
ARTICLE

DELIBERATION AND STRATEGY ON THE UNITED STATES COURTS OF APPEALS: AN EMPIRICAL EXPLORATION OF PANEL EFFECTS

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Recent studies have established that the decisions of a federal court of appeals judge are influenced not only by the preferences of the judge, but also by the preferences of her panel colleagues. Although the existence of these “panel effects” is well documented, the reasons that they occur are less well understood. Scholars have proposed a number of competing theories to explain panel effects, but none has been established empirically. In this Article, I report an empirical test of two competing explanations of panel effects—one emphasizing deliberation internal to a circuit panel, the other hypothesizing strategic behavior on the part of circuit judges. The latter explanation posits that court of appeals judges act strategically in light of the expected actions of others and that, therefore, panel effects should depend upon how the preferences of the Supreme Court or the circuit en banc are aligned relative to those of the panel members. Analyzing votes in Title VII sex discrimination cases, I find no support for the theory that panel effects are caused by strategic behavior aimed at inducing or avoiding Supreme Court review. On the other hand, the findings strongly suggest that panel effects are influenced by circuit preferences. Both minority and

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majority judges on ideologically mixed panels differ in their voting behavior depending upon how the preferences of the circuit as a whole are aligned relative to the panel members. This study provides evidence that panel effects do not result from a dynamic wholly internal to the three judges hearing a case, but are influenced by the environment in the circuit as a whole as well.

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INTRODUCTION

One of the central institutional features of the United States courts of appeals is the use of judicial panels to decide cases. Rather than having a single appellate judge decide each appeal, or even having a group of appellate judges deciding in isolation and tallying their votes, the appeals process is specifically structured to promote a collaborative form of decision making.¹ Three appellate judges are assigned to decide a case together, and they typically share their background research, sit together as a panel to hear oral arguments, meet to discuss their views, and issue a single opinion resolving the appeal.² Of course, not all cases are typical, and judges sometimes dissent or

¹ For a detailed description of the organizational structure of the federal appellate courts, see JONATHAN MATTHEW COHEN, *INSIDE APPELLATE COURTS: THE IMPACT OF COURT ORGANIZATION ON JUDICIAL DECISION MAKING IN THE UNITED STATES COURTS OF APPEALS* ch. 2 (2002).

² See *id.* ch. 5 (discussing the interaction among the judges within a court of appeals).

concur separately. These occurrences are relatively infrequent, however, and cases involving separate opinions are viewed as deviations from the usual model of appellate decision making. Thus, as D.C. Circuit Judge Harry Edwards put it, “judging on the appellate bench is a *group* process.”³

As a matter of institutional design, why are federal appellate courts structured in this way? Certainly it is not for the sake of efficiency, as the same number of judges sitting alone could decide appeals more quickly than when sitting with two of their colleagues. Most explanations focus on the quality of decision making.⁴ Kornhauser and Sager, for example, assert that increasing the number of judges making a decision will increase the probability that a court will reach a correct decision.⁵ So long as each judge is more likely than not to decide correctly, a correct outcome is more likely whenever a group of judges decides by majority vote.⁶ Others have suggested that this error-reducing effect results from the exchange of ideas and information that occurs during the process of deliberation.⁷ For example, Judge Edwards describes the interactions among judges on an appellate panel as “a process of dialogue, persuasion, and revision”⁸ that enables them to “find common ground and reach better decisions.”⁹

From an empirical perspective, it is difficult to test these claims in the absence of consensus regarding what makes one decision “better” than another. However, scholars *have* collected considerable evidence suggesting that decision making by a federal court of appeals judge sitting on a three-judge panel differs from what one might expect

³ Harry T. Edwards, *The Effects of Collegiality on Judicial Decision Making*, 151 U. PA. L. REV. 1639, 1656 (2003).

⁴ See, e.g., Evan H. Caminker, *Sincere and Strategic Voting Norms on Multimember Courts*, 97 MICH. L. REV. 2297, 2362 (1999) (noting the argument that the purpose of a multimember appellate court is to increase accuracy); Edwards, *supra* note 3, at 1640-41 (arguing that collegiality on appellate panels enables judges to “reach better decisions”); Douglas H. Ginsburg & Donald Falk, *The Court En Banc: 1981-1990*, 59 GEO. WASH. L. REV. 1008, 1035-36 (1991) (suggesting that decisions involving more judges are more likely to be correct); cf. Michael E. Solimine, *Ideology and En Banc Review*, 67 N.C. L. REV. 29, 40 (1988) (reporting that en banc review is justified by the belief that the involvement “of more judges leads to sounder decisions”).

⁵ Lewis A. Kornhauser & Lawrence G. Sager, *Unpacking the Court*, 96 YALE L.J. 82, 98 (1986).

⁶ *Id.* at 97-99.

⁷ See, e.g., Caminker, *supra* note 4, at 2372 (suggesting that collegial deliberation will enhance the accuracy of decision making).

⁸ Edwards, *supra* note 3, at 1661.

⁹ *Id.* at 1641.

from that judge sitting alone. In light of the considerable evidence that judges' votes correlate with their political affiliation,¹⁰ one might suppose that federal appellate judges have basic policy preferences that they express through their votes,¹¹ and that panel decision making simply reflects the aggregation of those preferences through a majority-vote rule. Thus, one might expect that the likelihood that a particular judge would vote for a particular outcome (for example, upholding an affirmative action plan) would be stable, regardless of whether she sat with one, two, or no other like-minded judges. In fact, federal appeals court judges do *not* vote the same way regardless of panel composition, but instead appear to be influenced by the preferences of the other judges with whom they sit when deciding a case. This phenomenon—commonly referred to as “panel effects”—has been documented in a wide variety of legal contexts.¹²

¹⁰ See, e.g., C.K. ROWLAND & ROBERT A. CARP, *POLITICS AND JUDGMENT IN FEDERAL DISTRICT COURTS* ch. 2 (1996) (finding that political-party affiliation and the party of the appointing President appear to influence the voting behavior of federal district court judges); CASS R. SUNSTEIN, DAVID SCHKADE, LISA M. ELLMAN & ANDRES SAWICKI, *ARE JUDGES POLITICAL? AN EMPIRICAL ANALYSIS OF THE FEDERAL JUDICIARY* (2006) [hereinafter SUNSTEIN ET AL., *ARE JUDGES POLITICAL?*]; Frank B. Cross & Emerson H. Tiller, Essay, *Judicial Partisanship and Obedience to Legal Doctrine: Whistleblowing on the Federal Courts of Appeals*, 107 *YALE L.J.* 2155, 2169 (1998) (documenting a correlation between party affiliation and case outcomes in D.C. Circuit cases reviewing agency decisions); Richard L. Revesz, *Environmental Regulation, Ideology, and the D.C. Circuit*, 83 *VA. L. REV.* 1717, 1719 (1997) (concluding that political ideology “significantly influences judicial decisionmaking on the D.C. Circuit”); Donald R. Songer & Susan Haire, *Integrating Alternative Approaches to the Study of Judicial Voting: Obscenity Cases in the U.S. Courts of Appeals*, 36 *AM. J. POL. SCI.* 963, 977 (1992) (finding that political ideology correlates with judges' voting in obscenity cases); Donald R. Songer & Reginald S. Sheehan, *Supreme Court Impact on Compliance and Outcomes: Miranda and New York Times in the United States Courts of Appeals*, 43 *W. POL. Q.* 297, 315 (1990) (noting that political party is “significantly related to judicial voting decisions” in the United States courts of appeals); Cass R. Sunstein, David Schkade & Lisa Michelle Ellman, Essay, *Ideological Voting on Federal Courts of Appeals: A Preliminary Investigation*, 90 *VA. L. REV.* 301, 352 (2004) [hereinafter Sunstein et al., *Ideological Voting*] (finding “evidence of a relationship between the political party of the appointing president and judicial voting patterns”).

¹¹ The fact that judges' votes correlate with party affiliation does not mean that they are not following legal doctrine. Legal rules are inevitably “open textured,” allowing for the exercise of judgment. In those areas where legal discretion exists, judges may pursue policy goals without necessarily violating legal norms. See Pauline T. Kim, *Lower Court Discretion*, 82 *N.Y.U. L. REV.* 383, 410 (2007) (“The judge who exercises discretion is doing so pursuant to and consistent with the various legal norms that govern the work of judging.”).

¹² See FRANK B. CROSS, *DECISION MAKING IN THE U.S. COURTS OF APPEALS 176-77* (2007) (concluding that “panel effects are enormously important in determining the judge's vote and the case outcome”); SUNSTEIN ET AL., *ARE JUDGES POLITICAL?*, *supra* note 10, at 12 (documenting panel effects in a wide range of issue areas); Adam B. Cox

In one of the earliest studies, Richard Revesz examined the votes of D.C. Circuit judges in environmental cases and concluded that “while individual ideology and panel composition both have important effects on a judge’s vote, the ideology of one’s colleagues is a better predictor of one’s vote than one’s own ideology.”¹³ Similarly, Frank Cross and Emerson Tiller analyzed D.C. Circuit cases involving the application of the *Chevron* doctrine to agency actions, and concluded that judges’ votes were influenced not only by their political affiliation, but also by the composition of the panel on which they sat.¹⁴ More recently, Cass Sunstein, David Schkade, Lisa Ellman, and Andres Sawicki investigated voting patterns on federal appellate panels across circuits and in a variety of legal areas.¹⁵ In most of the issue

& Thomas J. Miles, *Judging the Voting Rights Act*, 108 COLUM. L. REV. 1, 53 (2008) (concluding that the ideology of other judges sitting on the panel affects judges’ votes in Voting Rights Act cases); Cross & Tiller, *supra* note 10, at 2175-76 (concluding that the presence of ideological minorities on judicial panels influences the votes of majority judges); Thomas J. Miles & Cass R. Sunstein, *Do Judges Make Regulatory Policy? An Empirical Investigation of Chevron*, 73 U. CHI. L. REV. 823, 870-71 (2006) (finding that like-minded judges are more likely to uphold lower court decisions with which they agree when sitting on panels together); Revesz, *supra* note 10, at 1771-72 (concluding that the ideology of the other panel members influences a judge’s vote in environmental cases); Sunstein et al., *Ideological Voting*, *supra* note 10, at 352-53 (documenting panel effects in a wide range of issue areas).

Studies exploring the influence of female and racial-minority judges on appellate decision making have similarly found evidence of panel effects. See Sean Farhang & Gregory Wawro, *Institutional Dynamics on the U.S. Court of Appeals: Minority Representation Under Panel Decision Making*, 20 J.L. ECON. & ORG. 299, 320 (2004) (finding that the presence of a woman on a panel causes the men on that panel to vote more “liberally”); Jennifer L. Peresie, Note, *Female Judges Matter: Gender and Collegial Decisionmaking in the Federal Appellate Courts*, 114 YALE L.J. 1759, 1786-87 (2005) (finding that the presence of female judges on a panel increases the likelihood that the plaintiff will prevail in sex discrimination and harassment cases); Christina L. Boyd, Lee Epstein & Andrew D. Martin, *Untangling the Causal Effects of Sex on Judging* 20 (2009) (unpublished manuscript, on file with author) (finding that the presence of a woman on a panel increases the chance that a male judge will vote in favor of the plaintiff in sex discrimination cases); Charles M. Cameron & Craig P. Cummings, *Diversity and Judicial Decision-Making: Evidence from Affirmative Action Cases in the Federal Courts of Appeals, 1971–1999*, at 25 (Mar. 30, 2003) (unpublished manuscript, on file with author) (finding that the presence of a nonwhite judge on a panel increases the likelihood that the panel will vote in favor of affirmative action).

¹³ Revesz, *supra* note 10, at 1764.

¹⁴ Cross & Tiller, *supra* note 10, at 2171.

¹⁵ Sunstein et al.’s initial study focused on cases involving abortion rights, affirmative action, campaign finance, capital punishment, Commerce Clause challenges to congressional enactments, the Contracts Clause, criminal appeals, disability discrimination, industry challenges to environmental regulation, piercing the corporate veil, race discrimination, sex discrimination, sexual harassment, and claimed takings of private property without just compensation. Sunstein et al., *Ideological Voting*, *supra* note

areas that they examined, they found evidence that a judge's votes are correlated not only with her own political affiliation, but with the political affiliations of her copanelists as well.¹⁶ In some instances, the influence of panel colleagues even appears to swamp individual preferences. Thus, for example, a Republican appointee sitting with two Democratic appointees is *more* likely to vote to uphold affirmative action programs than a Democratic appointee sitting with two Republican appointees.¹⁷ Clearly, then, the fact that federal appellate judges hear cases in panels of three makes a difference in their decision making.

Although the existence of panel effects is well documented, the reasons that they occur are not clearly understood. Scholars have proposed a number of explanations, but none of these theories has been conclusively established.¹⁸ This Article empirically explores *when* panel effects occur in an effort to better understand *why* they occur. More specifically, it offers an empirical test of two competing types of explanations: deliberative and strategic.

10, at 304. In their follow-up study, the analysis was expanded to include cases involving commercial speech, congressional abrogation of state sovereign immunity, the Federal Communications Commission, gay and lesbian rights, the National Labor Relations Board, the National Environmental Policy Act, obscenity, standing, school and racial segregation, and punitive damages. SUNSTEIN ET AL., *ARE JUDGES POLITICAL?*, *supra* note 10, at 8.

¹⁶ In nearly all of these issue areas, Sunstein et al. found evidence of both ideological voting and panel effects. The exceptions to this general pattern were cases involving criminal appeals, takings of private property, punitive damage awards, standing to sue, and Commerce Clause challenges. In these areas, they found no difference in the voting patterns of judges based on party affiliation. SUNSTEIN ET AL., *ARE JUDGES POLITICAL?*, *supra* note 10, at 48. In cases involving abortion restrictions and capital punishment, however, they found that although judges vote ideologically, their votes do *not* appear to be influenced by their colleagues. Cases involving gay and lesbian rights seemed to exhibit a similar pattern of ideological voting, but no influence from panel composition; these cases, however, are too few in number to draw any firm conclusions about whether panel effects are present or not. *Id.*

¹⁷ Republican appointees vote to uphold affirmative action programs 37% of the time when sitting on all-Republican-appointee panels, 49% of the time when sitting with one Republican appointee and one Democratic appointee, and 65% of the time when sitting with two Democratic appointees. Sunstein et al., *Ideological Voting*, *supra* note 10, at 319. For Democratic appointees, the reverse pattern holds: 82% vote in favor of upholding affirmative action programs on an all-Democrat-appointee panel, 80% when sitting with one Democratic appointee and one Republican appointee, and 61% when sitting with two Republican appointees. *Id.*

¹⁸ See, e.g., CROSS, *supra* note 12, at 152 (explaining that the results of the earlier studies could not explain why panel effects occur); Revesz, *supra* note 10, at 1755-56 (stating that his analysis cannot conclusively disentangle competing hypotheses); Sunstein et al., *Ideological Voting*, *supra* note 10, at 307 (explaining that the data are consistent with several different hypotheses for the causes of panel effects).

By deliberative explanations, I mean to identify those theories that emphasize the internal exchanges that occur among panel members and the potential for these exchanges to influence a judge's vote. For purposes of the empirical test undertaken here, the exact mechanism by which judges influence one another is not critical. It may be the case that they come to persuade one another through the exchange of information and the power of reasoned argument.¹⁹ Alternatively, psychological mechanisms—such as conformity pressures or group polarization—may be operative, leading judges to change their minds when confronted with the opinions of their colleagues.²⁰ The critical point, for purposes of this study, is that pure deliberative accounts attribute panel effects to the dynamics internal to the members of a panel, rather than to any interaction with other actors in the judicial system.

By contrast, strategic theories explain observed panel effects as the result of strategic behavior by appellate judges.²¹ These theories posit that when deciding cases, individual judges advance their goals not simply by exercising their discretion in a manner consistent with their policy preferences, but by taking into account the likely responses of other actors as well.²² Rather than naïvely voting their preferences,

¹⁹ See, e.g., Edwards, *supra* note 3, at 1600 (arguing that a judge's initial views may shift through the process of collegial deliberation); Farhang & Wawro, *supra* note 12, at 308 and sources cited therein (describing the deliberative model of panel decision making).

²⁰ See, e.g., SUNSTEIN ET AL., ARE JUDGES POLITICAL?, *supra* note 10, at 63-78.

²¹ See, e.g., VIRGINIA A. HETTINGER, STEFANIE A. LINDQUIST & WENDY L. MARTINEK, JUDGING ON A COLLEGIAL COURT 61 (2006) [hereinafter HETTINGER ET AL., COLLEGIAL COURT]; Cross & Tiller, *supra* note 10, at 2159.

²² In recent years, strategic theories of judicial behavior have become prominent in the political science and legal literatures. See generally CROSS, *supra* note 12, at 94-122 (testing various strategic theories of court of appeals decision making); Gregory A. Caldeira, John R. Wright & Christopher J.W. Zorn, *Sophisticated Voting and Gate-Keeping in the Supreme Court*, 15 J.L. ECON. & ORG. 549 (1999) (testing empirically whether Supreme Court Justices engage in strategic voting in certiorari decisions); William N. Eskridge, Jr., *Overriding Supreme Court Statutory Interpretation Decisions*, 101 YALE L.J. 331 (1991) (describing strategic interactions between the Supreme Court, Congress, and the President in which each tries to impose its policy preferences in light of the expected responses of other players); Forrest Maltzman & Paul J. Wahlbeck, *Strategic Policy Considerations and Voting Fluidity on the Burger Court*, 90 AM. POL. SCI. REV. 581 (1996) (testing empirically whether Supreme Court Justices act strategically in changing their votes between the initial conference and final vote); Matthew McCubbins, Roger Noll & Barry Weingast (McNollgast), *Politics and the Courts: A Positive Theory of Judicial Doctrine and the Rule of Law*, 68 S. CAL. L. REV. 1631 (1995) (modeling judicial decision making as a product of strategic interactions between upper and lower courts); Donald R. Songer, Jeffrey A. Segal & Charles M. Cameron, *The Hierarchy of Justice: Testing a*

court of appeals judges are hypothesized to act with an eye to the expected behavior of the Supreme Court, the circuit sitting en banc, and their panel colleagues.²³ An appellate judge will decide whether to vote her sincere preference or to accommodate the views of her colleagues based on her beliefs about the likelihood of further review and the probable outcome if the case is reviewed. Unlike purely deliberative explanations, strategic theories suggest that panel effects will depend upon the preferences of the Supreme Court and/or the circuit as a whole, and not just upon the preferences of the three judges comprising an appellate panel.

