

WHY (AND WHEN) JUDGES DISSENT:

A THEORETICAL AND EMPIRICAL ANALYSIS

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ABSTRACT

This paper develops and tests a model of self-interested judicial behavior to explore the phenomenon of judicial dissents, and in particular what we call “dissent aversion,” which sometimes causes a judge not to dissent even when he disagrees with the majority opinion. We examine dissent aversion using data from both the federal courts of appeals and the U.S. Supreme Court. Our empirical findings are consistent with the predictions of the model. In the court of appeals, the frequency of dissents is negatively related to the caseload and positively related to ideological diversity among judges in the circuit and circuit size (i.e., the fewer the judges, the greater the collegiality costs of dissenting and therefore, other things being equal, the fewer dissents). We also find that dissents increase the length of majority opinions (imposing collegiality costs by making the majority work harder) and are rarely cited either inside or outside the circuit (reducing the value of dissenting to dissenters). In the Supreme Court, we find that the dissent rate is negatively related to the caseload and positively related to ideological differences, that majority opinions are longer when there is a dissent, and that dissents are rarely cited in either the courts of appeals or the Supreme Court.

1. INTRODUCTION

Following earlier work analyzing judicial behavior from an economic (rational-choice) standpoint,² we test a model of self-interested judicial

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2 For example, see Richard A. Posner (2008, 35–39), Posner (1993), Gordon Foxall (2005), and Richard S. Higgins & Paul H. Rubin (1980).

behavior. We assume, plausibly in the case of federal judges, who enjoy life tenure (and our empirical analysis is limited to such judges), that judges have leisure preference or, equivalently, effort aversion, which they trade off against their desire to have a good reputation and to express their legal and policy beliefs and preferences (and by doing so perhaps influence law and policy) by their vote, and by the judicial opinion explaining their vote, in the cases they hear. We use this model to explore the phenomenon of judicial dissents, and in particular what we call “dissent aversion,”³ which sometimes causes a judge not to dissent even when he disagrees with the majority opinion.

2 We examine dissent aversion in both the federal courts of appeals and the U.S. Supreme Court, using it for example to explain the well-documented panel-composition effect on judicial decisions in the U.S. courts of appeals (e.g. Sunstein et al. 2006; Hettinger, Lindquist & Martinek 2006; Cross 2007; Cross & Tiller 1998). We show that the effect, though typically attributed to the power of judges with extreme conservative or liberal views to influence more moderate judges to vote with them, can be explained in terms of self-interested behavior that is independent of the influence of other judges.

3 A dissent in the court of appeals increases the length of the majority opinion by about 20 percent, which we treat as a rough measure of the cost that a dissent imposes on the majority. Dissents are rarely cited either inside or outside the circuit.⁴ (Citations are a proxy for influence and therefore of a benefit of dissenting.) A dissent increases the likelihood (though it remains very small) that the Supreme Court will grant certiorari in the case—a potentially major benefit from a dissent. We use regression analysis to test the hypothesis that the frequency of dissents in a circuit is negatively related to the circuit’s caseload (which influences the opportunity cost of dissenting), and positively related to the number of judges (the

3 Posner (2008, 31–34) introduced the term and presented a brief, informal model.

4 The court of appeals data on word length and citations come from a random sample of 1025 published opinions (about 30 per circuit excluding the federal circuit) in the 1989–1991 period. The sample includes 80 dissenting opinions (less than 8 percent). We selected the 1989–1991 period so that we could obtain a nearly complete history of citations to each majority and dissenting opinion, since nearly all citations to an opinion occur within 20 years after it is decided. Our data come from the U.S. Court of Appeals Database compiled by Donald R. Songer and updated by Ashlyn K. Kuersten and Susan B. Haire. We excluded 58 opinions because of coding errors in the Songer database (see Appendix B in William M. Landes & Richard A. Posner (2009)), and 7 en banc decisions.

greater the number, the lower the collegial cost of dissenting) and ideological differences among judges in the circuit, which increases the likelihood of disagreement among judges on a panel, though, because of dissent aversion, disagreement does not automatically generate a dissent. We also explore the impact on dissenting of the division of the Fifth circuit into two circuits, the Fifth and the Eleventh, in 1981.

