect all death penalty cases in which one or more judges dissented. Then, we collected a random sample of cases in which no judges dissented; we collected approximately as many unanimous cases as there were non-unanimous cases in that year.

We collected all three-judge panels’ decisions that were reviewed *en banc* using the West-
law search terms (CAPITAL /S (PUNISHMENT MURDER CRIME OFFENSE)) (SENTENC! /S DEATH) & SY,DI(BANC % “BANC DENIED”) (again, for all years between 1983 and 2012 except 1989, 1999, and 2009). Thus, our finalized dataset includes every death penalty case heard by a three-judge panel in 1989, 1999, and 2009; for all other years, our data includes all non-unanimous decisions, all unanimous decisions that were reheard *en banc*, and a random sample of unanimous decisions that were not reheard *en banc*. Note that if a case was not reheard *en banc*, it is coded 0. That is, we don’t have information on whether *en banc* was requested by the litigants or by a judge on the circuit (cf. Giles, Walker and Zorn (2006)).

We are thus left with a dataset that is not representative of the population of death penalty cases—it over-represents non-unanimous cases and cases reheard *en banc*, and under-represents unanimous cases not reheard *en banc*. To correct for this, we weight all our observations with inverse population proportions. Table A-1 provides population and sample proportions, as well as weights, for all relevant classes of cases. For example, 48.4% of our sample consists of unanimous cases that were not reviewed *en banc*. In an average year, however, 85.18% of cases are decided unanimously and not reviewed *en banc*. Since these cases are underrepresented in our sample, they receive a weight greater than 1—specifically, a weight of \(\frac{85.18}{48.4}\), or 1.76. Cases from 1989, 1999, and 2009 all receive a weight of 1. Cases from other years receive the appropriate weight for all analyses we perform.

Some cases are reheard by the panel, and are amended, superseded, or otherwise changed upon rehearing. When this happens, we use the last decision—that is, the decision the panel ultimately reaches. On very few occasions, the appeals of sentences of multiple defendants are heard in a single case. In most of these cases, the court is deciding one legal question

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9In some instances, *en banc* review is not preceded by a decision by a three-judge panel of the Courts of Appeals; e.g. if the full circuit decides to directly review a district court decision. We did not include such cases.
that would apply to multiple defendants (such as the constitutionality of lethal gas, as in 147 F.3d 1158). In those instances we combine the defendants into a single observation in our data. In contrast, in a handful of cases the circumstances of the case are such that the court could reach different outcomes for each defendant. (An example of such a case is 998 F.2d 1426, in which the court held that defendants’ inability to cross-examine an eyewitness was harmless error as to the capital sentences of three defendants but was not harmless error as to the capital sentence of a fourth defendant). In such cases, we treat each defendant as a unique observation.

In addition, in some instances, the same defendant appears in multiple cases, decided over a period of months or years. As a robustness check, we reran all analyses including each defendant only once (alternatively keeping only the first case and only the last case for those defendants who appear multiple times). All results were statistically and substantively the same throughout (these results can be implemented using the paper’s replication files.)

Relief is coded as 1 if the judge or panel grants total relief on any claim. As an example, we discuss a common claim raised. Many cases concern competence of the defendant’s attorney. For the defendant to prevail on a claim of incompetent representation, he must show that the attorney’s performance was deficient and that the deficiency was prejudicial. By total relief we mean that relief is only coded as 1 if both of these statements are found to be true. If the judge or court rules that the attorney’s performance was deficient but not prejudicial, the defendant loses his claim and relief is coded as 0. (For an example of such a case, see *Belmontes v. Ayers* (529 F.3d 834), where the majority believes counsel’s
A judge is coded as dissenting if he writes or joins a dissenting opinion or an opinion concurring in part and dissenting in part. (A judge who dissents without an opinion is not coded as dissenting. This happens only twice in our data.) The judge is coded as dissenting “consistently” if his vote on relief is opposite to the vote of the panel majority.

**Party of the appointing president**

Information on each judge’s party of the appointing president was gathered from the appeals court judges attribute database (Gryski and Zuk 2008); for district court judges sitting by designation, the same information was taken from the district court judges attribute database (Gryski, Zuk and Goldman 2008). In some cases, either a judge from the Federal Circuit or a non-Article III judge (for example, one from the U.S. Court of International Trade) sat on a three-judge panel. We used the biographical database of the Federal Judicial Center to identify the judge’s appointing president and the president’s party.

**Modeling Judges’ Votes**

As noted in footnote 4 in the paper, an alternative approach to modeling the outcomes of the three-judge panels in our dataset is to instead model the votes of the individual judges on the panel. As a robustness check, we selected all the observations in which a judge was in the partisan majority of the panel—i.e. a Republican judge on a majority-Republican panel, and a Democratic judge on a majority-Democratic panel. We drop judges in the partisan minority so as to effectively replicate the panel-level models, which estimate how panel majorities vote differently with and without a counter-judge present.

Table A-2 presents two logit models in which the votes of the individual judges are the dependent variable. We separate the observations by whether a judge is a Democrat and in the panel majority, or is a Republican and in the panel majority. They key predictor is whether a counter-judge is present. As in the models presented in Table 1 in the paper, we
include as controls the direction of the lower court’s decision, the proportion of Republicans on the circuit, and year and circuit fixed effects. Since many judges in our dataset hear multiple cases, we also include random effects for judges, which helps account for heterogeneity across individual judges that might not be captured by partisanship. For Democratic judges on the panel majority, Model (1) shows that they vote more conservatively in the presence of a Republican counter-judge, while Model (2) shows that Republican judges on the panel majority vote more liberally in the presence of a Democratic counter-judge.

Table A-2: Logit models of judges’ voting in death penalty cases. ∗ indicates \( p < .05 \). Each model includes circuit and year fixed effects, along with judge random effects.

<table>
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<tr>
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<th>(1)</th>
<th>(2)</th>
</tr>
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<tbody>
<tr>
<td>Democratic judges</td>
<td>Republican judges</td>
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</tr>
<tr>
<td>Intercept</td>
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<td>.77</td>
</tr>
<tr>
<td></td>
<td>(1.46)</td>
<td>(.87)</td>
</tr>
<tr>
<td>Counter-judge is present</td>
<td>-0.75*</td>
<td>.70*</td>
</tr>
<tr>
<td></td>
<td>(.21)</td>
<td>(.15)</td>
</tr>
<tr>
<td>Liberal lower vote</td>
<td>3.01*</td>
<td>1.70*</td>
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<td></td>
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<td>(.19)</td>
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<tr>
<td>GOP circuit proportion</td>
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<td>1.20</td>
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<td></td>
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<td>(1.37)</td>
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