Strategic theories play an important role in some accounts of the federal judicial hierarchy. Many scholars have suggested that the risk of reversal assures that lower court judges follow the doctrines set out in Supreme Court precedent, even those with which they disagree.²⁴ However, given the tens of thousands of cases decided by the courts of appeals each year, the Supreme Court's limited reversal power can only be effective if it has some mechanism for identifying appropriate cases for review. One hypothesis is that court of appeals judges dissent in order to signal to the Supreme Court that certain cases deviate from established doctrine and should be reviewed.²⁵ Other scholars have described the relationship between a circuit court and a three-judge panel in a similar manner.²⁶ Just as the Supreme Court moni-

Principal-Agent Model of Supreme Court–Circuit Court Interactions, 38 AM. J. POL. SCI. 673 (1994) (modeling the interaction between the Supreme Court and lower federal courts as a principal-agent relationship); Paul J. Wahlbeck, James F. Spriggs, II & Forrest Maltzman, *Marshalling the Court: Bargaining and Accommodation on the United States Supreme Court*, 42 AM. J. POL. SCI. 294 (1998) (testing empirically whether Supreme Court opinions are written strategically based on an examination of draft opinions).

²³ Cross & Tiller, *supra* note 10, at 2156; see also HETTINGER ET AL., COLLEGIAL COURT, *supra* note 21, at 40-41.

²⁴ See, e.g., Charles M. Cameron, Jeffrey A. Segal & Donald Songer, *Strategic Auditing in a Political Hierarchy: An Informational Model of the Supreme Court's Certiorari Decisions*, 94 AM. POL. SCI. REV. 101, 102 (2000) (arguing that lower court judges care about reversal because they care about the disposition of cases and their professional reputations); Tracey E. George & Albert H. Yoon, *The Federal Court System: A Principal-Agent Perspective*, 47 ST. LOUIS U. L.J. 819, 822 (2003) (describing reversal as the Supreme Court's "obvious mechanism of control over lower court judges"); Songer, Segal & Cameron, *supra* note 22, at 680 (theorizing that lower court judges will "shirk" less when the likelihood of reversal is high).

²⁵ See Cross & Tiller, *supra* note 10, at 2173; see also HETTINGER ET AL., COLLEGIAL COURT *supra* note 21, at 76-77.

²⁶ See, e.g., Tracey E. George, *The Dynamics and Determinants of the Decision To Grant En Banc Review*, 74 WASH. L. REV. 213, 245 (1999) (noting "an implicit but incomplete agency agreement" between the circuit court and panel).

tors and occasionally reverses the decisions of the lower federal courts, a circuit sitting en banc can review and revise a panel decision that is inconsistent with circuit precedent or norms. This form of monitoring is costly, however, and so scholars have suggested that the circuit will rely on signals, such as the presence of a dissenting opinion, to identify which panel decisions warrant closer scrutiny.²⁷

In order to test these two competing explanations for panel effects, I begin with the observation that strategic accounts—unlike purely deliberative ones—predict that appellate voting behavior will be influenced by interactions with a reviewing court. More specifically, if appellate judges act strategically—with an eye to the likely response of the Supreme Court or the circuit en banc—then observed panel effects should differ depending upon how the preferences of the appellate judges on the panel are aligned relative to those of the Supreme Court or the circuit as a whole. By contrast, if purely deliberative explanations are true, the preferences of the Supreme Court or the circuit as a whole should have no systematic impact on whether or when panel effects are observed.

In the empirical test described here, I analyze data about judges' votes in Title VII sex discrimination cases decided by the U.S. courts of appeals.²⁸ Sex discrimination cases are often perceived to be ideologically contested, and scholars have documented the existence of both ideological voting and panel effects in these types of cases.²⁹ Most prior studies of panel effects have used the party of the appointing President as a proxy for judicial ideology³⁰ and then have compared the voting records of Republican-appointed and Democrat-appointed judges across different panel compositions. In this study, I follow the convention of using the party of the appointing President to define ideological alignments—for example, I assume that a Re-

²⁷ See HETTINGER ET AL., COLLEGIAL COURT, *supra* note 21, at 76-77; George, *supra* note 26, at 247.

²⁸ See Section II.C., *infra*, for a more detailed description of the data.

²⁹ See, e.g., SUNSTEIN ET AL., ARE JUDGES POLITICAL?, *supra* note 10, at 30-31 (finding evidence of both ideological voting and panel effects in sex discrimination cases); Peresie, *supra* note 12, at 1768-69 (finding that both judge gender and judicial ideology significantly affect outcomes in Title VII sex discrimination and harassment cases); Boyd, Epstein & Martin, *supra* note 12, at 20 (documenting large panel effects in sex discrimination cases).

³⁰ E.g., SUNSTEIN ET AL., ARE JUDGES POLITICAL?, *supra* note 10; Cox & Miles, *supra* note 12, at 3; Cross & Tiller, *supra* note 10, at 2168; Miles & Sunstein, *supra* note 12, at 830; Revesz, *supra* note 10, at 1718-19; Sunstein et al., *Ideological Voting*, *supra* note 10, at 302 n.1.

publican-appointed judge sitting with two Democrat-appointed judges is in the “ideological minority,” while the two Democratic appointees are the “majority” judges on that panel.

Unlike prior studies, however, mine does not rely on the “percent liberal” vote to measure judges’ voting behavior. Instead, I examine the extent to which judges vote counter-ideologically—that is, in a direction opposite to what a naïve ideological model would predict. This methodological innovation permits a focus on the central phenomenon of interest: the changing likelihood that a judge will vote counter to a naïve ideological prediction depending upon the panel composition. In the empirical test, I examine whether observed panel effects—the changes in the likelihood of a counter-ideological vote under different voting conditions—are contingent upon the preferences of the Supreme Court or the circuit en banc.

Using this method, I find no evidence that panel effects are influenced by the relative preferences of the Supreme Court. More specifically, I observe no difference between the voting patterns of either minority or majority judges on mixed panels regardless of whether the minority judge is more closely aligned with the Supreme Court or with the panel majority. This finding casts doubt on one explanation of hierarchical control—namely, the theory that appellate judges’ voting behavior is motivated by the desire to signal noncompliant decisions to the Supreme Court. On the other hand, I find evidence that the tendency of appeals court judges to be influenced by their panel colleagues *does* depend on how the preferences of the circuit court as a whole are aligned relative to those of the panel members. When a minority judge on a panel is ideologically closer to the circuit as a whole than to the panel majority, the majority judges are less likely to vote in a stereotypically ideological direction, while the minority judge is more likely to do so. This result is consistent with a strategic explanation for panel effects, although the exact mechanism by which circuit preferences influence panel behavior remains uncertain. What the results do indicate is that panel effects are not the result of a dynamic wholly internal to the three-judge panel, but are influenced by the circuit environment.

This Article proceeds as follows: Part I surveys the competing theoretical explanations that have been offered to explain panel effects. Part II explains the limitations of existing empirical tests and then describes my approach for testing strategic accounts of panel decision making. In Parts III and IV, I present the results of the empirical tests and then consider the implications of my findings.

I. COMPETING EXPLANATIONS

A. *Panel Effects*

As described more fully in Part II, this study analyzes data on judges' votes in Title VII sex discrimination cases. In the analysis and discussion that follow, I characterize a vote in favor of the sex discrimination plaintiff as "liberal" and a vote against the plaintiff as "conservative."³¹ Table 1 shows that, as one might expect, the percentage of cases with a liberal outcome varies depending upon the composition of the panel.

Table 1: Federal Court of Appeals Decisions in Sex Discrimination Cases, 1995–2002, by Panel Composition

| Panel Composition | Number of Observations | Percent Liberal Outcomes |
|-------------------|------------------------|--------------------------|
| RRR | 186 | 25.8% |
| RRD | 354 | 38.4% |
| RDD | 199 | 49.2% |
| DDD | 48 | 79.2% |

Table 2 further breaks down the data. Consistent with prior studies, it shows that Democratic appointees vote in favor of plaintiffs in these cases more often than Republican appointees (51.9% of the time as compared with 34.2% of the time), but that judges' votes are influenced by the partisan affiliation of the other members of the

³¹ This treatment is consistent with prior studies of judicial decision making in sex discrimination and Title VII cases. *See, e.g.*, SUNSTEIN ET AL., ARE JUDGES POLITICAL?, *supra* note 10, at 19 (describing a vote for a plaintiff in a sex discrimination case as the "stereotypically liberal" vote); Sunstein et al., *Ideological Voting*, *supra* note 10, at 314 tbl.1 (identifying a vote for the plaintiff in sex discrimination cases as voting for the liberal position); Boyd, Epstein & Martin, *supra* note 12, at 19 (treating pro-plaintiff votes in sex discrimination cases as liberal cases).

panel as well as their own. For example, a Republican appointee sitting with two Democratic appointees casts a liberal vote 44.2% of the time. However, her voting pattern becomes steadily more conservative when she sits with one other Republican appointee (37.7% liberal votes) or two other Republican appointees (26.2% liberal votes). A similar pattern holds true for Democratic appointees.

Table 2: Voting of Federal Court of Appeals Judges in Sex Discrimination Cases, 1995–2002, by Party of Appointing President and Panel Colleagues

| Republican Appointees | | | Democratic Appointees | | |
|-----------------------|------------------------|-----------------------|-----------------------|------------------------|-----------------------|
| Panel Colleagues | Number of Observations | Percent Liberal Votes | Panel Colleagues | Number of Observations | Percent Liberal Votes |
| DD | 199 | 44.2% | RR | 354 | 41.5% |
| RD | 708 | 37.7% | DR | 398 | 51.5% |
| RR | 558 | 26.2% | DD | 144 | 78.5% |
| All cases | 1465 | 34.2% | All cases | 896 | 51.9% |

Of critical importance, the different outcomes across panel composition seen in Table 1 do *not* reflect only simple majoritarian voting. If judges naïvely voted their policy preferences and case outcomes were determined by majority vote, then judges would exhibit a stable voting pattern regardless of the identity of their panel colleagues. As Table 2 clearly shows, this is not the case. Alternatively, one might expect that a judge in the ideological minority might be influenced by her colleagues, but that the two judges in the ideological majority would not. After all, the majority has the votes to achieve its policy goals directly. Once again, however, this is not the case; judges in the ideological majority are also observed to vote differently when a judge affiliated with the opposing party is on the panel. Thus, the phenomenon of “panel effects” encompasses *two* distinct effects: first, that judges in the majority vote differently (in a less stereotypically ideo-

logical fashion) than judges on a homogeneous panel; and second, that judges in the minority vote differently (still less stereotypically ideologically) than judges in the majority.

B. *Theoretical Accounts*

What accounts for these observed panel effects? Scholars have proposed a variety of explanations, encompassing cultural, psychological, institutional, and strategic factors. In order to frame an empirical test, I group these explanations into three basic types. As a caveat, I do not mean to argue that this typology is canonical in any sense, and each type of explanation that I identify encompasses a number of diverse theories. Rather than definitively categorizing theories, this typology merely serves to sharpen the empirical inquiry here.

One type of explanation focuses on the relatively low dissent rates in court of appeals decisions. A simple ideological model of voting would predict frequent dissents whenever a panel of judges is divided ideologically. In fact, the proportion of federal appellate decisions containing dissents is quite low—around 10% overall.³² Some scholars explain the high levels of unanimity by positing the importance of a “norm of consensus.”³³ Frequent dissents are thought to undermine institutional legitimacy and the clarity of legal rules,³⁴ while unanimous decisions “promote the appearance of legal objectivity, certainty, and neutrality”³⁵ and encourage compliance with the law.³⁶ Other scholars emphasize the costliness of dissent to the individual judge.³⁷ Writing a dissenting opinion requires time and effort, and it

³² See HETTINGER ET AL., COLLEGIAL COURT, *supra* note 21, at 47 (noting that 9.5% of cases in the U.S. courts of appeals from 1960 to 1996 had dissents).

³³ For an overview, see, for example, CROSS, *supra* note 12, at 160, Burton M. Atkins, *Judicial Behavior and Tendencies Towards Conformity in a Three Member Small Group: A Case Study of Dissent Behavior on the U.S. Court of Appeals*, 54 SOC. SCI. Q. 41, 42-43 (1973), and Farhang & Wawro, *supra* note 12, at 307 and sources cited therein.

³⁴ See HETTINGER ET AL., COLLEGIAL COURT, *supra* note 21, at 19 (claiming that unanimous decisions “may promote institutional legitimacy and effective implementation of individual decisions”); Edwards, *supra* note 3, at 1651 (“What the parties and the public need is [the best] answer, not a public colloquy among judges.”).

³⁵ Farhang & Wawro, *supra* note 12, at 307.

³⁶ See HETTINGER ET AL., COLLEGIAL COURT, *supra* note 21, at 19-20 (describing how “consensual decision making promotes the efficient administration of justice”).

³⁷ See, e.g., CROSS, *supra* note 12, at 160-61 (explaining why the decision not to dissent may be a practical response to the costs of dissenting); SUNSTEIN ET AL., ARE JUDGES POLITICAL?, *supra* note 10, at 64-66 (describing dissents on three-judge panels as “both futile and highly burdensome to produce”); Revesz, *supra* note 10, at 1733

may negatively impact a judge's reputation and collegial relations,³⁸ while offering very little payoff. A dissent has no substantive effect on the outcome of a case, at least in the short term, and writing one does not relieve a judge of her responsibilities for drafting opinions in other cases. These types of theories offer strong reasons that a judge in the ideological minority might often suppress her disagreement and go along with the decision of the majority.

Although these theories of "suppressed dissent" offer a plausible account of why dissents are relatively infrequent on the courts of appeals, they cannot explain panel effects more generally. As noted above, panel composition influences not only the behavior of the minority judge, but the behavior of the judges who comprise the panel majority as well.³⁹ As Revesz argued, if judges go along with their colleagues simply to avoid writing a dissent, one would predict that on mixed panels, "the single judge of one party [would be] the only one to moderate his or her views."⁴⁰

The costs of writing a dissent might lead a minority judge to avoid openly expressing her disagreement, but should have no impact on the votes of the panel majority. Similarly, a norm of consensus has more explanatory power for minority than for majority judges. Such a norm might sometimes induce the majority to accommodate the views of the minority, but it seems more likely to lead them to ignore the preferences of the minority, knowing that the strong norm of unanimity will pressure the minority member to go along.⁴¹ Thus, while theories of dissent suppression are certainly relevant, they are insufficient to explain the observed influence of panel composition on the behavior of both minority *and* majority judges on mixed panels.

(suggesting that a judge may "moderate[] his or her views in order to avoid having to write a dissent").

³⁸ See SUNSTEIN ET AL., ARE JUDGES POLITICAL?, *supra* note 10, at 66 ("[D]issenting opinions might also cause a degree of tension among judges . . ."). Dissents force the majority judges to confront public disagreement with their conclusions and may oblige them to respond to arguments raised by the dissent or to more carefully defend the conclusions that they reach. See Ginsburg & Falk, *supra* note 4, at 1017 ("Even one dissident judge can impose upon me the cost, in time and aggravation, of having to respond to a dissenting opinion . . .").

³⁹ See *supra* Section I.A.

⁴⁰ Revesz, *supra* note 10, at 1734.

⁴¹ As Sunstein et al. point out, "a Democratic majority, or a Republican majority, has enough votes to do what it wishes." SUNSTEIN ET AL., ARE JUDGES POLITICAL?, *supra* note 10, at 12.

The second type of explanation—what I call “internal deliberative” explanations—focuses on dynamics internal to the judicial panel. One such explanation is that panel effects are the product of collegial interactions among appellate judges. This explanation is consistent with the way that many judges describe the decision-making process and has been advanced most forcefully by Judge Harry Edwards. He writes that “if panel composition turns out to have a ‘moderating’ effect on judges’ voting behavior, this is a sign that panel members are behaving collegially.”⁴² As a judge on the D.C. Circuit Court of Appeals, he found that copanelists listen to one another’s views and arguments “seriously and respectfully, and . . . with open minds.”⁴³ The result of this process of “collegial deliberation” is that individual judges sometimes shift their initial view of a case.⁴⁴ In Edwards’s view, the observation that a judge’s vote is influenced by her copanelists is not merely unsurprising; it also illustrates the advantages of panel decision making: judges deliberate collegially, “discussing the case with each other and reaching a mutually acceptable judgment based on their shared sense of the proper outcome.”⁴⁵

Sunstein and his coauthors propose another set of explanations that focuses on internal panel dynamics—explanations rooted in the findings of experimental psychology. They cite studies documenting a “conformity effect,” where individuals in experimental settings are observed to yield their views in the face of unanimous group opinion to the contrary,⁴⁶ and argue that “judges are vulnerable to similar influences.”⁴⁷ Analogizing the minority judge to the experimental subject confronted with a unanimous group opinion, they argue that the tendency to conform to dominant opinion explains why dissents are far less common on the courts of appeals than a naïve ideological model

⁴² Harry T. Edwards, Essay, *Collegiality and Decision Making on the D.C. Circuit*, 84 VA. L. REV. 1335, 1358 (1998).

⁴³ *Id.* at 1361.

⁴⁴ Edwards, *supra* note 3, at 1660 (describing shifts ranging from “refinement[s] and recharacterization[s]” to “change[s] in . . . the bottom line”).

⁴⁵ Edwards, *supra* note 42, at 1358.

⁴⁶ SUNSTEIN ET AL., ARE JUDGES POLITICAL?, *supra* note 10, at 67. As some of those authors explain in a different work, “[t]he yielding . . . occurs partly because of the information suggested by the unanimity of others; how could shared views be wrong? And it occurs partly because of reputational pressures; people do not want to stand out on a limb for fear that others will disapprove of them.” Sunstein et al., *Ideological Voting*, *supra* note 10, at 339.