We study a sample of all Supreme Court opinions in the 1963, 1980, and 1990 terms—chosen so that we would have opinions in three different chief justiceships, those of Warren, Burger, and Rehnquist. There were dissenting opinions in 62 percent of the cases in our sample.⁵ We find that majority opinions are longer when there is a dissent and that dissents are rarely cited in either the courts of appeals or the Supreme Court.⁶ The first finding supports the hypothesis that dissents impose costs on nondissenting judges (and therefore impose collegiality costs on the dissenter), and the second that it yields minimal benefits (as proxied by number of citations) to a dissenter. We also use regression analysis to estimate the impact of changes in the Supreme Court's caseload and ideological differences among the Justices on the frequency of dissenting and concurring opinions. We find support for the hypothesis that the dissent rate is negatively related to caseload and positively related to ideological differences.

2. AN ECONOMIC MODEL OF DISSENT AVERSION

2.1. The Cost of Dissenting

Judges are assigned majority opinions to write and must do so in order to remain in good standing, but there is no requirement of dissenting. Since writing a dissenting opinion requires effort, which is a cost, a judge will not dissent unless he anticipates a benefit from dissenting that offsets his cost. An obvious benefit is to undermine the influence of the majority opinion, with which by assumption he disagrees, although possible offsets are that a dissent will draw attention to the majority opinion and may magnify the opinion's significance by exaggerating its potential scope in order to emphasize the harm that it will do.

5 We excluded from our sample 5 cases decided by an equally divided vote and 11 cases in which there was no majority opinion.

6 Frank B. Cross (2007, 174), using a different dataset, also finds that majority opinions in cases in which there is a dissent are longer than majority opinions when there is no dissent.

6 Dissenting imposes an effort cost on the majority as well and sometimes a reputation cost too, if the dissenting opinion criticizes the majority forcefully. To minimize the dissenter's criticisms and retain the vote of the other judge in the majority (in a panel of three judges, the normal number of judges who decide a case in the federal courts of appeals), the author of the majority opinion often will revise his opinion to meet, whether explicitly or implicitly, the points made by the dissent. The effort involved in these revisions, and the resentment at criticism by the dissenting judge, may impose a collegiality cost on the dissenting judge by making it more difficult for him to persuade judges to join his majority opinions in future cases (Seitz 1991). This assumes that judges do not consider such costs as bygones to be ignored in future interactions with the dissenter. By withholding or reducing collegiality in the future, the judges in the majority punish the dissenter, which may deter him from dissenting in some future case. We predict that dissents will be less frequent in circuits that have fewer judges because any two of its judges will sit together more frequently and thus have a greater incentive to invest in collegiality (Lindquist 2007).

7 The effort cost of writing a dissent will tend to be greater the heavier the court's caseload;⁷ likewise the ill will generated by a dissent. We therefore expect that other things being equal, dissents will be less frequent the heavier a court's caseload. The Supreme Court's caseload is lighter than that of the courts of appeals, and its workload is lighter as well, even taking account of the greater importance of the Court's cases and the fact that the Court has a heavy burden of screening cases to decide which ones to hear. On average a Supreme Court Justice writes only 8 to 10 majority opinions a year, compared to a mean of 54 for a court of appeals judge.⁸

2.2. The Benefits of Dissenting

8 We assume that the benefit of dissenting derives from the influence of the dissenting opinion and the enhanced reputation of the judge who writes the dissent. We proxy this benefit by the number of citations to the dissenting opinion. If dissenting opinions are rarely cited, this suggests that the

7 Virginia A. Hettinger, Stephanie A. Lindquist, & Wendy L. Martinek (2006, 61) advance a similar hypothesis.

8 See Federal Court Management Statistics for 2008, available at www.uscourts.gov/cgi-bin/cmsa2008.pl. Fifty-four is the mean number of signed opinions for judges active during 2008.

benefits from dissenting are small. Another possible benefit from dissenting in a court of appeals is that the Supreme Court is more likely to grant certiorari in a case in which there is a dissent (Caldeira, Wright, & Zorn 1999; Black & Owens 2009). The added benefit is likely to be small, however, because the Supreme Court grants certiorari in only a tiny fraction of cases.