⁴⁷ SUNSTEIN ET AL., ARE JUDGES POLITICAL?, *supra* note 10, at 69.

would predict.⁴⁸ In order to explain the apparent moderation of majority judges on a mixed panel compared with their votes on a homogeneous panel, Sunstein et al. turn to another established finding in the experimental psychology literature: group polarization.⁴⁹ Specifically, after deliberating with a group of people with similar views, individuals tend to express more extreme views than they held before deliberation.⁵⁰ Thus, “[d]eliberating groups of like-minded people tend to go to extremes.”⁵¹ Comparing an ideologically homogeneous panel to a group of “like-minded people,” Sunstein and his coauthors argue that the phenomenon of group polarization is at work, leading all-Republican and all-Democrat panels to more extreme opinions than would be arrived at by mixed panels.⁵²

In contrast to dissent-suppression theories and internal-deliberative accounts, strategic explanations focus on interactions between the appellate judges on a panel and the other actors in the judicial system in order to explain panel effects. These accounts posit that appellate judges do not pursue their policy goals naïvely, but rather act strategically, with an eye to the likely response of the Supreme Court or the court of appeals en banc. For example, Virginia Hettinger, Stefanie Lindquist, and Wendy Martinek propose a strategic explanation of when appellate judges dissent. They hypothesize that circuit judges “may choose to dissent to signal the circuit *en banc* that the majority panel opinion is contrary to circuit law or contrary to the preferences of the circuit majority,” or “to signal the Supreme Court and thereby invite review by that body.”⁵³

As they recognize, dissenting opinions might also be suppressed if circuit judges who disagree with the majority opinions nevertheless believe that en banc or Supreme Court review will produce an outcome even worse—from their perspective—than the panel majority

⁴⁸ *Id.*

⁴⁹ *See id.* at 71-72.

⁵⁰ *Id.* at 71. Explanations for this phenomenon of group polarization include the limited pool of arguments available in a group of like-minded people, the desire of individuals to be perceived favorably by other group members, and the effect of corroboration in strengthening individual views. *Id.* at 73-76.

⁵¹ *Id.* at 71.

⁵² *See id.* at 76. There are serious reasons to doubt whether these findings from experimental psychology apply in the context of judicial decision making. *See infra* notes 147-148 and accompanying text.

⁵³ HETTINGER ET AL., COLLEGIAL COURT, *supra* note 21, at 41; *see also* CROSS, *supra* note 12, at 156.

opinion.⁵⁴ Thus, any prediction about whether or not a circuit judge will dissent “will depend on the configuration of preferences across the relevant actors: the judge, the three-judge panel, and the circuit [or the Supreme Court] as a whole.”⁵⁵ Their theory, however, focuses narrowly on the decision to dissent, rather than on panel effects generally.

Cross and Tiller offer a closely related theory of how strategic behavior produces observed panel effects. Similar to Hettinger and her coauthors, they assume that appellate judges use dissents as a signal to the Supreme Court or the circuit en banc. However, they focus not on accounting for dissenting behavior, but on explaining why lower court judges obey precedent.⁵⁶ Following doctrine poses no difficulties where it leads to a result consistent with a circuit judge’s preferences. However, when existing doctrine does *not* coincide with her policy goals, she may be tempted to disregard it. In such a situation, Cross and Tiller theorize that a panel member who differs ideologically from the majority will act as a “whistleblower.” By dissenting, the minority judge can “expose the majority’s manipulation or disregard of the applicable legal doctrine,”⁵⁷ alerting a higher court to the disobedient decision making and leading to reversal of the original majority opinion. Alternatively, the threat to “expose disobedient decisionmaking by the majority” may cause the majority to acknowledge its “disregard” of doctrine and decide to “keep its decision within the confines of doctrine.”⁵⁸ Cross and Tiller therefore predict that “courts

⁵⁴ HETTINGER ET AL., COLLEGIAL COURT, *supra* note 21, at 41.

⁵⁵ *Id.*

⁵⁶ Cross & Tiller, *supra* note 10, at 2156.

⁵⁷ *Id.*

⁵⁸ *Id.* at 2159. Judge Wald has expressed skepticism about this account based on her experience as a judge on the Court of Appeals for the D.C. Circuit: “[T]hreats of dissent are not particularly effective in changing a panel’s course.” Patricia M. Wald, *A Response to Tiller and Cross*, 99 COLUM. L. REV. 235, 253 (1999). Judge Harry Edwards has been even more blunt, claiming that “the hypothesis is absurd.” Edwards, *supra* note 42, at 1337.

Cross and Tiller also suggest an alternative, psychologically based account of whistleblower effects:

Judges employ “cognitive shortcuts to process imperfect information” under the legal model, and these shortcuts produce apparently political results. . . . [T]he minority judge can serve as a whistleblower by revealing these biasing cognitive shortcuts. Once the majority can no longer readily rationalize its decision under the legal model, it will frequently concede to the commands of that model.

are more likely to comply with doctrine . . . when the judicial panel is politically or ideologically divided.”⁵⁹

This whistleblowing theory is consistent with models that positive political theorists commonly use to describe the judicial hierarchy.⁶⁰ Briefly, these models analogize the relationship between the Supreme Court and the lower federal courts to a principal-agent relationship. The Supreme Court creates doctrine that their “agents,” the lower federal courts, are supposed to apply faithfully. However, lower court judges have their own preferences and may be tempted to deviate from established doctrine. Principal-agent models are thus centrally concerned with questions of supervision and control—that is, “[h]ow and to what extent can the Supreme Court control the behavior of lower federal courts to ensure that its policy dictates are implemented?”⁶¹ One common answer is that lower federal court judges follow Supreme Court doctrine because they “fear exposure of any noncompliance and consequent reversal.”⁶² The Supreme Court, however, only reviews a tiny fraction of court of appeals decisions—currently less than 1% per year.⁶³ Cross and Tiller’s whistleblowing

Cross & Tiller, *supra* note 10, at 2174. Sunstein et al. use the whistleblower terminology in this second sense—as a psychological rather than strategic explanation. SUNSTEIN ET AL., ARE JUDGES POLITICAL?, *supra* note 10, at 78-79.

⁵⁹ Cross & Tiller, *supra* note 10, at 2159.

⁶⁰ For a more detailed discussion of principal-agent models of the federal judicial hierarchy, see Kim, *supra* note 11, at 391-404.

⁶¹ *Id.* at 393.

⁶² Cross & Tiller, *supra* note 10, at 2158; see also George & Yoon, *supra* note 24, at 822-25 (noting that the Supreme Court’s mechanism of control over lower courts is its power of reversal); McNollgast, *supra* note 22, at 1635-36 (modeling lower court judges “as strategic actors facing a trade-off between pursuing a personal policy agenda and seeing their decisions reversed by a higher court”); Songer, Segal & Cameron, *supra* note 22, at 693 (“If an appeals court anticipates that it will be sanctioned in the form of a reversal, the anticipated response will keep the court in check.”).

⁶³ See Kim, *supra* note 11, at 397-98. Scholars have suggested various mechanisms by which even a low rate of reversal might induce compliance. For example, Songer, Segal, and Cameron hypothesize that litigant policing plays a crucial role, suggesting that losing parties are more likely to petition for Supreme Court review when the lower court opinion is “noncompliant,” thereby sounding a “fire alarm” that alerts the Court to cases of “flagrant doctrinal shirking.” Songer, Segal & Cameron, *supra* note 22, at 693. McNollgast argue that the Supreme Court exercises effective control by establishing a “doctrinal interval” of acceptable outcomes in order to induce lower courts to follow its precedents. McNollgast, *supra* note 22, at 1645-46. These explanations have been criticized on theoretical grounds, and the handful of relevant empirical studies generally do not support the theory that fear of reversal motivates lower court compliance with doctrine. See Kim, *supra* note 11, at 399-404 and sources cited therein; see also CROSS, *supra* note 12, at 99-101.

theory offers one possible mechanism by which the Supreme Court might efficiently monitor and control the decisions of the courts of appeals—relying on dissenting opinions to signal cases of noncompliance that warrant review.

Theorists have similarly analogized the relationship between a circuit court and its three-judge panels to an agency relationship.⁶⁴ On this view, individual judges are not free to decide as they like, but must act as “representatives” of the circuit.⁶⁵ A three-judge panel is “deputed to hear and to determine cases in conformity with the law as the full court views it.”⁶⁶ To ensure that this representative function is carried out faithfully, the majority of the full circuit is permitted to overrule a panel decision by rehearing a case en banc.⁶⁷ Like the Supreme Court, however, the circuit as a whole will find it costly to monitor the decisions of each panel. To solve this monitoring problem, the circuit may rely on signals such as the presence of a dissenting opinion to determine which cases to rehear en banc, and circuit court judges, aware of this possibility, may vote strategically in order to invite or avoid en banc review of a panel’s decision.⁶⁸

Both Hettinger et al.’s strategic-dissent theory and Cross and Tiller’s whistleblower theory draw some support from the fact that the presence of a dissenting opinion is associated with both a greater likelihood that a case will be reheard en banc⁶⁹ and that the Supreme Court will grant certiorari.⁷⁰ However, this observed correlation does not necessarily prove that dissenting opinions *cause* the circuit en banc or the Supreme Court to review a case. It may be that both the existence of a dissent and the decision to rehear or accept certiorari are the result of some underlying characteristic of the case—for example,

⁶⁴ E.g., George, *supra* note 26, at 245; Ginsburg & Falk, *supra* note 4, at 1011-13; Michael E. Solimine, *supra* note 4, at 49 (1988).

⁶⁵ Solimine, *supra* note 4, at 49.

⁶⁶ Ginsburg & Falk, *supra* note 4, at 1011.

⁶⁷ Solimine, *supra* note 4, at 49.

⁶⁸ Litigants may also play a role in monitoring panel decisions for the circuit, because they are more likely to petition for rehearing en banc if they believe that a panel decision is contrary to the preferences of the circuit majority. See Michael W. Giles, Thomas G. Walker & Christopher Zorn, *Setting a Judicial Agenda: The Decision to Grant En Banc Review in the U.S. Courts of Appeals*, 68 J. POL. 852, 865 (2006) (presenting empirical evidence that litigants’ decisions to seek en banc review are influenced by the ideological preferences of the panel relative to those of the circuit majority).

⁶⁹ George, *supra* note 26, at 267; Douglas H. Ginsburg & Brian M. Boynton, *The Court En Banc: 1991–2002*, 70 GEO. WASH. L. REV. 259, 264 (2002); Ginsburg & Falk, *supra* note 4, at 1046.

⁷⁰ Caldeira, Wright & Zorn, *supra* note 22, at 563 tbl.1.

that it involves a particularly difficult or close legal issue. Moreover, even if the relationship between dissents and further review is a causal one, a considerable gap remains between the large number of court of appeals cases containing dissents and the very limited number accepted for Supreme Court or en banc review.⁷¹ Thus, while the presence of a dissent may encourage the Supreme Court or circuit en banc to hear a case, it remains uncertain whether the possibility of a dissent and subsequent review actually influences the panel behavior of court of appeals judges.

⁷¹ As discussed above, dissents occur in about 10% of federal appellate cases. See *supra* note 32 and accompanying text. In contrast, the probability that a court of appeals decision will be reviewed by the Supreme Court and the probability of review by the circuit en banc are quite small, with both events occurring in less than 1% of cases. See Kim, *supra* note 11, at 391 n.30 (“[T]he chance that a given court of appeals decision will be reviewed by the Supreme Court is approximately 0.14%.”); see also Michael W. Giles, Virginia A. Hettinger, Christopher Zorn & Todd C. Peppers, *The Etiology of the Occurrence of En Banc Review in the U.S. Courts of Appeals*, 51 AM. J. POL. SCI. 449, 450 (2007) (explaining that while the incidence of en banc hearings varies significantly across circuits and across time, the incidence is “uniformly low”); Ginsburg & Boynton, *supra* note 69, at 266 tbl.6 (reporting that the percentage of cases heard en banc from 1997 to 1999 varied between 0.10% and 0.58% depending upon the circuit); Ginsburg & Falk, *supra* note 4, at 1045 tbl.5 (reporting that 1.03% of argued cases and 0.2% of nonargued cases were reheard en banc by the D.C. Circuit from 1981 to 1990); Solimine, *supra* note 4, at 46 tbl.2 (reporting that less than 1% of court of appeals cases were heard en banc in the 1980s).

One might argue that the low percentage of cases actually reviewed by the Supreme Court or the circuit en banc does not necessarily indicate a lack of control by the reviewing courts, but rather the rate of review is low because control is effective and extensive oversight is not necessary. Thus, the actual rate of review cannot establish the true level of effective control.

If, however, a reviewing court is relying on the threat of review to exercise control over panel decisions, that threat must be at least a credible one. Cross describes the problem in the context of the Supreme Court:

[T]here surely must be some credible threat of admonishment to maintain control on the playground. It is doubtful that nine teachers (the Supreme Court justices), who are capable of admonishing at most around one hundred students a year, could effectively keep order on a playground populated by more than fifty thousand students.

CROSS, *supra* note 12, at 100.

Given resource constraints, neither the Supreme Court nor the circuits have the capacity to increase significantly the proportion of panel decisions reviewed. Thus, while the threat of review might sometimes make actual review unnecessary, the limited capacity of the reviewing courts suggests that fear of reversal may not play a dominant role in appellate panel decision making.

II. TESTING THE STRATEGIC ACCOUNT

A. *Existing Evidence*

This empirical study is primarily focused on testing strategic explanations for panel effects. Although existing empirical evidence is consistent with both dissent-suppression and internal-deliberative theories, these explanations are difficult to test directly. Support for these theories tends to come either from self-reports of circuit judges who emphasize the importance of collegiality⁷² or from the experimental-psychology literature, which relies on behavior observed in laboratory settings.⁷³ The reliability of self-reports is open to question, however, and, as discussed further in Section IV.B., the significant differences between experimental settings and decision making by appellate judges raise serious doubts about the validity of extrapolating conclusions based on the former to explain the latter.

On the other hand, the few empirical studies purporting to test strategic explanations for panel effects have produced mixed results. Hettinger et al. found no empirical support for the theory that court of appeals judges dissent strategically in order to signal the need for further review to either the circuit en banc or the Supreme Court.⁷⁴ By contrast, Steven Van Winkle found that a judge in the ideological minority on a panel is more likely to dissent if that judge is aligned ideologically with the circuit majority, consistent with a signaling theory.⁷⁵ Similarly, Cross and Tiller claim to find empirical support for their whistleblower theory.⁷⁶

These mixed results undoubtedly result in part from the different methods used to test for strategic effects. For example, the Van Winkle and Cross-Tiller studies examined cases in specific issue areas—

⁷² See Edwards, *supra* note 42, at 1335; Wald, *supra* note 58, at 253. See generally Edwards, *supra* note 3.

⁷³ See SUNSTEIN ET AL., ARE JUDGES POLITICAL?, *supra* note 10, at 67-76 (examining and citing studies about conformity effects and group polarization).

⁷⁴ HETTINGER ET AL., COLLEGIAL COURT, *supra* note 21, at 84 (“[W]e find no evidence that strategic considerations come into play in the decision to file a dissenting opinion . . .”). More generally, Cross found no evidence to support the theory that circuit courts strategically moderate their rulings in light of Supreme Court preferences. See CROSS, *supra* note 12, at 122.

⁷⁵ Steven R. Van Winkle, Dissent as a Signal: Evidence from the U.S. Courts of Appeals 15 (Aug. 29, 1997) (unpublished manuscript, on file with author).

⁷⁶ Cross & Tiller, *supra* note 10, at 2172 (finding that “the presence of a whistleblower makes it almost twice as likely that doctrine will be followed when doctrine works against the partisan policy preferences of the court majority”).

search and seizure law⁷⁷ and judicial review of agency actions,⁷⁸ respectively—that are acknowledged to be politically contested, while Hettinger et al. used a sample drawn from all court of appeals cases in a given time period, regardless of issue.⁷⁹ If strategic behavior is more prominent in highly political—as compared with run-of-the-mill—cases, these differences in sample selection might account for the divergent results.⁸⁰

Other modeling choices limit the usefulness of these studies in explaining panel effects. Hettinger and her coauthors narrowly focus on the decision to dissent, and their model does not take into account panel effects more generally. They begin with the assumption that the opinion in a case reflects the preferences of the majority-opinion writer and then examine the decisions of each of the other two judges to dissent or not, using variables that capture the preferences of the Supreme Court and the circuit en banc relative to the appellate judge.⁸¹

This approach has the advantage of offering a direct test of the theory that appellate judges' dissenting behavior is influenced by the possibility and likely outcome of further review. However, the model overlooks the interactions between judges in reaching a decision. More plausibly, a majority opinion will reflect the preferences of the two judges needed to agree on the outcome, and the third judge then faces the decision whether to go along with the majority or to dissent. By including data on *both* nonauthoring judges to model the decision to dissent, the approach of Hettinger et al. may underestimate the degree to which strategic behavior occurs.

Cross and Tiller's empirical study, on the other hand, does not take into account the preferences of the reviewing courts, which are crucial to their whistleblower theory. Analyzing D.C. Circuit decisions involving judicial review of agency actions, they show that ideologically mixed panels are far more likely to defer to agency decisions than ideologically unified panels.⁸² Assuming that deference indicates obe-

⁷⁷ Van Winkle, *supra* note 75, at 10-11.

⁷⁸ Cross & Tiller, *supra* note 10, at 2162.

⁷⁹ HETTINGER ET AL., COLLEGIAL COURT, *supra* note 21, at 83.

⁸⁰ The cases analyzed by Hettinger et al. are not entirely without political content, however. The authors report that "ideological disagreement" between the majority-opinion writer and a potential dissenter—i.e., the distance between their ideology scores—*does* appear to influence the likelihood of dissent, even while the preferences of the Supreme Court or the circuit en banc do not. *Id.* at 84 tbl.5.

⁸¹ *Id.* at 78-80.

⁸² Cross & Tiller, *supra* note 10, at 2172 (finding that unified panels gave *Chevron* deference to agency action 33% of the time, whereas divided panels deferred 62% of

dience to doctrine, Cross and Tiller argue that this finding supports their theory. The assumption that a decision not to defer to an agency equates with “disobedience” of doctrine is highly contestable.⁸³ The critical weakness of their empirical test, however, is their failure to incorporate the reviewing court’s preferences. According to their theory, by “threaten[ing] to highlight the disobedience externally to a higher court or to Congress,” the minority panel member induces the majority to conform to the law.⁸⁴ However, this threat of “exposure and possible reversal” will only be effective if, in fact, the higher court or Congress is likely to agree with the minority judge that the majority is being “disobedient.” In other words, if a whistleblower effect actually causes panel effects, then panel effects should depend upon the location of the reviewing court’s preferences relative to those of the minority judge.

Cross and Tiller do not systematically examine the relationship between the preferences of the minority judge and the Supreme Court. They report that mixed panels were more likely to defer to the agency (in their parlance, “obey” doctrine)⁸⁵ given the presence of a potential whistleblower, but their results treat Democrat-majority and Republican-majority panels alike, even though the Supreme Court was dominated by Republican nominees during the entire time period of their study (1991–1995). If whistleblowing works to “highlight . . . disobedience externally to a higher court,”⁸⁶ then in an era with a conservative Supreme Court, the threat of whistleblowing should be most effective when a Republican minority judge threatens to expose a Democratic majority. Cross and Tiller’s data, however, suggest that

the time when deferring would result in an outcome counter to the majority’s policy preferences).

⁸³ The relevant doctrine was laid out by the Supreme Court in *Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984). Cross and Tiller assume that “obeying doctrine” requires deference to an agency’s policy, and that a failure to defer constitutes “disobedience.” *Chevron*, however, does not require deference when the agency interpretation is contrary to the statute or the agency’s interpretation is “unreasonable.” *Id.* at 843-44. Depending upon the circumstances, a decision *not* to defer in a particular case might be considered “obedient to doctrine” rather than the opposite. Thus, without including case-specific information, the assumption that a decision overturning an agency action is equivalent to “disobedience to doctrine” is unwarranted. Judge Edwards has similarly criticized Cross and Tiller’s assumption about what constitutes obedience to doctrine, arguing that their study “fundamentally misunderstands the meaning of *Chevron* in a way that is fatal to the entire hypothesis.” Edwards, *supra* note 42, at 1356.

⁸⁴ Cross & Tiller, *supra* note 10, at 2159.

⁸⁵ *Id.* at 2172.

⁸⁶ *Id.* at 2159.

the opposite is true—they found that panels with a majority of Democrats were, “if anything, more partisan than Republican panels.”⁸⁷ At the same time, with a majority Republican Supreme Court, one would not expect a threat of dissent by a lone Democratic appointee to have much influence. Yet, they found that “[t]he presence of a single Democrat on a panel appears to have had a distinct . . . moderating effect on the two Republicans.”⁸⁸ Thus, to the extent that Cross and Tiller examine the preferences of the Supreme Court relative to those of the panel members, their findings seem to undermine their strategic explanation for panel effects.

B. *Constructing an Empirical Test*

In this Part I formalize the intuitions underlying a strategic account of panel decision making in order to generate predictions that can be tested against the data. Before I do so, several caveats are in order. First, a number of simplifying assumptions are necessary in order to make the analysis tractable. Consistent with a large and growing empirical literature on judicial decision making, I assume that judges—including the federal court of appeals judges studied here—are motivated by their ideology or policy preferences.⁸⁹ In using these terms, I do not mean to suggest that judges disregard the law. In fact, considerable evidence indicates that law and legal doctrine constrain and shape the decisions of lower federal court judges.⁹⁰ Nor do I

⁸⁷ *Id.* at 2174.

⁸⁸ *Id.* at 2173.

⁸⁹ While the assumption that judges are motivated by ideology has become commonplace, what scholars mean when they refer to “judicial ideology” is quite ambiguous. See Joshua B. Fischman & David S. Law, *What Is Judicial Ideology, and How Do We Measure It?*, 29 WASH. U. J.L. & POL’Y (forthcoming 2009) (arguing that the empirical study of judicial ideology is subject to theoretical and methodological difficulties); Bryan D. Lammon, *What We Talk About When We Talk About Ideology: Judicial Politics Scholarship and Naive Legal Realism*, 83 ST. JOHN’S L. REV. (forthcoming 2009) (pointing out the lack of consistency in how the term “ideology” has been used in the judicial politics literature).

⁹⁰ See, e.g., John Gruhl, *The Supreme Court’s Impact on the Law of Libel: Compliance by Lower Federal Courts*, 33 W. POL. Q. 502, 517-18 (1980) (finding that lower courts overwhelmingly comply with Supreme Court decisions in the area of libel law); Charles A. Johnson, Research Note, *Law, Politics, and Judicial Decision Making: Lower Federal Court Uses of Supreme Court Decisions*, 21 LAW & SOC’Y REV. 325, 333-34 (1987) (reporting evidence that lower federal courts follow Supreme Court decisions); Donald R. Songer, *The Impact of the Supreme Court on Trends in Economic Policy Making in the United States Courts of Appeals*, 49 J. POL. 830, 839 (1987) (finding that Supreme Court decisions in the labor and antitrust areas had significant impact on decisional trends in the courts).

mean to suggest that there is necessarily anything illegitimate about a judge's pursuit of policy goals. Legal doctrine can never be fully determinate and judges are often called upon to exercise judgment in deciding cases.⁹¹ In those areas where the law "runs out," judges' attention to the policy consequences of a decision is not only inevitable, but arguably quite appropriate.

Although the model assumes that judges act strategically in pursuing their policy goals, I avoid Cross and Tiller's whistleblower terminology because it suggests normative judgments about judicial motivation that are not empirically supported and are unnecessarily tendentious. A whistleblower brings attention to otherwise covert wrongdoing, and thus, Cross and Tiller suggest that politically motivated judges pursue their "partisan ambitions"⁹² by engaging in "manipulation or disregard of the applicable legal doctrine,"⁹³ and that the "minority member acts as a whistleblower, ready to expose any cheating by the majority."⁹⁴ This account implies that legal doctrine provides clearly correct outcomes such that departures from doctrine can be identified easily and that judges deliberately disregard the law. Neither assumption is justified,⁹⁵ nor is either necessary to a strategic theory of judicial decision making. Thus, I reject the whistleblowing story and ask instead whether judges act strategically in the sense that they are influenced by the broader institutional context and not solely by conditions internal to the panel deciding a particular case.

Also consistent with prior literature, I limit my focus to judicial votes. Of course, judges do much more than simply decide cases for plaintiffs or defendants. The reasons that they give to justify their decisions are critical, for it is the content of opinions rather than the simple declaration of a winner that shapes the development of the law. Particularly when studying panel effects, one risks missing a great deal by focusing only on votes. Panelists undoubtedly deliberate not only over which party should win, but for what reasons. They may bar-

of appeals); Songer & Sheehan, *supra* note 10, at 313 (finding nearly universal compliance in courts of appeals with two significant Supreme Court decisions).

⁹¹ See Kim, *supra* note 11, at 408-17 (discussing reasons that lower court judges inevitably have discretion when deciding cases).

⁹² Cross & Tiller, *supra* note 10, at 2175.

⁹³ *Id.* at 2156.

⁹⁴ *Id.* at 2175.

⁹⁵ Legal commands are often open-ended, requiring the exercise of discretion. Because of this open-endedness, a pattern of judicial votes correlating with political preferences does not necessarily indicate disregard of the law. See Kim, *supra* note 11, at 417.

gain over how broadly or narrowly a decision will be written, or how to frame the relevant doctrinal rule. Thus, a minority panelist who joins a majority opinion may have influenced the reasoning or reach of the opinion even though the simple outcome appears unaffected.

These more subtle forms of influence are difficult to detect and measure reliably, and, therefore, I focus here only on judicial votes. By studying *votes*, this empirical test captures only the clearest form of influence—that is, situations in which the expected direction of a judge’s vote changes.⁹⁶

Finally, for purposes of this empirical test, I adopt the common convention of defining panel alignments in terms of partisan affiliation. When all three judges on an appellate panel were appointed by a President of the same party, the panel is considered “unified” or “homogeneous,” even though the individual judges on that panel likely hold a range of views. Similarly, a “mixed panel” is one that includes judges appointed by both Republican and Democratic Presidents, and the majority or minority status of any given judge depends upon the identity of the other panel members. Thus, if a court of appeals judge appointed by President Clinton is sitting with two judges appointed by President George H.W. Bush, she is the “minority” judge on that case, while the two Bush appointees are the “majority” judges. That same Clinton appointee might sit in another case with a Carter appointee and a Reagan appointee, and, for purposes of that case, she is a “majority” judge. Unified panels (with three Democratic appointees or three Republican appointees) have neither “majority” nor “minority” judges.

With these caveats aside, I consider the empirical implications of a strategic model. Because such a model takes into account the broader institutional context, the preferences of the reviewing court should be an important factor in predicting when panel effects occur. Consider the position of a judge who is in the political minority on a panel.⁹⁷

⁹⁶ As Farhang and Wawro argue, looking only at changes in voting behavior thus constitutes “a very conservative test” of panel effects. Farhang & Wawro, *supra* note 12, at 313.

⁹⁷ In this analysis, I treat all judges sitting on a circuit court panel alike, regardless of their status. In fact, not all judges who sit on circuit court panels are active federal circuit court judges. Senior judges, appellate judges from other circuits, and district court judges sitting by designation may serve as one of the panelists, and it is possible that these judges interact with the other panelists differently because of their different status. Due to data limitations, I do not explore this possibility here, although other scholars have found that status difference may affect panel interactions. See James J. Brudney & Corey Ditslear, *Designated Diffidence: District Court Judges on the Courts of Ap-*

The other two judges are likely to vote in a manner inconsistent with her preferred outcome. She thus faces a choice: she can vote her sincere preference, which would entail writing a dissenting opinion, or she can go along with the majority opinion.

If she acts strategically, she will decide between these two courses of action by considering whether dissenting is likely to provoke further review and result in a final outcome closer to her preferences, or whether it will be a futile act that will not affect the ultimate resolution of the case. And whether or not a dissent is likely to produce a result more to her liking will in turn depend upon the preferences of the reviewing court.⁹⁸ The more closely aligned the preferences of the minority judge and the reviewing court, the more likely it is that the reviewing court will view her dissent as a signal that the majority decision should be reviewed, and the more likely that the minority judge will prefer the reviewing court's resolution of the case to that of the panel majority. In such a situation, the minority judge would have an enhanced incentive to dissent.

An analysis focused solely on the dissenting behavior of the minority judge is seriously incomplete, however, for if the strategic account is correct, then the *threat* of dissent may induce the panel majority to change its decision in some instances, thereby making actual dissent unnecessary. Consider, for example, a case in which two of the panel members are Democratic appointees and agree on a particular outcome, such as a decision in favor of a plaintiff in an employment discrimination case. The minority judge, a Republican appointee, expresses her disagreement with the proposed outcome, and indicates that she will file a dissent explaining why she believes the majority

peals, 35 LAW & SOC'Y REV. 565, 567 (2001) (reporting that district court judges sitting by designation perform differently than the circuit court judges with whom they sit); Paul M. Collins, Jr. & Wendy L. Martinek, The Small Group Context: Designated District Court Judges in the United States Courts of Appeals 21 (Apr. 22, 2008) (unpublished manuscript), available at <http://ssrn.com/abstract=1120957> (finding that district court judges sitting by designation are more deferential to their court of appeals colleagues in a subset of cases); cf. Ginsburg & Boynton, *supra* note 69, at 260 (reporting that a significant proportion of cases reheard en banc by the D.C. Circuit had been decided by a panel that included a visiting judge in the majority).

⁹⁸ I simplify here by focusing on the preferences of the reviewing court. In fact, whether or not a case is reviewed by the Supreme Court or reheard by the circuit en banc depends upon litigant choices regarding whether or not to seek further review, as well as the decisions of the reviewing court to hear a case or not. Empirical evidence exists, however, that these litigant choices are themselves influenced by the preferences of the circuit panel relative to the reviewing court. See Giles, Walker & Zorn, *supra* note 68, at 865; Songer, Segal & Cameron, *supra* note 22, at 693.

opinion to be wrong. If the majority judges perceive that the reviewing court is likely to agree with the minority judge, they might choose to modify their opinion, either moderating their reasoning sufficiently to entice the minority judge to join or changing the outcome altogether and deciding in favor of the employer in order to avoid a dissent and the increased risk that their decision will be reversed.⁹⁹ On the other hand, if the minority judge's preference is further from the reviewing court's than from the majority's, the minority judge is less likely to dissent, and, if she does so, her dissent is less likely to signal the need for review. Knowing this, the majority judges will be less likely to accommodate the minority judge or to moderate their own views. Thus, the strategic account predicts that *both* the decision of a minority judge to dissent and the willingness of the majority to accommodate the minority depend upon the preferences of the reviewing court.

Because strategic effects might be observed *either* when a minority judge chooses to dissent *or* when a majority judge changes his vote, it is important to capture both possibilities when empirically testing for panel effects.¹⁰⁰ At one extreme, if the threat of dissent were wholly effective, dissent rates by minority judges would be no higher under conditions in which they had an enhanced incentive to dissent than otherwise. Instead, one would observe only an increased willingness on the part of majority judges to decide cases in accordance with the

⁹⁹ Cross and Tiller argue, consistently with much of the positive political theory literature on the judicial hierarchy, that the fear of "exposure and possible reversal" may induce the majority to follow doctrine. Cross & Tiller, *supra* note 10, at 2159, 2173. Implicit in this argument is the suggestion that reversal by a higher court inflicts greater costs on the lower court judge than simply the loss of her preferred outcome. See, e.g., George & Yoon, *supra* note 24, at 822 (noting that lower court judges may perceive the costs of reversal as higher than a rational-actor model would predict because of their desire for promotion). If this were not the case, the rational policy-seeking judge would prefer a risk that her favored outcome will be overturned to the certainty that the case will be decided according to the reviewing court's preferences and not her own. There are reasons to be skeptical of this explanation. See Kim, *supra* note 11, at 402-04 (discussing empirical studies that fail to support the theory that fear of reversal motivates compliance by lower courts). However, it is also possible that a judge who otherwise anticipates reversal may prefer to accommodate the minority judge regarding the outcome—who wins—in order to retain some control over the rationale articulated in the case.

¹⁰⁰ In their test of a strategic model, Hettinger et al. focus only on the decision to dissent, and not on any change in the voting behavior of majority judges. See HETTINGER ET AL., COLLEGIAL COURT, *supra* note 21, at 47-48. Quite possibly, they found no evidence of strategic behavior because they examined only one aspect of the potential strategic interaction among appellate panelists.

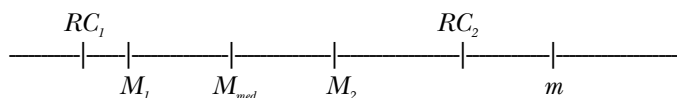
preferences of the minority judge in those situations. More realistically, if the strategic account is correct, minority judges will sometimes be encouraged to dissent and majority judges will sometimes be induced to moderate or modify their opinions when the conditions creating an enhanced incentive to dissent exist (i.e., the minority judge is more closely aligned with the reviewing court than with the panel majority). Thus, understanding panel effects requires an examination of the voting patterns of both the panel minority and majority.

In order to capture the behavior of both minority and majority judges on mixed panels, I do not analyze the ideological direction of a judge's vote (liberal or conservative) as in past studies, but whether a judge's vote is "counter-ideological." In focusing on counter-ideological votes, I do not mean to imply that judges' other votes are ideological in the sense of being driven or solely motivated by ideology. Rather, counter-ideological is simply a shorthand for identifying votes contrary to what a naïve ideological model would predict.

If judges simply voted ideologically, Democrat-appointed judges would always vote liberally and Republican-appointed judges always conservatively. They do not do so, of course, because many factors beyond policy goals or political preferences influence their decisions. At the same time, there is an observed correlation between partisan affiliation and voting, and that correlation is muted when Democrat- and Republican-appointed judges sit together. Panel effects, then, are simply the increased tendency for judges to vote counter-ideologically when sitting with judges affiliated with the other party. Examining the conditions under which appellate judges vote counter-ideologically thus offers a way to test whether the preferences of the reviewing court influence panel effects.

I use a traditional spatial model to identify the situations in which the minority judge is more closely aligned with the reviewing court than with the panel majority, and, therefore, would have an enhanced incentive to dissent according to the strategic account. Following conventions in the judicial-politics literature, I assume that judges have an "ideal point" that represents their preferred outcome in a given case in some ideological space usually characterized along a liberal/conservative dimension. Under a strategic model, judges vote in a manner that will maximize their preferences by producing an outcome as close as possible to their ideal point, taking into account the likely response of other actors in the system.

Consider a situation in which the preferences of the panel minority and majority members are arrayed as follows:

Figure 1: Relative Preferences of Judges on Appellate Panel

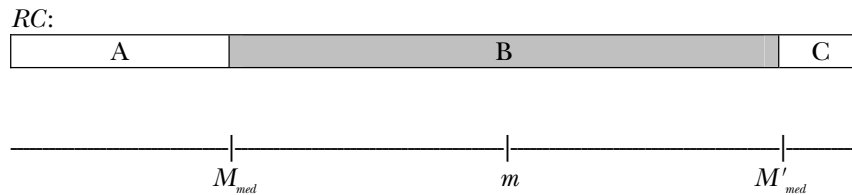
The two majority members (M_1 and M_2) will agree on an outcome at the median (M_{med}) of their respective preferences. The minority judge (m) faces a choice of dissenting from or joining the majority opinion.¹⁰¹ If she joins the majority opinion, the outcome represents a loss to the extent that the majority opinion at M_{med} departs from her preferred outcome at m . If she dissents, her dissent may serve as a signal, increasing the probability that the majority's decision will be reviewed, either by the Supreme Court or the circuit en banc. If the reviewing court's preferences fall at RC_1 , the minority judge will be *worse* off than if the majority opinion were never reviewed, given that RC_1 is more distant from m than M_{med} . On the other hand, if the reviewing court's preference falls at RC_2 , the minority judge will prefer the outcome reached by the reviewing court to that of the panel majority, and will have an enhanced incentive to dissent. Thus, according to the strategic account, the minority judge should be more likely to dissent when the reviewing court's preference is located at RC_2 than at RC_1 .

More generally, the minority judge should have an enhanced incentive to dissent whenever her preferences fall closer to the reviewing court's than to those of the panel majority. Knowing this, and seeking to avoid review and reversal, the panel majority should be more likely to accommodate the minority member under these circumstances as well.