Our focus on influence obscures the fact that some judges can be expected to exhibit dissent preference rather than dissent aversion. There is a self-expressive character to a judicial opinion as well as its instrumental effect in resolving the case at hand and influencing the course of the law. A judge who derives great utility from expressing his views may, especially if he finds himself on a court in which his views are shared by few of the other judges, derive a benefit from frequent dissenting that exceeds the cost he incurs in effort and in loss of collegiality.

The benefits of dissenting are affected by caseload. The heavier a court's caseload, the less likely it is to reexamine its precedents, because a decision in accordance with precedent reduces the effort cost of judicial decision making, and also reduces the size of the caseload by making the law more predictable. The less likely the court is to reexamine its precedents, the less of an effect a dissenting opinion is likely to have, since the majority opinion will be a precedent and therefore unlikely to be reexamined.

The Supreme Court's lighter caseload should make the Court more willing to reexamine precedents, and this should increase the benefit to Supreme Court Justices of dissenting. The lighter caseload also reduces the opportunity cost of dissenting in the Supreme Court, especially since, despite the lighter load, the Justices have more support staff: the ratio of law clerks to Justices is higher than the ratio of law clerks to court of appeals judges. And because precedents are inherently less authoritative in the Supreme Court than in lower courts—owing to the political nature of so many of the Court's cases and the fact that no higher court can discipline the Supreme Court's decision making—the Justices are likely to chafe at having to follow precedents created by their predecessors. (Justice Thomas has made clear that he does not follow precedent.) Along similar lines, in many Supreme Court cases the orthodox legal materials are unlikely to determine the outcome, so judges fall back on ideology or other nonlegalistic decision drivers, and there is more divergence among judges in such drivers than there is in narrowly legal reasoning. Finally, since dissents are positively related to disagreement, and there is more

room for disagreement in a court of nine judges than in one of three (most court of appeals decisions are decided by a panel of three), we expect more dissents the more judges who hear a case; this is an important point that we develop formally in subpart 2.7 below.

12 On the other hand, one might expect the collegiality costs of dissenting to be greater in the Supreme Court than in any circuit because the Justices sit with each other in every case, whereas court of appeals judges, especially in the larger circuits, sit with a given colleague rather infrequently. One might think that the very high rate of dissents in the Supreme Court would make life unbearable, driving up dissent aversion. In fact, studies of the Supreme Court identify periods in which the Justices have very poor relations with each other (the 1940s for example, and the Burger Court years in the 1970s and 1980s until Burger's retirement), and other times in which they have good relations, such as at present, and these fluctuations in collegiality do not appear to be related to the frequency of dissents.

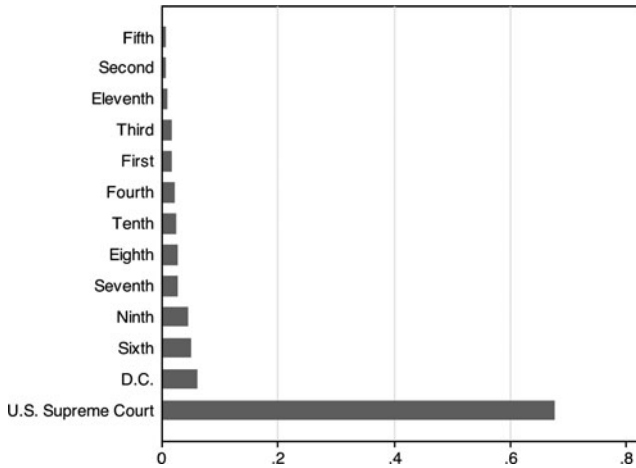
13 This suggests that judicial collegiality depends on other factors, in addition to dissents. Indeed, the more judges sit with each other, the more that differences in personality, work habits, and so on create a potential for irritation. But insofar as dissents are a source of collegiality costs, the magnitude of those costs may depend critically on workload. If a court has a very light workload, so that the costs of a dissent to a judge in the majority are slight, he will probably not be greatly irritated by the dissent; the dissent will be imposing only a slight cost on him. This may be why the frequency of dissent in the Supreme Court appears not to influence the collegiality of the Justices.