¹⁰¹ In reality, the minority judge does not face such a simple binary choice, because there is always the possibility that she can bargain with the majority to try to achieve a decision that falls somewhere between M_{med} and m . Assuming that the majority and the minority disagree on which party should win—and not just on the rationale—the observable outcomes remain the same: either the minority judge dissents or she joins the majority. It may be the case that the minority judge joins the majority because they have moderated the reasoning in their opinion even though the outcome appears unchanged. It is also possible that the majority and minority judges never disagreed on the outcome, but only on the appropriate rationale, such that the minority judge must choose between joining the majority opinion or concurring separately. As discussed above, the focus here on judicial *votes* means that the empirical test will not detect these more subtle forms of panel influence, but will only capture the strongest form of interaction—a change in voting behavior. See *supra* note 96 and accompanying text.

Thus, if the strategic account is correct, the propensity of any given judge to vote counter-ideologically will be influenced not only by the preferences of the other two judges on a panel, but also by where the preference of the reviewing court falls in relation to the panel's preferences. The diagram below identifies graphically the situations in which the minority judge has an enhanced incentive to dissent (and the majority, a corresponding incentive to accommodate). If the preference of the reviewing court falls in the shaded area B, the minority judge's preference will be closer to the reviewing court's than to the panel majority's, and therefore the minority judge will prefer the reviewing court's chosen outcome to the majority's resolution of the case. This area is bounded by M_{med} (the median of the ideal points of the two majority judges) and M'_{med} (where the distance from m to M'_{med} is equal to the distance from M_{med} to m).

Figure 2: Relative Preferences of Reviewing Court Creating Enhanced Incentive for Minority Judge to Dissent



Expressed mathematically, the minority judge is more closely aligned with the reviewing court, and will therefore have an enhanced incentive to dissent, whenever

$$|RC - m| < |M_{med} - m|.$$

Combining panel composition and the relative preferences of the reviewing court produces five different voting conditions (depicted in Figure 3) that may influence appellate voting. Simple panel effects predict that majority judges on mixed panels (conditions 2 and 4) will be more likely to vote counter-ideologically than judges on unified panels (condition 1), and that minority judges on mixed panels (conditions 3 and 5) will be more likely to vote counter-ideologically than majority judges on mixed panels (conditions 2 and 4). Considering strategic effects suggests another set of predictions: When the minority judge is aligned with the reviewing court (condition 5), the minor-

ity judge will be *more* likely to vote her true preferences and dissent, and therefore *less* likely to vote counter-ideologically than when her preferences are not so aligned (condition 3). For a majority judge the reverse should be true. She will be *more* likely to vote counter-ideologically when the minority is aligned with the reviewing court (condition 4) in order to avoid the risk of review and reversal than otherwise (condition 2).

Figure 3: Voting Conditions for Judges on Three-Judge Panels

| | Unified Panel | Mixed Panel | |
|--|---------------|----------------|----------------|
| | | Majority Judge | Minority Judge |
| Minority judge and reviewing court <i>nonaligned</i> | 1 | 2 | 3 |
| Minority judge and reviewing court <i>are aligned</i> | | 4 | 5 |

Note: Cells illustrate five situations in which the incentives of a judge on a three-judge panel are hypothesized to vary.

C. Data and Empirical Analysis

In order to test the strategic account of panel effects, I use appellate voting data in employment discrimination cases alleging sex discrimination under Title VII of the Civil Rights Act of 1964.¹⁰² These

¹⁰² The data used here were originally collected by Sunstein and his colleagues, and formed the basis for their conclusions about ideological voting and panel effects in sex discrimination cases. See Sunstein et al., *Ideological Voting*, *supra* note 10, at 319-20 (concluding that there was ideological voting in sex discrimination cases). As they report, these data were collected by searching Lexis for “sex! discrimination or sex! harassment” for the time period from January 1, 1995, through December 31, 2002. *Id.* at 312 n.29. The search results were filtered to exclude cases that did not actually involve sex discrimination, *id.* at 311 n.20, resulting in a data set of 1007 cases. *Id.* at 312 n.29. This data set was then culled to include only those cases involving claims

data are analyzed to determine whether panel effects differ depending upon the preferences of the Supreme Court or the circuit as a whole. The data comprise 2361 judicial votes from 787 cases involving allegations of sex discrimination in employment—including sexual harassment cases—decided by three-judge panels of the federal courts of appeals from 1995 to 2002, inclusive. The data include a mix of cases decided by panels of different composition, as seen in Table 1.

As in most prior studies documenting panel effects, the data analyzed here are limited to published opinions.¹⁰³ One might justify such a limitation on the grounds that unpublished opinions are “simple and straightforward” and do not “involve difficult or complex issues of law.”¹⁰⁴ In fact, however, scholars have found that a significant percentage of unpublished opinions are substantively significant,¹⁰⁵ that ideological voting is observed in unpublished as well as published decisions,¹⁰⁶ and that a significant number of opinions reversing the lower court are never published.¹⁰⁷ Other work has shown that the criteria for publication and the level of specificity of those criteria vary

under Title VII of the Civil Rights Act of 1964 in order to control for the basis of suit, resulting in a data set of 787 cases, and information was added about the judges, including their Judicial Common Space (JCS) scores. The empirical analysis in this Article utilizes this revised data set, which was created by Boyd et al. and used by them to analyze the effect of judges’ sex on voting. See Boyd, Epstein & Martin, *supra* note 12.

¹⁰³ E.g., SUNSTEIN ET AL., ARE JUDGES POLITICAL?, *supra* note 10, at 18 (explaining the decision to limit the sample to published opinions); Farhang & Wawro, *supra* note 12, at 310-11 (describing the data set as one comprised of published opinions); Miles & Sunstein, *supra* note 12, at 825 (noting that the sample used consists of published decisions); Sunstein et al., *Ideological Voting*, *supra* note 10, at 313 (“Our sample is limited to published opinions.”).

¹⁰⁴ SUNSTEIN ET AL., ARE JUDGES POLITICAL?, *supra* note 10, at 18.

¹⁰⁵ See Pamela Foa, Comment, *A Snake in the Path of the Law: The Seventh Circuit’s Non-Publication Rule*, 39 U. PITT. L. REV. 309, 315-16 (1977) (finding unpublished decisions in the Seventh Circuit with potential precedential value).

¹⁰⁶ See, e.g., David S. Law, *Strategic Judicial Lawmaking: Ideology, Publication, and Asylum Law in the Ninth Circuit*, 73 U. CIN. L. REV. 817, 843 (2005) (finding that ideology significantly influenced the outcome of unpublished decisions); Deborah Jones Merritt & James J. Brudney, *Stalking Secret Law: What Predicts Publication in the United States Courts of Appeals*, 54 VAND. L. REV. 71, 109 (2001) (observing that Democratic judges vote differently than Republican judges in unpublished labor cases); Donald R. Songer, *Criteria for Publication of Opinions in the U.S. Courts of Appeals: Formal Rules Versus Empirical Reality*, 73 JUDICATURE 307, 312 (1990) (finding that panels with Democratic majorities were more likely to make liberal decisions than those with Republican majorities in unpublished decisions).

¹⁰⁷ See William L. Reynolds & William M. Richman, *An Evaluation of Limited Publication in the United States Courts of Appeals: The Price of Reform*, 48 U. CHI. L. REV. 573, 617-18 (1981) (noting that a portion of unpublished circuit court opinions reverse the decisions below).

widely from circuit to circuit and that publication rates differ significantly depending upon the circuit and the authoring judge.¹⁰⁸ Most relevant here, panel effects have been documented in unpublished as well as published cases.¹⁰⁹

Omitting unpublished opinions raises the concern that the decision whether or not to publish is itself subject to strategic calculation, and, therefore, that panel effects may differ between published and unpublished opinions.¹¹⁰ One might speculate, for example, that strategic judges seek “to publish decisions that they support on ideological grounds, and to leave unpublished cases in which they find themselves compelled to reach ideologically undesirable results.”¹¹¹ Because minority judges may threaten to dissent in order to engage the majority in bargaining, David Law hypothesizes that ideologically mixed panels might be less likely to publish than homogeneous panels.¹¹² However, in his study of Ninth Circuit decisions in asylum cases, he found no significant evidence that panel homogeneity affects the publication decision.¹¹³ Similarly, Merritt and Brudney concluded in an earlier study of labor law cases that no difference in publication rates existed between unified and mixed panels.¹¹⁴ Thus, although the omission of unpublished opinions is a limitation of this study and cautions against overgeneralizing its results, earlier work offers some reassurance that panel effects can be meaningfully studied using only published opinions.

For the reasons explained above, I use counter-ideological vote as a way of measuring panel effects. In order to test the influence of the reviewing court’s preferences on observed panel effects, I use a logit model with counter-ideological vote as the dependent variable. Counter-ideological vote is coded 1 if a judge voted in the opposite direction from that predicted by her party affiliation under a naïve voting model (e.g., a Democratic appointee votes conservatively) and 0 if she voted consistently with her party affiliation (e.g., a Republican appointee votes conservatively). Because all of the cases in the data set

¹⁰⁸ Law, *supra* note 106, at 823-24 and sources cited therein.

¹⁰⁹ *Id.* at 848.

¹¹⁰ Based on her experiences on the court of appeals, Judge Patricia Wald reports that judges on a panel may “occasionally compromise . . . on an unpublished, nonprecedential judgment/memorandum rather than a published opinion.” Wald, *supra* note 58, at 253-54.

¹¹¹ Law, *supra* note 106, at 838.

¹¹² *Id.* at 839.

¹¹³ *Id.* at 861-62.

¹¹⁴ Merritt & Brudney, *supra* note 106, at 97.

involve claims of sex discrimination, I assume that a vote in favor of the plaintiff is “liberal” and a vote in favor of the defendant is “conservative.” Dummy variables capture the five voting conditions illustrated in Figure 3. I omit the variable for unified panels and include dummy variables for each of the other four conditions of interest: a majority judge voting when the minority judge is not aligned with the reviewing court (condition 2); a majority judge voting when the minority judge is so aligned (condition 4); and a minority judge voting when not aligned (condition 3) and aligned (condition 5) with the reviewing court.

In order to capture the relative preferences of the judges as well as the reviewing court, I use Judicial Common Space scores (JCS scores).¹¹⁵ Rather than treating all judges affiliated with a given political party alike, JCS scores take into account the norm of senatorial courtesy, using information about an appointee’s home-state senators as well as the nominating President to assign scores.¹¹⁶ The result is a set of ideology scores for court of appeals judges that reflects differences in ideology between different Presidents of the same party and the Senate’s role in the judicial selection process. Preferences of the Supreme Court Justices are included by transforming the Martin-

¹¹⁵ JCS scores are intended to provide a “reliable and valid measurement strategy for placing judges of lower courts and justices of higher courts in the same policy space.” Lee Epstein, Andrew D. Martin, Jeffrey A. Segal & Chad Westerland, *The Judicial Common Space*, 23 J.L. ECON. & ORG. 303, 305 (2007) [hereinafter Epstein et al., *Judicial Common Space*]. The JCS scores build on the NOMINATE Common Space scores developed by Keith Poole to estimate ideology scores for Representatives, Senators, and Presidents in a two-dimensional issue space. See *id.* at 306 (explaining how NOMINATE Common Space scores are developed); see also HETTINGER ET AL., COLLEGIAL COURT, *supra* note 21, at 50-51 (describing how Poole’s ideology scores were used to estimate ideology scores for federal appellate judges); Keith T. Poole, *Recovering a Basic Space from a Set of Issue Scales*, 42 AM. J. POL. SCI. 954, 954 (1998).

¹¹⁶ Giles, Hettinger, and Peppers developed a method for estimating ideology scores for federal lower court judges that takes into account the norm of senatorial courtesy—that is, the tradition that “presidents consult with senators who share their partisan affiliation and who represent the state in which the vacancy has arisen.” HETTINGER ET AL., COLLEGIAL COURT, *supra* note 21, at 50. The basic strategy is to

assign each judge appointed to the circuit bench in the absence of senatorial courtesy the Poole ideology score corresponding to his or her appointing president. However, for those judges appointed when there was one home-state senator of the president’s party, Giles, Hettinger, and Peppers give those judges the Poole ideology score corresponding to that home-state senator. When both home-state senators were of the president’s party, the corresponding ideology score for the judge is equal to the average Poole score of the two senators.

Id. at 50-51.

Quinn scores,¹¹⁷ which estimate the ideal points of Supreme Court Justices based on judicial votes, onto the Common Space scale.¹¹⁸ Thus, JCS scores provide estimates of the ideology scores or ideal points of all federal court of appeals judges and U.S. Supreme Court Justices on a common scale.

Consistent with prior literature, I use the party of the appointing President to determine whether a panel is “unified” or “mixed” and, on a mixed panel, to identify the majority and minority judges. Once the majority or minority status of judges on mixed panels has been determined, the JCS scores are then used to calculate the distance between the preferences of the minority judge and the panel majority (defined as the midpoint between the JCS scores of the two majority members) and the distance between the preferences of the minority judge and the reviewing court. Those distances are then used to determine whether the preferences of the minority judge are more closely aligned with the reviewing court than with the panel majority (conditions 4 and 5), or whether they are not so aligned (conditions 2 and 3).¹¹⁹

Because the reviewing court might appropriately be viewed as either the Supreme Court or the circuit en banc, I test for the effects of each in separate estimations. The Supreme Court’s preference is set at the JCS score of the median Justice. The preferences of circuit courts en banc are measured by the JCS score of the median judge on that circuit.

Both gender and party serve as important control variables. Plaintiffs lose more often than they win in employment discrimination cases,¹²⁰ and therefore Democratic appointees may appear to vote counter-ideologically more often than Republican judges when they are merely voting consistently with the overall trend in these cases. Because I want to isolate the effects of panel composition on counter-ideological voting, the judge’s party affiliation must be taken into account. The gender of the judge is also potentially significant, given

¹¹⁷ See Andrew D. Martin & Kevin M. Quinn, *Dynamic Ideal Point Estimation via Markov Chain Monte Carlo for the U.S. Supreme Court, 1953–1999*, 10 POL. ANALYSIS 134, 135 (2002).

¹¹⁸ See Epstein et al., *supra* note 115, at 310 fig.1.

¹¹⁹ Recall that, in this model, a minority judge is “aligned” with the reviewing court, and therefore has an enhanced incentive to dissent, whenever $|RC - m| < |M_{med} - m|$.

¹²⁰ See generally Kevin M. Clermont, Theodore Eisenberg & Stewart J. Schwab, *How Employment-Discrimination Plaintiffs Fare in the Federal Courts of Appeals*, 7 EMP. RTS. & EMP. POL’Y J. 547 (2003) (reporting evidence that defendants win the majority of employment discrimination cases in federal court).

that the data set consists of sex discrimination cases. A number of studies have found that female court of appeals judges are more likely to vote in favor of plaintiffs in sex discrimination suits.¹²¹ Because the dependent variable here is counter-ideological vote, however, the effect of gender will depend upon party affiliation. Democratic female judges may be *less* likely to vote counter-ideologically, all else equal, given that a counter-ideological vote will favor the defendant in a sex discrimination case. Conversely, Republican female judges may be *more* likely to vote counter-ideologically, all else equal, given that a counter-ideological vote for them will favor the plaintiff. In order to take these effects into account, I include dummy variables to capture the gender and party affiliation of the judge.

Prior literature also suggests the importance of controlling for the direction of the decision below. It is well documented that courts of appeals are far more likely to affirm than reverse the decisions of district court judges.¹²² If a counter-ideological vote requires reversing a lower court, one might expect that it will be less likely to occur than if the counter-ideological vote involves an affirmance. I control for this affirmance effect by including a variable to capture whether the appellate judge would be required to reverse the decision below in order to vote counter-ideologically (coded 1 when the lower court decision was conservative and the judge is Republican or when the lower court decision was liberal and the judge is Democratic, and coded 0 otherwise).

¹²¹ See, e.g., Sue Davis, Susan Haire & Donald R. Songer, *Voting Behavior and Gender on the U.S. Courts of Appeals*, 77 JUDICATURE 129, 131 (1993) (finding that “[m]ore than 63% of the votes cast by women judges supported the plaintiff’s claim of [employment] discrimination,” in contrast to 46% of the votes by male judges); Farhang & Wawro, *supra* note 12, at 319 (determining that female judges are more likely than male judges to vote for the plaintiff in an employment discrimination suit); Peresie, *supra* note 12, at 1776 (finding that “being female increased the probability that a judge found for the plaintiff . . . by 65% . . . in sex discrimination cases”); Boyd, Epstein & Martin, *supra* note 12, at 19 (“On average, the probability of female judges voting in favor of the plaintiff in a sex discrimination case is between 0.10 and 0.12 higher than it is for male judges . . .”); Nancy Crowe, *The Effects of Judges’ Sex and Race on Judicial Decisionmaking on the U.S. Courts of Appeals, 1981–1996*, at xii (1999) (unpublished manuscript, on file with author) (finding that female judges are more likely than male judges to vote in favor of plaintiffs in sex discrimination cases). *But see* Sarah Westergren, *Gender Effects in the Courts of Appeals Revisited: The Data Since 1994*, 92 GEO. L.J. 689, 704-05 (2004) (finding statistically insignificant differences in male and female judges’ votes in sex discrimination cases when controlling for race, party, and sex of the plaintiff).

¹²² See Chris Guthrie & Tracey E. George, *The Futility of Appeal: Disciplinary Insights into the “Affirmance Effect” on the United States Courts of Appeals*, 32 FLA. ST. U. L. REV. 357, 358 (2005) (reporting that federal courts of appeals affirmed 90% of the cases decided in recent decades).

In addition, a variable was added for ideological extremity on the theory that judges with ideal points farther from the center are more likely to be ideological in the colloquial sense of rigidly pursuing their policy goals and being less willing to compromise with their copanelists and vote in a counter-ideological direction. JCS scores range from -1 to 1, and, therefore, I measure ideological extremity as the absolute value of a judge's JCS score. In other words, the more distant the judge's score from zero, whether in a positive or negative direction, the more ideologically extreme she is assumed to be.

Table 3 briefly summarizes the variables used in the model and provides summary statistics of the data.