14 We therefore predict, and we find, a higher dissent rate in the Supreme Court than in the courts of appeals. In fact a much higher rate: as shown in Figure 1, it is 62 percent in the Supreme Court and only 2.6 percent in the courts of appeals.⁹

15 Concurring opinions, like dissents, arise from disagreement, albeit disagreement about reasoning rather than outcome. As one would expect,

9 We counted the number of opinions with dissents in the 1990 to 2007 period in both Lexis (13,288 dissents) and West (12,909 dissents). The denominator is the number of cases terminated on the merits, which is close to terminations with an opinion but also includes some cases terminated without an opinion because of abandonments, settlements, and jurisdictional flaws. This figure rises to 7.8 percent in a random sample of 1025 court of appeals *published* opinions in the years 1989–1991.

Figure 1. Fraction of Cases with One or More Dissenting Votes in the Court of Appeals and Supreme Court, 2007.



they are much more frequent in the Supreme Court than in the courts of appeals. In the period 1953–2008, there were one or more concurring opinions in 40.3 percent of Supreme Court cases, compared to a minuscule .6 percent in our sample of published court of appeals decisions in the 1989–1991 period.

2.3. Panel-Composition Effects

Previous work has demonstrated that a court of appeals panel in which the judges were not all appointed by a president of the same party is likely to decide a politically controversial case, such as a sex discrimination case or an abortion case, differently from a panel whose judges were all appointed by a president of the same party (Sunstein, et al. 2006; Hettinger, Lindquist, & Martinek 2006; Cross 2007; Cross & Tiller 1998). And a panel in a sex discrimination case in which all the judges are male is likely to decide the case differently from a panel that contains a female judge (Boyd, Epstein, & Martin 2010), but our focus will be on the effects of panel composition on ideological voting.

Why might panel composition have this curious effect—why, that is, would a majority ever yield to the wishes of the minority? One possibility is that the odd man out acts as a whistleblower (Cross & Tiller 1998). Another is that he may bring to the panel's deliberations insights that the other judges, with their presumably different priors based on political

ideology or their different life experiences correlated with gender, may have overlooked. But a bigger factor may be differences among panel members in intensity of preference for a particular outcome¹⁰ coupled with dissent aversion. If one judge feels strongly that the case should be decided one way rather than another, while the other two judges, though inclined to vote the other way, do not feel strongly, one of those two may decide to go along with the third to avoid creating ill will, perhaps hoping for reciprocal consideration in some future case in which he has a strong feeling and the other judges do not. Once one judge swings over to the view of the dissentient judge, the remaining judge is likely to do so as well, for similar reasons or because of dissent aversion.¹¹

18 Of course, a judge who disagrees strongly with the majority may end up dissenting if he fails to persuade a member of the majority to switch his vote. Presumably the greater the ideological differences among judges in a circuit, other things being equal, the more likely are members of a panel to disagree about the correct outcome and therefore the higher the dissent rate can be expected to be in that circuit. We test this hypothesis in our empirical analysis.

19 Ideological disagreement is unlike a disagreement over the best means to a shared end because ideological disputants rarely argue from shared premises. A liberal on a panel with two conservatives is unlikely to produce facts or arguments to change the ideology of his colleagues, or vice versa. But if he feels more strongly about how the case should be decided than the other judges do, this implies that he would derive greater benefits than they from a decision of the case his way and therefore that he would be willing to incur greater costs to get his way, as by writing a dissent. His threat to dissent is thus a credible threat to impose costs on his colleagues (the costs

10 As proxied by the ideological distance between the dissenting judge and his majority colleagues with respect to the particular case. The greater the distance, the more likely a dissent. See Hettinger, Lindquist, & Martinek (2003).

11 A small literature in political science examines vote “fluidity” on the Supreme Court, which occurs when a Justice changes his vote between the initial conference vote and publication of the opinion. The most recent study shows that in the 1969–1985 terms at least one Justice changed his vote in 36.6 percent of the cases, though an individual Justice switched, on average, in just 7.5 percent of the cases. Generally the switchers joined the majority (what political scientists term “conformity voting”) rather than the dissenters. Justice White provides an example. When he initially cast his vote with the majority, he ultimately joined the dissenters only 3.3 percent of the time but when he initially voted with the minority he moved to the majority in 22.5 percent of the cases. See Forrest Maltzman & Paul J. Wahlbeck (1996).

arising from their dissent aversion) if they refuse to yield to his preference. If those costs exceed the benefits to at least one of his colleagues of deciding the case his preferred way because he does not feel strongly about the outcome, that colleague will give way.¹²

The explanation that we are suggesting for the panel-composition effect is related to the whistleblower explanation. An effective whistleblower—one capable of embarrassing the majority with his dissent—is generally one who can credibly represent the majority as distorting facts or precedent to reach its result. Hence when the D on a panel of Rs or the R on a panel of Ds can credibly threaten to blow the whistle in this way, the other judges on the panel are likely to try to compromise with or even yield to him. This implies that published dissents are usually mistakes—the dissenter didn't really have ammunition to show that the majority was mistaken (as distinct from merely disagreeing on a contestable point of policy or values)—which may in turn explain why, as we show later in this paper, dissents are rarely cited in subsequent opinions.

2.4. A Formal Model of Dissent Aversion

We present a model of judicial voting in which a judge's vote in a particular case depends on his view of the applicable law and precedents, his ideological leanings, and the interaction between the ideological make-up of the other judges on the panel and his willingness to dissent (the converse of dissent aversion) if he disagrees with the majority's decision. We distinguish between judges appointed by Republican presidents and judges appointed by Democratic ones, and assume that the former tend to favor conservative outcomes and that the latter tend to favor liberal outcomes.

12 Jury holdouts are a parallel phenomenon. A juror who feels very strongly about what the verdict in the case should be will be willing to incur costs by protracting the jury's deliberations. By thus imposing costs on the majority he may induce the jurors in the majority to yield to him, compromise with him, or report to the judge that the jury is hung. The requirement (not always imposed in civil cases any longer) that a jury verdict be unanimous strengthens the holdout's hand compared to that of the dissentient judge on a three-judge panel. The normal pressures to conform to prevailing views in social settings (on these "uniformity pressures," see, for example, Lee Ross & Richard E. Nisbett (1991)) including jury deliberations, are weaker in appellate panels because of the long and honorable tradition of dissent. But while requiring unanimity strengthens the hand of the holdout juror, his hand is weakened by the fact that the other jurors can, at low cost, walk away from the case by declaring the jury hung, in which event there will be a new trial at which the side favored by the current holdout is quite likely to lose. The majority of the new jury probably will favor the other side just as the majority of the first jury did, and a holdout is unlikely the next time because holdouts are rare.

22 We use C_R and C_D to denote the probability that a judge appointed by a Republican (R) and a judge appointed by a Democrat (D) will favor a conservative outcome in a case in which $1 > C_R > C_D > 0$. We ignore case outcomes in which there are no ideological stakes or mixed ideological stakes. We use V_R and V_D to denote the probability that the judge actually votes for a conservative outcome. The probability depends not only on C_R and C_D but also on panel composition, the likelihood that the judge will disagree with the majority, and his willingness to dissent if he disagrees. Thus,

$$(1) \quad V_R = \mu_R(C_R) + (1 - \mu_R)[C_D(1 - \delta) + C_R\delta]$$

$$(2) \quad V_D = \mu_D(C_D) + (1 - \mu_D)[C_R(1 - \delta) + C_D\delta]$$

23 μ_R and $(1 - \mu_R)$ are the fractions of panels with a majority of Republican and Democratic appointees, respectively, when the judge in question is a Republican appointee; μ_D and $(1 - \mu_D)$ are the fractions when the parties are reversed; and δ is the willingness of a judge to dissent. Thus, δ equals 1 minus a judge's dissent aversion that is strong enough to make him decide not to dissent even if he disagrees with the majority. Another way to think of δ is as the percentage of cases in which a judge disagrees with the majority and actually dissents. We assume that members of a panel are chosen randomly from the judges of the court, which is the practice in all circuits (Hall 2009).¹³ (We ignore visiting judges.)