**Table 3: Model Variables and Basic Descriptive Statistics
for Votes of Federal Court of Appeals Judges in
Sex Discrimination Cases, 1995–2002**

| Variable | Number of Observations (% of total sample) |
|--|---|
| Counter-Ideological Vote | 932 (39.5%) |
| Condition 1: Vote on Unified Panel | 702 (29.7%) |
| Condition 2: Majority Judge Vote when Minority Judge and Circuit Nonaligned | 176 (7.4%) |
| Condition 3: Minority Judge Vote when Minority Judge and Circuit Nonaligned | 88 (3.7%) |
| Condition 4: Majority Judge Vote when Minority Judge and Circuit Aligned | 930 (39.4%) |
| Condition 5: Minority Judge Vote when Minority Judge and Circuit Aligned | 465 (19.7%) |
| Condition 2: Majority Judge Vote when Minority Judge and Supreme Court Nonaligned | 60 (2.5%) |

| Variable | Number of Observations (% of total sample) |
|--|--|
| Condition 3: Minority Judge Vote when Minority Judge and Supreme Court Nonaligned | 30 (1.3%) |
| Condition 4: Majority Judge Vote when Minority Judge and Supreme Court Aligned | 1046 (44.3%) |
| Condition 5: Minority Judge Vote when Minority Judge and Supreme Court Aligned | 523 (22.2%) |
| Republican Male | 1356 (57.4%) |
| Republican Female | 109 (4.62%) |
| Democratic Male | 671 (28.4%) |
| Democratic Female | 225 (9.5%) |
| Reversal Required for Counter-Ideological Vote | 1314 (55.6%) |
| Ideological Extremity | VALUES: Min = 0.003 Mean = 0.326 Max = 0.791 |

Prior studies of panel effects have included a variable to capture circuit fixed effects.¹²³ This is important for models that use “ideological direction of vote” as the dependent variable, because circuits vary considerably in their liberal or conservative orientation, and, therefore, the baseline propensity to vote in a liberal or conservative direction differs significantly. When using counter-ideological votes as the dependent variable, however, the theoretical case for including circuit fixed effects is much less certain. One might hypothesize that circuit cultures vary in terms of the emphasis placed on consensus, but the impact of these differences on counter-ideological voting is somewhat ambiguous, given that either the minority or majority judges might accommodate the opposing viewpoint. If it is true that circuit culture varies in this way, then the behavior of judges in each of the

¹²³ See, e.g., SUNSTEIN ET AL., ARE JUDGES POLITICAL?, *supra* note 10, app.; Farhang & Wawro, *supra* note 12, at 315; Sunstein et al., *Ideological Voting*, *supra* note 10, app.

relevant voting conditions depicted in Figure 1 might differ depending upon the circuit. In other words, the theoretical argument for controlling for circuit would require that the model include not only circuit fixed effects, but also variables to capture the interaction between circuit and each of the different voting conditions, rendering the model unmanageably large. Thus, the results and discussion here rely on models that exclude circuit fixed effects. In the Appendix, I report the results when simple circuit fixed effects are included in the model. The basic substantive results are quite similar.

III. RESULTS

A. *The Supreme Court as Reviewing Court*

Table 4 presents the results of the logistic regression for counter-ideological votes, treating the Supreme Court as the reviewing court.¹²⁴ Examining the control variables reveals that only the variable for reversal is statistically significant. As predicted, whether a vote will entail reversing the lower court has a strong impact, significantly reducing the likelihood of a counter-ideological vote. The control variables for judges' gender, party affiliation, and ideological extremity are not statistically significant.

Table 4: Logistic Regression Model of Counter-Ideological Votes with Supreme Court as Reviewing Court

| | Coefficient | Robust Standard Error | P> z |
|---|-------------|--------------------------|-------|
| Condition 1: Vote on Unified Panel (omitted base- line variable) | – | – | – |
| Condition 2: Majority Judge Vote when Minority Judge and Supreme Court Nonaligned | 1.216* | 0.405 | 0.003 |

¹²⁴ Each observation in the data analyzed here consists of an individual judge vote in a case. Because these votes were cast with judges sitting in panels of three, an assumption that each observation is independent is not warranted. In order to account for the possibility that some votes are correlated, I calculated robust standard errors clustered on each case.

| | Coefficient | Robust Standard Error | P> z |
|---|--------------------|----------------------------------|-----------------|
| Condition 4: Majority Judge Vote when Minority Judge and Supreme Court Aligned | 0.700* | 0.177 | 0.000 |
| Condition 3: Minority Judge Vote when Minority Judge and Supreme Court Nonaligned | 0.822* | 0.412 | 0.046 |
| Condition 5: Minority Judge Vote when Minority Judge and Supreme Court Aligned | 1.171* | 0.184 | 0.000 |
| Republican Male (omitted baseline variable) | – | – | – |
| Republican Female | 0.236 | 0.230 | 0.303 |
| Democratic Female | -0.312 | 0.204 | 0.126 |
| Democratic Male | -0.124 | 0.175 | 0.480 |
| Ideological Extremity | -0.359 | 0.320 | 0.261 |
| Reversal Required | -1.234* | 0.164 | 0.000 |
| Constant | -0.237 | 0.215 | 0.270 |

Note: Asterisk indicates significance at 95% level.

Number of observations = 2361

Proportional reduction in error = 18.99%

Log pseudolikelihood = -1441.1935

Bayesian information criterion = 2960.055

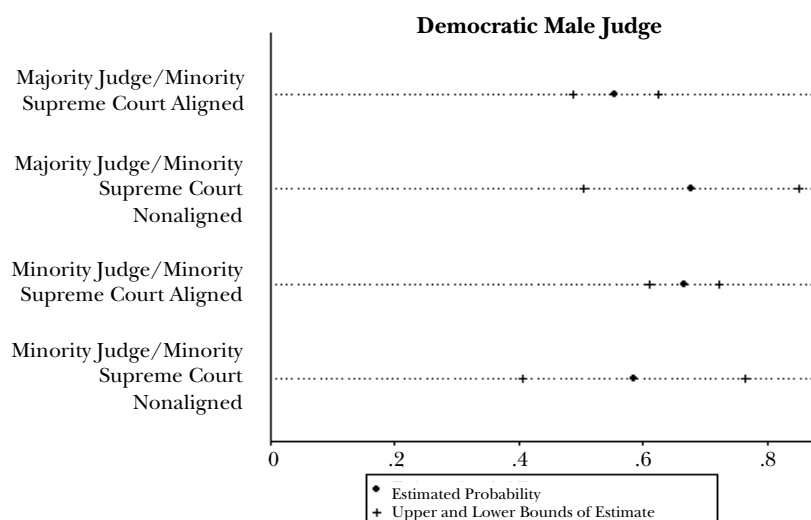
Pseudo R2 = 0.0901

The statistics reported for the various voting conditions are relatively uninteresting in this form. The fact that the coefficients for conditions 2 through 5 are all positive and statistically significant indicates that judges sitting on mixed panels are more likely to vote counter-ideologically than judges on unified panels, merely confirming that panel effects occur.

The important questions for testing the strategic account are whether a majority judge on a mixed panel votes differently depend-

ing upon the alignment of preferences between the minority member and the Supreme Court (conditions 2 and 4) and whether a minority judge votes differently depending upon her alignment or lack thereof with the Supreme Court (conditions 3 and 5). These questions can be answered by using the logistic regression to generate predictions about how a given judge will vote under a variety of hypothesized conditions.

Figure 4: Estimated Probability of Counter-Ideological Vote



Differences between estimated probabilities in aligned and nonaligned conditions are not statistically significant

Note: Estimated probabilities for Democratic male judge, using a logistic regression model of counter-ideological votes with the Supreme Court as reviewing court.

Figure 4 graphically illustrates the predicted probability of a counter-ideological vote (along with the degree of uncertainty for each prediction) under each of the conditions of interest. Because predicted probabilities can only be generated by specifying values for each of the variables in the model, Figure 4 reports the expected voting behavior of a Democratic male judge. When probabilities are generated for other judge party and gender combinations, the same results obtain.¹²⁵ Com-

¹²⁵ See *infra* Appendix, Figure A-1.

paring the first two rows of Figure 4 reveals that the expected vote of a majority judge does not differ significantly depending on whether the minority judge's preference is aligned with the Supreme Court's or not. Similarly, the last two rows show no statistically significant difference in the voting patterns of minority judges in the aligned and non-aligned conditions. Thus, although the strategic account predicts that appellate judges vote with an eye toward a possible response by the Supreme Court, I find no empirical evidence that panel effects, as measured by counter-ideological voting, are conditioned on the preferences of the Supreme Court.

B. *The Circuit En Banc as Reviewing Court*

Table 5 presents the results of the logistic regression when the circuit en banc is considered the reviewing court, rather than the Supreme Court.¹²⁶ As in the first model, the variable capturing whether a reversal of the lower court would be required is highly significant. All other control variables—ideological extremity and gender and party variables—are not statistically significant.¹²⁷ Similar to the first model, the dummy variables for the various voting conditions have positive coefficients and are generally statistically significant, indicating that voting on mixed panels is more likely to be counter-ideological than on homogeneous panels, consistent with observed panel effects.

Table 5: Logistic Regression Model of Counter-Ideological Votes with Circuit En Banc as Reviewing Court

| | Coefficient | Robust Standard Error | P> z |
|---|-------------|--------------------------|------|
| Condition 1: | – | – | – |
| Vote for Unified Panel (omitted baseline variable) | | | |

¹²⁶ As explained *supra* note 124, I calculate and report robust standard errors clustered by case because the three votes of the appellate panel sitting in a case are not independent.

¹²⁷ The variables for Democratic female judge and ideological extremity are negatively signed as expected (Democratic female judges are expected to be reluctant to vote against sex discrimination plaintiffs and more ideological judges are expected to be less likely to vote counter-ideologically), but neither is significant at the 95% level. None of the other demographic control variables come close to statistical significance.

| | Coefficient | Robust Standard Error | P> z |
|--|-------------|--------------------------|-------|
| Condition 2: Majority Judge Vote when Minority Judge and Circuit Nonaligned | 0.332 | 0.269 | 0.217 |
| Condition 4: Majority Judge Vote when Minority Judge and Circuit Aligned | 0.821* | 0.181 | 0.000 |
| Condition 3: Minority Judge Vote when Minority Judge and Circuit Nonaligned | 1.632* | 0.282 | 0.000 |
| Condition 5: Minority Judge Vote when Minority Judge and Circuit Aligned | 1.107* | 0.186 | 0.000 |
| Republican Male (omitted baseline variable) | - | - | - |
| Republican Female | 0.256 | 0.230 | 0.265 |
| Democratic Female | -0.389 | 0.206 | 0.059 |
| Democratic Male | -0.196 | 0.178 | 0.272 |
| Ideological Extremity | -0.611 | 0.323 | 0.058 |
| Reversal Required | -1.253* | 0.165 | 0.000 |
| Constant | -0.133 | 0.215 | 0.534 |

Note: Asterisk indicates significance at 95% level.

Number of observations = 2361

Proportional reduction in error = 19.53%

Log pseudolikelihood = -1437.4986

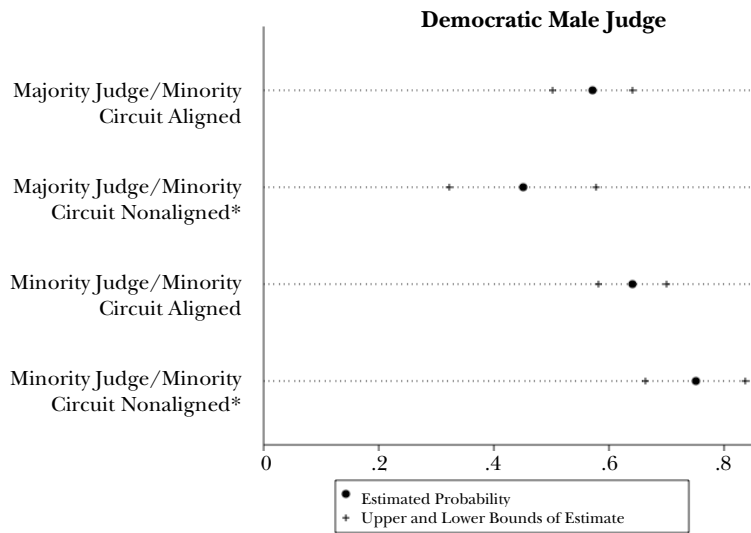
Bayesian information criterion = 2952.666

Pseudo R2 = 0.0924

Once again, however, the real question of interest is whether judges vote differently depending upon the alignment of preferences between the minority member and the circuit as a whole. I again use the logistic regression model to compare the estimated probabilities of a counter-ideological vote under different conditions. In order to generate the predicted probabilities, I first consider the likely votes of a Democratic male judge. Figure 5 compares the probability of a

counter-ideological vote by such a judge sitting in the majority when the minority and the full circuit are not aligned and aligned (conditions 2 and 4), and the probability of a counter-ideological vote by the judge sitting in the minority, when his preferences and those of the full circuit are not aligned and aligned (conditions 3 and 5).

Figure 5: Estimated Probability of Counter-Ideological Vote



*Difference between aligned and nonaligned conditions statistically significant at 95% level

Note: Estimated probabilities for Democratic male judge, using a logistic regression model of counter-ideological votes with the circuit en banc as reviewing court.

This analysis reveals appellate voting behavior quite different from that observed when the Supreme Court was treated as the reviewing court. Consider the first two rows of Figure 5. If the judge is a member of the panel majority and the minority judge is not aligned with the circuit ideologically, he has a predicted probability of 45.1% of voting counter-ideologically. However, when the minority panel member is more closely aligned with the circuit as a whole than with the panel majority, the probability of a counter-ideological vote by that same judge is predicted to *increase* to 57.2%. This difference in

predicted probabilities is statistically significant at the 95% level.¹²⁸ Consistent with the predictions of the strategic account, it offers evidence that majority judges are more likely to bend to the views of the minority when the minority judge is more closely aligned with the circuit en banc.

Examining the last two rows of Figure 5 reveals that the likelihood of the minority panel member voting counter-ideologically is also influenced by the preferences of the circuit en banc, but in the opposite direction. If the judge's views are not aligned with the circuit as a whole, he is predicted to vote counter-ideologically 75.1% of the time, whereas if his views are so aligned, his predicted probability of voting counter-ideologically *decreases* to 64.1%. This difference is again statistically significant at the 95% level. And once again, the observed probabilities are consistent with the strategic account. When the minority judge's preferences are aligned with those of the circuit as a whole, he is less likely to go along with the majority (and vote counter-ideologically) and more likely to stand his ground. Perhaps he must dissent in order to do so, or perhaps he is able to convince one or both of the majority judges to join him. In either case, he is more likely to vote as predicted under a naïve ideological model and less likely to vote counter-ideologically than when he is not aligned with the circuit.

For all combinations of gender and party of the judge, the probability of a counter-ideological vote changes under different voting conditions in the direction predicted by the strategic account, and in most cases the change is statistically significant.¹²⁹ Considering all judge gender-party combinations together, the results strongly suggest

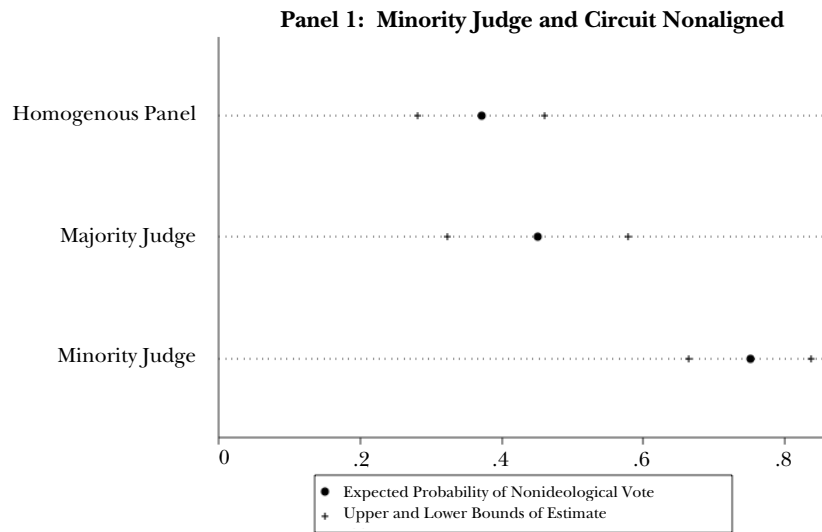
¹²⁸ Overlapping confidence intervals do not necessarily mean that the difference between estimated probabilities is not statistically significant. See Lee Epstein, Andrew D. Martin & Matthew M. Schneider, *On the Effective Communication of the Results of Empirical Studies, Part I*, 59 VAND. L. REV. 1811, 1815 n.12 (2006); see also Peter C. Austin & Janet E. Hux, Statistical Comment, *A Brief Note on Overlapping Confidence Intervals*, 36 J. VASCULAR SURGERY 194, 194-95 (2002). For each pair of conditions of interest, I calculated the difference between the expected probabilities and uncertainty surrounding that estimate to determine whether the difference between the two estimated quantities is statistically significant at the 95% level.

¹²⁹ See *infra* Appendix, Figure A-2. Because the predicted probabilities can only be generated by specifying values for all of the variables, including the gender and party affiliation of the judge, the results presented are necessarily fine-grained. However, one should be cautious about overinterpreting these results—for example, assuming that Republican male judges are less strategic than Democratic male judges because the difference in predicted probabilities for conditions 2 and 4 for a Republican male judge is not statistically significant at the 95% level. If a slightly more relaxed test is used, the difference in counter-ideological voting for a Republican male judge between conditions 2 and 4 would be considered statistically significant.

that counter-ideological votes—what we observe as panel effects—are conditional on the preferences of the circuit court as a whole.

The results of the logistic regression can also be used to estimate changes in the probabilities of a counter-ideological vote by a judge under different voting circumstances, while holding constant the alignment between the minority judge and the full circuit. In the first panel of Figure 6, the preferences of the minority judge and the circuit are not aligned. The point estimates illustrate how the behavior of a judge changes depending on whether the judge is in the majority or in the minority, using his vote on a unified panel for a baseline comparison.¹³⁰ Although Figure 6 depicts graphically the results for a Democratic male judge, the same substantive results obtain for all other judge gender and party combinations.

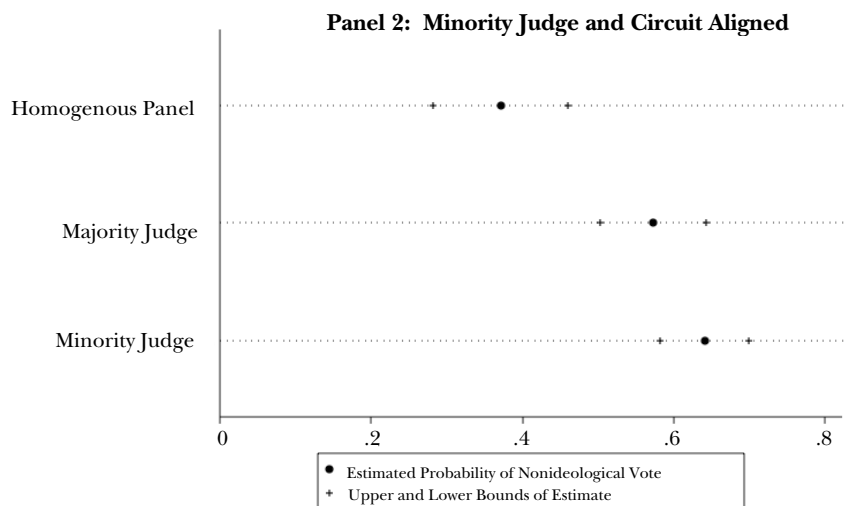
Figure 6: Estimated Probability of Counter-Ideological Vote in Different Voting Circumstances



Values graphed for Democratic male judge only

Difference between majority and minority judge is significant at 95% level

¹³⁰ Figure 6 graphs the expected probabilities for Democratic male judges. The basic substantive results for other gender-party combinations are identical to those in Figure 6.



Values graphed for Democratic male judge only

Difference between homogenous panel and majority judge is significant at 95% level

As the Figure illustrates, there is no statistically significant difference in the level of counter-ideological voting between a judge sitting on a homogeneous panel and the same judge sitting in the majority on a mixed panel when the minority judge is not aligned with the circuit. There is, however, a difference—both statistically and substantively significant—between the voting patterns of a judge sitting as part of the majority and a judge sitting as the minority when the minority judge is not aligned with the circuit. In other words, under the nonalignment condition, the tendency to vote counter-ideologically turns on whether a judge is in the majority or the minority, a simple consequence of dissent suppression. The presence of one panelist appointed by a President of the opposing party does not appear to significantly affect the likelihood that the majority judge will vote counter-ideologically compared with his votes on a homogeneous panel.

As the second panel of Figure 6 illustrates, the situation is the opposite when the minority judge is aligned with the circuit as a whole. Under that condition, the probability of a counter-ideological vote increases significantly, both statistically and substantively, when a judge is seated with just one opposing-party appointee compared with his vote on a homogeneous panel. The likelihood of a counter-ideological vote does not differ significantly, however, between a majority judge and minority judge when the minority judge is aligned with the circuit. Together, the two panels of Figure 6 suggest that observed panel effects involve two separate effects. The moderation of a majority

judge's vote in the presence of one opposing-party appointee compared with his vote on a unified panel appears to be driven by the alignment between the preferences of the minority judge and the circuit, while the difference between the voting patterns of majority and minority panelists appears to be the result of simple dissent suppression.

IV. DISCUSSION AND IMPLICATIONS

A. *The Role of the Supreme Court and the Circuit En Banc*

The empirical test described here offers no evidence that panel effects are sensitive to the preferences of the Supreme Court. Specifically, I find no support for the theory that minority judges are more likely to vote in an ideological direction in situations in which they could expect that their dissent would serve as a signal encouraging the Supreme Court to review a case. Nor do I find evidence that majority judges respond to such a situation by acceding more readily to the arguments of the minority and voting counter-ideologically. These findings contradict Cross and Tiller's whistleblowing theory to the extent that it posits that the presence of a minority judge who will "blow the whistle" induces the panel majority to obey Supreme Court doctrine.¹³¹ More generally, the results call into question the theory that strategic behavior vis-à-vis the Supreme Court explains panel effects.

In addition, this study raises questions for traditional principal-agent models of the judicial hierarchy.¹³² These models typically assume that the Supreme Court's reversal power is crucial for ensuring lower court compliance with doctrine. In order to explain how the Supreme Court can exercise effective control given that it currently reviews less than 1% of court of appeals decisions, theorists have suggested that various mechanisms, such as signaling mechanisms, enhance the Court's control.¹³³ The results of this study undermine the plausibility of at least one of those theorized mechanisms—that the risk of dissent by a minority panel member will induce compliance by appellate judges without the necessity of actual Supreme Court review.

¹³¹ Cross & Tiller, *supra* note 10, at 2159.

¹³² See *supra* notes 60-63 and accompanying text.

¹³³ See, e.g., Cross & Tiller, *supra* note 10, at 2159 (theorizing that the possibility that a minority member of a panel may dissent will induce judges to comply with doctrine); Songer, Segal & Cameron, *supra* note 22, at 675 (hypothesizing that losing litigants are more likely to appeal when precedent is not followed, thereby signaling the need for Supreme Court review).

While dissent may serve as a useful signal to the Supreme Court when deciding which cases to hear, the increased possibility of review in the presence of a potential dissenter does not appear to influence the panel voting behavior of court of appeals judges.

On the other hand, these results should not be misunderstood to suggest that court of appeals judges do not follow Supreme Court doctrine. Numerous studies have found that the decisions of the Supreme Court have an impact on lower court decision making,¹³⁴ and the results here are not inconsistent with those findings. Circuit judges do not vote according to a naïve ideological model, and the large degree of overlap in voting behavior between judges affiliated with opposite parties indicates that factors other than ideology—in all likelihood legal doctrine—influence their decisions. However, even though the preferences of the Supreme Court Justices shape appellate decision making through the precedent that they establish, those preferences do not appear to influence panel effects. The observed tendency of appellate judges to be influenced by their panel colleagues does not depend on the risk that a dissent will provoke review and reversal.

In contrast to the results of the Supreme Court model, this study provides strong evidence that the preferences of the full circuit influence panel effects.¹³⁵ Bargaining and compromise on the part of majority judges is more likely to occur when the panel minority is aligned with the circuit as a whole. Moreover, a minority judge is more likely to stand her ground and refuse to go along with the majority's preferences when she is more closely aligned with the circuit than with the majority. These results are precisely those that are predicted by a strategic account of panel decision making. Strategic judges are hypothesized to anticipate the actions of the circuit en banc. When the minority is aligned with the circuit, the minority judge perceives that she would be better off, and the majority judges perceive that they would be worse off, if the circuit were to hear the case en banc, and therefore the panel judges adjust their voting behavior accordingly.

Comparing the results of the two models raises the question why panel effects appear to be influenced by the circuit's preferences, but not by the Supreme Court's. Rehearing en banc and Supreme Court

¹³⁴ See *supra* note 90.

¹³⁵ Similarly, Cross found that case outcomes appear to be influenced by current circuit court preferences, even though current Supreme Court preferences did not have such an effect. See CROSS, *supra* note 12, at 122.

review are both extremely unlikely events. The chance of either occurrence in any given court of appeals case is less than 1%. Thus, the simple statistical risk of reversal cannot explain the difference in influence.¹³⁶ A more likely explanation is that the relationship of the circuit judge to the circuit as a whole is quite different from her relationship to the Supreme Court. The individual appellate judge interacts with other judges on the same circuit on a regular basis—on other panel sittings, in the context of administrative functions, and even casually in the halls of the courthouse.¹³⁷ By contrast, she is far less likely to interact directly with Supreme Court Justices, and may perceive them only as a remote presence whose primary communications are the written opinions that they issue. Because of the routine, ongoing interactions among judges within a circuit, the views of their immediate colleagues will be far more salient for panel members when they deliberate than the preferences of the Supreme Court.¹³⁸

The possibility of an en banc rehearing is also likely to be more salient than the risk of Supreme Court review because the costs of the former will be felt immediately by the appellate judge. When a case is reheard en banc, the three judges who constituted the original panel must rehear the case with their other circuit colleagues, consuming more of their time and effort. Rehearing en banc is also costly for the circuit as a whole. Ginsburg and Falk estimate that a case reheard en banc by the D.C. Circuit “consumes as much of the court’s resources as five or six cases heard by a panel” because every judge on the circuit needs to spend time reading the briefs, familiarizing themselves with the facts and relevant law, rehearing oral argument, and deliberating about the outcome.¹³⁹

On a larger court, where an en banc rehearing will involve more judges, the costs will be even higher. Importantly, these costs are very

¹³⁶ Of course, the statistical risk of review cannot be taken as a direct measure of the level of control exercised by the reviewing court. *See supra* note 71. Arguably, however, the capacities of the Supreme Court and the circuits en banc to review significantly more panel decisions are similarly constrained.

¹³⁷ All of the judges in a circuit do not necessarily have their chambers in the same building; nevertheless, because of rotating panel assignments, they will at times be in the same place physically, even if they are not sitting together during a particular court session.

¹³⁸ This explanation is consistent with the findings of Giles et al. that “while . . . ideological heterogeneity plays an important part in determining the frequency of en banc hearings in a circuit, . . . its effects are tempered by a consciousness of the preferences and likely behaviors of the other members of the circuit.” Giles, Walker & Zorn, *supra* note 71, at 461.

¹³⁹ Ginsburg & Falk, *supra* note 4, at 1020.

visible to appellate judges, for they will be borne by the panel members themselves, as well as their close colleagues, and these costs are incurred whether the panel decision is ultimately reversed or affirmed. By contrast, review by the Supreme Court is only costly if the panel decision is reversed; an affirmation by the Supreme Court is more likely viewed as a benefit. And while a reversal by the Supreme Court may impose a policy or reputational loss on the panelists, it will likely require them to do little more than reverse or vacate their prior decision and remand to the district court for further proceedings.

The fact that circuit preferences, but not Supreme Court preferences, appear to influence panel interactions suggests that circuit judges feel particularly responsible to the circuit of which they are a part. Scholars have argued that appellate judges are “representatives of the circuit,”¹⁴⁰ and that panel decisions are expected to emulate the results that would be reached by the full circuit.¹⁴¹ Similarly, Ginsburg and Falk argue that appellate courts “function[] best when each member feels responsible to each of the others, and responsible for the performance of the whole.”¹⁴² Such a situation “works to increase collegiality on the court.”¹⁴³ Thus, to the extent that appellate judges conceive of their role as that of agents acting on behalf of the full circuit, their ability to influence one another during panel deliberations is likely to depend upon how the panel members perceive the preferences of the circuit as a whole.

B. *Internal Panel Dynamics*

Although the results of this study are entirely consistent with a strategic account of panel effects—at least vis-à-vis the circuit en banc—they do not conclusively establish that strategic behavior *explains* panel effects. More specifically, they do not establish the precise mechanism by which circuit preferences influence panel effects. Certainly, dissent-suppression theories remain relevant to explain why minority judges are more likely to vote counter-ideologically than majority judges in general, but the results here are consistent with some alternative explanations of panel effects as well.

¹⁴⁰ Solimine, *supra* note 4, at 49.

¹⁴¹ See Kornhauser & Sager, *supra* note 5, at 89 (finding evidence that Justices' votes are influenced by the quality of oral argument).

¹⁴² Ginsburg & Falk, *supra* note 4, at 1013.

¹⁴³ *Id.*

Strategic theories suggest that any observed changes in voting patterns reflect judges' calculations about how the full circuit might respond to the panel decision. Thus, while deliberating about a case, a judge might say to her panel colleagues, "If you insist on resolving the case that way, I am going to dissent. You know that my dissent will make it more likely that the circuit will hear this case en banc, and if it does, it will likely decide in a manner that I prefer (and you do not)." This sort of reasoning may not be voiced explicitly, but strategic theories argue that it lies behind the decision making of the panel members.

It is also possible, however, that judges neither speak nor even reason internally in such an explicitly strategic manner. They may instead be influenced by the views of their panel colleagues in other ways that are better explained in psychological or social terms. For example, the process of panel deliberation may actually alter judges' perceptions and sincere views of a case. By studying only votes, there is no way of knowing whether a shift in voting behavior represents a strategic calculation or a genuine change in belief. Nevertheless, judges have reported that deliberation with colleagues may change their views,¹⁴⁴ and several empirical studies suggest that judges' preferences sometimes shift, either in response to the parties' arguments or over time.¹⁴⁵

One possible theory, proposed by Sunstein et al., is that well-established psychological phenomena like conformity effects and group polarization explain how internal panel deliberations shift judges' preferences.¹⁴⁶ These psychological theories are difficult to verify empirically because they emphasize processes that are internal to individual judges and cannot be observed directly.¹⁴⁷ Of even

¹⁴⁴ See, e.g., Edwards, *supra* note 3, at 1660 (explaining that the give and take of collegial deliberation may shift a judge's initial view of a case).

¹⁴⁵ See, e.g., Lee Epstein, Andrew D. Martin, Kevin M. Quinn & Jeffrey A. Segal, *Ideological Drift Among Supreme Court Justices: Who, When, and How Important?*, 101 NW. U. L. REV. 1483, 1504 (2007) (documenting "ideological drift" by a majority of Justices who have served on the Supreme Court for ten or more terms since 1937); Timothy R. Johnson, Paul J. Wahlbeck & James F. Spriggs, II, *The Influence of Oral Arguments on the U.S. Supreme Court*, 100 AM. POL. SCI. REV. 99, 103-04 (2006) (finding evidence that the Justices' votes are influenced by the quality of oral argument); Theodore W. Ruger, *Justice Harry Blackmun and the Phenomenon of Judicial Preference Change*, 70 MO. L. REV. 1209 (2005) (arguing that preferences and voting behaviors of Justices may evolve significantly over the course of their careers).

¹⁴⁶ SUNSTEIN ET AL., *ARE JUDGES POLITICAL?*, *supra* note 10, at 67-76.

¹⁴⁷ For example, the theory that judges "go to extremes" after deliberating with like-minded colleagues cannot be tested without some way of measuring individual judges' preferences *prior* to their deliberation on a unified panel. *Id.* at 72. Sunstein

greater concern, these theories extend conclusions drawn from behavior in experimental settings to the quite different circumstances under which judges decide cases, raising serious doubts about their generality.¹⁴⁸ In particular, certain aspects of judicial decision making—notably interpreting and applying the law—are quite different in nature from tasks such as making judgments about facts that have been the focus of experimental-psychology research. As Schauer argues, it is “a mistake to draw conclusions about how judges perform a range of judge-specific tasks from what we have found about how lay people perform quite different tasks.”¹⁴⁹ Even if such conclusions can be appropriately extrapolated to judges, psychological phenomena like conformity effects and group polarization would operate in the same way

and his colleagues take as evidence of group polarization the fact that judges' votes on unified panels differ from those on mixed panels. For example, a Democratic appointee sitting with two other Democratic appointees will vote liberally a significantly greater percentage of the time than when sitting with one Democratic appointee and one Republican appointee. But without knowing the baseline preferences of judges *prior* to deliberation (or even better, prior to the assignment of panels), it is impossible to know what effect interaction with colleagues has on a judge's views. It might be the case that a judge's vote on a unified panel reflects her “true” preferences and that sitting with judges of the other party leads to moderation of those views. In other words, compromising, rather than going to extremes, may explain the observed difference in voting patterns on unified and mixed panels. Without a baseline measure of judges' “true” preferences, these two accounts simply cannot be disentangled.

¹⁴⁸ The “group polarization” phenomenon, for example, has been documented in groups of “like-minded” subjects and is hypothesized to occur because groups of like-minded people have access to a limited pool of arguments, individuals wish to be viewed favorably by other group members, and corroboration strengthens individual views. *Id.* at 73-76. Appellate judges, however, typically decide cases in very small groups of three, with colleagues who share their professional training and institutional interests, and are subject to a set of institutional and cultural norms regarding appropriate methods for making decisions. The argument pool available to them includes not only the views of the three panel members, but also those presented by the litigants in briefs and oral arguments and the opinions of other judges in similar cases. In addition, judges express their views in a particularly public way, and, thus, to the extent that they wish to be viewed favorably, that concern likely extends not just to their two copanelists, but also to the litigants in the case, their lawyers, other lawyers and judges, and potentially a broader public. These differences from experimental conditions raise questions as to whether, and to what extent, decision making by judges will resemble that observed in the experimental setting. Guthrie, Rachlinski, and Wistrich have collected experimental evidence suggesting that while judges are subject to the same cognitive biases as everyone else, they are able to overcome those biases in certain contexts. See Chris Guthrie, Jeffrey J. Rachlinski & Andrew J. Wistrich, *Blinking on the Bench: How Judges Decide Cases*, 93 CORNELL L. REV. 1, 27-29 (2007).

¹⁴⁹ Frederick Schauer, *Is There a Psychology of Judging?*, in THE PSYCHOLOGY OF JUDICIAL DECISION MAKING (David E. Klein & Gregory Mitchell eds., forthcoming 2009) (manuscript at 4), available at <http://ssrn.com/abstract=1015143>.

regardless of the preferences of the full circuit, and thus they offer no explanation for the empirical findings here.

Alternative psychological theories may offer a better account of why panel effects are observed and how they are influenced by circuit preferences. Chris Guthrie, Jeffrey Rachlinski, and Andrew Wistrich propose an “intuitive-override” model of judging based on findings that people engage in two modes of decision making: intuitive and deliberative.¹⁵⁰ Intuitive processes are automatic, quick, and not cognitively demanding.¹⁵¹ By contrast, deliberative processes are slower and require effort and concentration.¹⁵² Although intuitive judgments are often accurate, the heuristics and mental shortcuts that underlie them can have a biasing effect, leading to systematic error. Guthrie et al. offer experimental evidence that district court judges are in fact prone to intuitive decision making, but are also capable of deliberative decision making under certain conditions.¹⁵³ A similar mechanism might underlie decision making by appellate court judges. More specifically, court of appeals judges might initially rely on intuitive judgments—quick decisions that tend to align with their policy preferences—but those judgments may yield if subjected to more deliberative processes. The presence of a judge with a different ideological orientation might induce such a deliberative process on the part of the majority judges, whereas the judges’ initial (intuitive) judgments may go unexamined on a unified panel.¹⁵⁴

This intuitive-override model suggests an alternative account that explains why judges on mixed panels decide cases less ideologically than do judges on unified panels, but why would these effects depend upon circuit preferences? The answer likely lies in the nature of the deliberative process. If a minority judge induces the majority to reex-

¹⁵⁰ Guthrie, Rachlinski & Wistrich, *supra* note 148, at 6-9.

¹⁵¹ *Id.* at 7 and sources cited therein.

¹⁵² *Id.* at 7, 8 & tbl.1.

¹⁵³ *Id.* at 27-29.

¹⁵⁴ Although Cross and Tiller primarily describe their whistleblower theory in strategic terms, they acknowledge another possibility—that appellate judges do not deliberately disregard the law, but that “cognitive shortcuts” may lead to “apparently political results.” If this is the case, “the minority judge can serve as a whistleblower by revealing these biasing cognitive shortcuts.” Cross & Tiller, *supra* note 10, at 2174. Sunstein et al. similarly characterize any whistleblower effect in psychological rather than strategic terms. See, e.g., SUNSTEIN ET AL., ARE JUDGES POLITICAL?, *supra* note 10, at 79 (“[T]he whistleblower can draw her colleagues’ attention to legally relevant arguments that, while not necessarily decisive, deserve careful consideration and sometimes make a difference to the outcome.”).

amine its initial conclusion, she probably does so by discussing precedent and making legal arguments. And it may be the case that a minority judge will be most successful in convincing the panel majority to change its views when her own views are more closely aligned with the circuit's than with the majority's. Because the views of the circuit are likely embodied in the law of the circuit, the minority judge will have more powerful legal arguments when she is aligned with the full circuit. In other words, minority judges will be most persuasive—and panel effects most apparent—when circuit law is on their side.

Without more evidence, it is difficult to disentangle which of these mechanisms actually explains why panel effects occur. This study cannot resolve that question; however, it strongly suggests that, whatever the mechanism, panel effects are sensitive to the circuit environment. In short, when appellate judges deliberate on panels of three, they do not do so in a vacuum, but are influenced by the circuit of which they are a part.

CONCLUSION

Scholars have increasingly come to recognize that judges do not simple-mindedly pursue their preferences. Rather, they are strategic actors influenced not only by their policy goals, but also by the institutional context in which they operate. One of the most important insights regarding decision making by federal court of appeals judges is the recognition that panel composition matters. Appellate judges are influenced not only by their own preferences, but also by those of their colleagues with whom they hear cases. Identifying panel effects as a critical component of appellate decision making has raised further questions about when and why these effects occur.

Understanding why panel effects occur is crucial to answering questions about policy and institutional design. If panel effects tend to moderate the influence of ideology, should they be encouraged? And if so, what institutional changes might increase this moderating effect? Based on their whistleblower theory, Frank Cross and Emerson Tiller propose a rule that every appellate panel be composed of at least one judge from each political party so that the judge in the ideological minority can draw the attention of the Supreme Court to any "disobedience" of the law.¹⁵⁵ But is such a rule wise policy if their the-

¹⁵⁵ Emerson H. Tiller & Frank B. Cross, Colloquy, *A Modest Proposal for Improving American Justice*, 99 COLUM. L. REV. 215, 228-29 (1999).

ory of panel effects is wrong? Others have argued for reforms such as increasing the number of appellate judgeships or splitting the Ninth Circuit. Judging the wisdom of these changes, however, requires an understanding of how appellate judges interact—both within the three-judge panel and across the circuit as a whole.

This Article offers a first step toward better understanding panel effects. The analysis conducted here does not support the theory that panel effects are caused by strategic behavior aimed at inducing or avoiding Supreme Court review. On the other hand, the findings strongly suggest that panel effects are influenced by circuit preferences. Both minority and majority judges on ideologically mixed panels differ in their willingness to vote counter-ideologically, depending upon how the circuit as a whole is aligned relative to the panel members. These results are consistent with the theory that circuit judges behave strategically with an eye to circuit en banc review. It is also possible, however, that court of appeals judges are responding to their circuit environment more generally, or to circuit doctrine more specifically, rather than acting directly out of fear of an en banc reversal.

A great deal more empirical work remains to be done to understand panel effects fully. The data examined here include only Title VII sex discrimination cases, even though panel effects have been documented in a broad variety of issue areas. Empirical analysis of the causes of panel effects should be extended to other areas of law to determine whether similar patterns are observed, as well as to unpublished opinions in which the causes of panel effects may differ. In addition, more work needs to be done to disentangle the different motivational accounts of panel effects. Looking beyond votes and examining the impact of panel composition on reasoning as well will further enhance understanding of how interactions among colleagues affect judicial decision making. In the end, it is likely that panel effects, like judicial decision making more generally, can only be understood by taking account of a variety of factors—strategic, ideological, psychological, and legal.

APPENDIX

**Table A-1: Logistic Regression Model of Counter-Ideological Votes
with Supreme Court as Reviewing Court,
Including Circuit Fixed Effects**

| | Coefficient | Robust Standard Error | P > z |
|---|-------------|--------------------------|--------|
| Condition 2: Majority Judge Vote when Minority Judge and Supreme Court Nonaligned | 1.149* | 0.402 | 0.004 |
| Condition 4: Majority Judge Vote when Minority Judge and Supreme Court Aligned | 0.751* | 0.175 | 0.000 |
| Condition 3: Minority Judge Vote when Minority Judge and Supreme Court Nonaligned | 0.707 | 0.439 | 0.107 |
| Condition 5: Minority Judge Vote when Minority Judge and Supreme Court Aligned | 1.218* | 0.185 | 0.000 |
| Republican Female | 0.215 | 0.225 | 0.340 |
| Democratic Female | -0.300 | 0.212 | 0.156 |
| Democratic Male | -0.072 | 0.179 | 0.687 |
| Ideological Extremity | -0.316 | 0.332 | 0.341 |
| Reversal Required | -1.263* | 0.165 | 0.000 |
| 2d Circuit | -0.543 | 0.287 | 0.058 |
| 3d Circuit | -0.248 | 0.251 | 0.323 |
| 4th Circuit | -0.116 | 0.264 | 0.661 |
| 5th Circuit | 0.689 | 0.374 | 0.065 |
| 6th Circuit | -0.315 | 0.287 | 0.273 |

| | Coefficient | Robust Standard Error | P > z |
|---------------------|-------------|-----------------------|--------|
| 7th Circuit | -0.225 | 0.270 | 0.406 |
| 8th Circuit | 0.012 | 0.321 | 0.970 |
| 9th Circuit | -0.022 | 0.250 | 0.929 |
| 10th Circuit | -0.195 | 0.253 | 0.442 |
| 11th Circuit | -0.517 | 0.281 | 0.066 |
| D.C. Circuit | -0.170 | 0.336 | 0.612 |
| Constant | -0.131 | 0.307 | 0.669 |

Note: Asterisk indicates significance at 95% level.

Number of observations = 2361

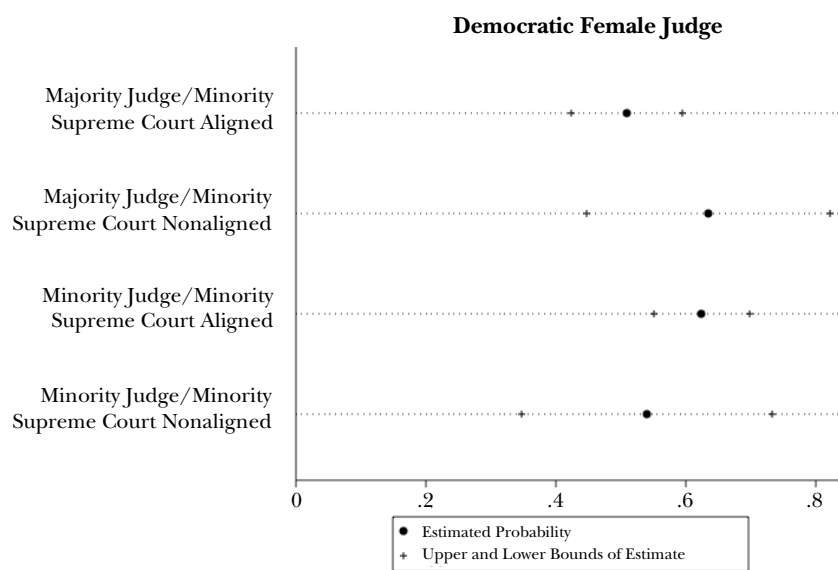
Proportional reduction in error = 20.1%

Log pseudolikelihood = -1426.6807

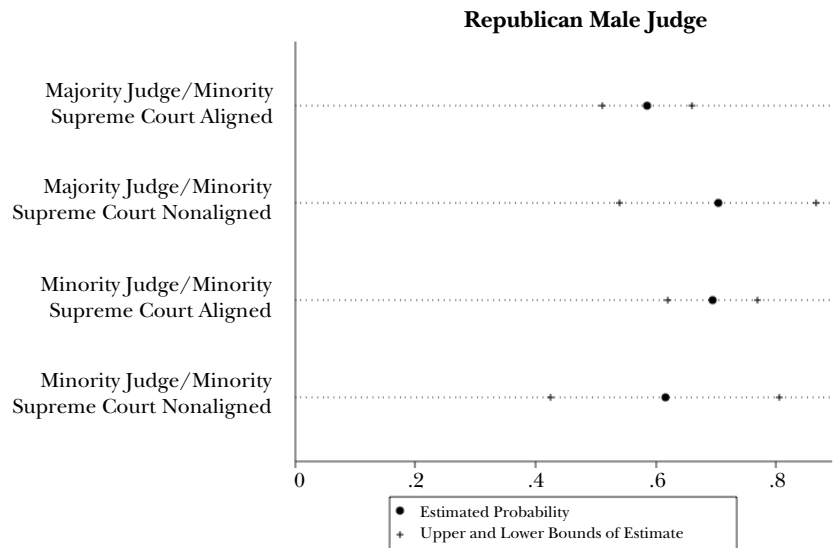
Bayesian information criterion = 3016.465

Pseudo R2 = 0.0992

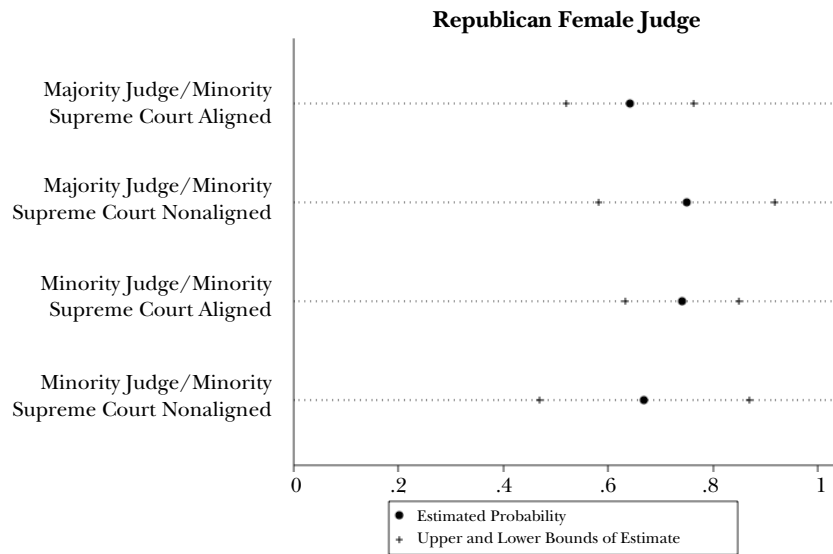
Figure A-1: Estimated Probability of Counter-Ideological Vote



Differences between estimated probabilities in aligned and nonaligned conditions are not statistically significant



Differences between estimated probabilities in aligned and nonaligned conditions are not statistically significant



Differences between estimated probabilities in aligned and nonaligned conditions are not statistically significant

Note: Estimated probabilities for Democratic female, Republican male, and Republican female judges, using a logistic regression model of counter-ideological votes with the Supreme Court as reviewing court.

Table A-2: Logistic Regression Model of Counter-Ideological Votes
with Circuit En Banc as Reviewing Court,
Including Circuit Fixed Effects

| | Coefficient | Robust Standard Error | P > z |
|--|-------------|--------------------------|--------|
| Condition 2: Majority Judge Vote when Minority Judge and Circuit Nonaligned | 0.344 | 0.269 | 0.202 |
| Condition 4: Majority Judge Vote when Minority Judge and Circuit Aligned | 0.875* | 0.180 | 0.000 |
| Condition 3: Minority Judge Vote when Minority Judge and Circuit Nonaligned | 1.621* | 0.287 | 0.000 |
| Condition 5: Minority Judge Vote when Minority Judge and Circuit Aligned | 1.157* | 0.187 | 0.000 |
| Republican Female | 0.236 | 0.227 | 0.299 |
| Democratic Female | -0.376 | 0.213 | 0.077 |
| Democratic Male | -0.145 | 0.182 | 0.425 |
| Ideological Extremity | -0.574 | 0.336 | 0.087 |
| Reversal Required | -1.285* | 0.166 | 0.000 |
| 2d Circuit | -0.572* | 0.285 | 0.045 |
| 3d Circuit | -0.288 | 0.249 | 0.249 |
| 4th Circuit | -0.127 | 0.263 | 0.629 |
| 5th Circuit | 0.647 | 0.373 | 0.083 |
| 6th Circuit | -0.330 | 0.286 | 0.250 |
| 7th Circuit | -0.244 | 0.267 | 0.362 |
| 8th Circuit | 0.005 | 0.320 | 0.987 |
| 9th Circuit | -0.029 | 0.248 | 0.906 |
| 10th Circuit | -0.236 | 0.251 | 0.348 |

| | Coefficient | Robust Standard Error | P > z |
|---------------------|-------------|-----------------------|--------|
| 11th Circuit | -0.544 | 0.278 | 0.051 |
| D.C. Circuit | -0.155 | 0.334 | 0.644 |
| Constant | -0.006 | 0.306 | 0.985 |

Note: Asterisk indicates significance at 95% level.

Number of observations = 2361

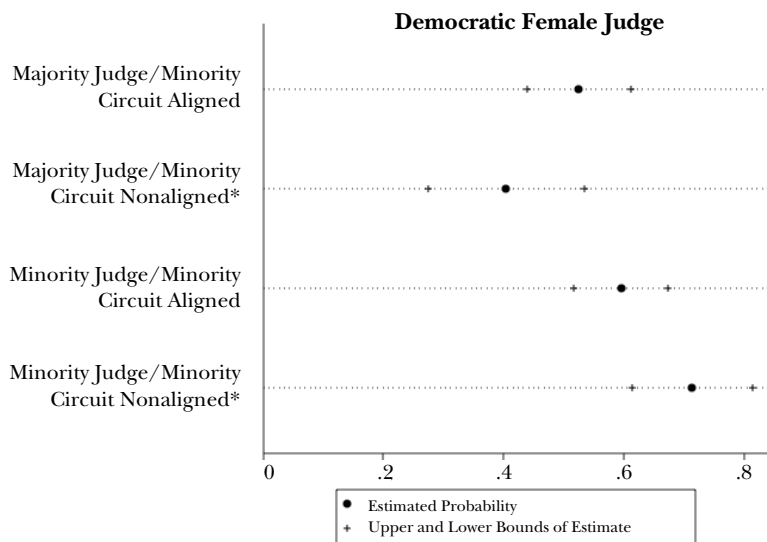
Proportional reduction in error = 21.3%

Log pseudolikelihood = -1422.6359

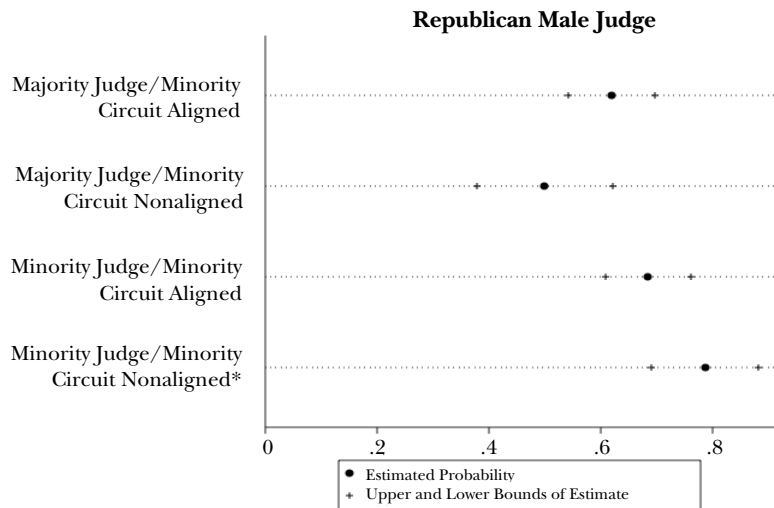
Bayesian information criterion = 3008.376

Pseudo R2 = 0.1018

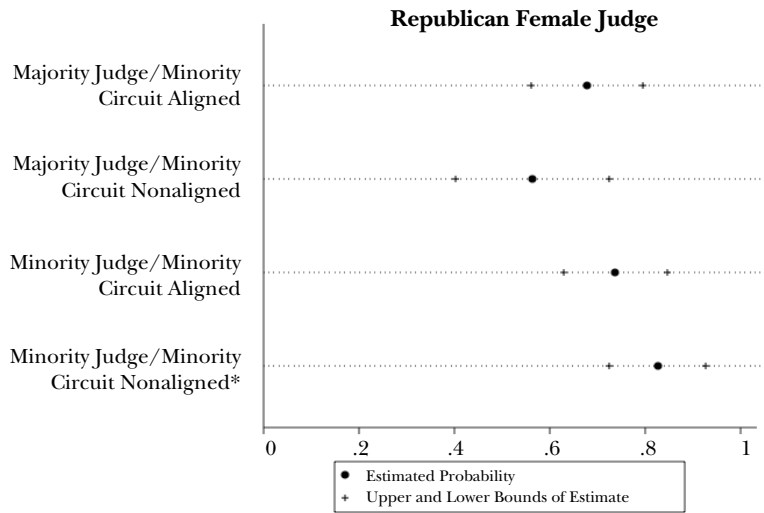
Figure A-2: Estimated Probability of Counter-Ideological Vote



*Difference between aligned and nonaligned conditions statistically significant at 95% level



*Difference between aligned and nonaligned conditions statistically significant at 95% level



*Difference between aligned and nonaligned conditions statistically significant at 95% level

Note: Estimated probabilities for Democratic female, Republican male, and Republican female judges, using a logistic regression model of counter-ideological votes with the circuit en banc as reviewing court.