24 To simplify the analysis, we assume that δ is the same for all judges and that

$$(3) \quad \delta = f(N, X/N, z)$$

25 where N is the number of judges in a circuit, X/N is the circuit's average caseload, and z other factors influencing δ . We expect that the greater N is, the lower will be the collegiality costs and the greater, therefore, the willingness to dissent ($\partial\delta/\partial N > 0$), and that the greater X/N is, the greater are the marginal effort and collegiality cost of a dissent and hence the lower the incentive to dissent ($\partial\delta/\partial(X/N) < 0$).

26 Because there are no panel-composition effects in the Supreme Court (ignoring cases in which one or more Justice is recused or ill), equations

13 See also Christina L. Boyd, Lee Epstein, & Andrew D. Martin (2010), which reports results consistent with random assignment.

(1) and (2) simplify to $V_R = C_R$ and $V_D = C_R(1 - \delta) + C_D\delta$ in that Court, assuming that Justices appointed by a Republican president are in the majority and therefore that $\mu_R = 1$ and $\mu_D = 0$. If δ is close to one (meaning that dissent aversion is ≈ 0) in the Supreme Court, as we believe it is for reasons noted earlier, then both Republican and Democratic appointees always vote according to their true ideological preferences, C_R and C_D .

2.5. Implications for Judicial Voting Behavior

Although δ denotes willingness to dissent, the fraction of actual dissents will be lower. Consider a judge, appointed by a Republican president, whose δ is 25 percent if he finds himself in disagreement with the other judges on the panel when they are both appointees of a Democratic president. Assume his court has 4 judges beside himself who were appointed by a Republican president and 7 who were appointed by a Democratic president. On average, in 38 percent of his cases he will be the only R on the panel.¹⁴ Assume further that there is such a wide ideological gap between Rs and Ds that C_R and C_D are .7 and .3 respectively.¹⁵ This implies that an R and a D will disagree 40 percent of the time, and since δ is 25 percent R will dissent in 10 percent of the cases (40 percent of 25 percent) in which he is the minority member of a panel.

His overall dissent rate, however, will be lower than that because he also sits on panels in which he is in the majority. In our example an R will dissent only 3.8 percent of the time because he sits on a panel with two Ds only 38 percent of the time and dissents in only 10 percent of the cases decided by that panel. In contrast, a D in our example will have a dissent rate of 1.8 percent because he sits with two Rs in only 18.1 percent of the cases.

The average dissent rate for all the judges in our example is the weighted average of the dissent rates of the 5 Rs and the 7 Ds, and is therefore 2.6 percent, which is much lower than the δ of 25 percent rate that we started with.

14 The probability that the R will sit with two Ds is $(7 \times 6)/(11 \times 10) = 42/110 = .38$, and the probability that he will sit with one or two other Rs is therefore $1 - .38$.

15 We expect the “gap” to be positively related to the intensity of ideological preferences in a particular area of law. For example, the “gap” is likely to be relatively small (say C_R and C_D are .52 and .48 or even .8 and .75) in areas where ideology plays a minor role in a judge’s decision. Alternatively, if ideology dominates, the gap between Republican and Democratic appointees (other things constant) is likely to be much larger.

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Table 1. Dissents as Function of Willingness to Dissent, Ideological Differences, and Court Composition.

Court Make-Up		Fraction of Opportunities to Dissent in Circuit		Fraction of Dissenting Votes		Fraction of Cases with a Dissenting Vote			
				$C_R = .7$ $C_D = .3$		$C_R = .7$ $C_D = .3$	$C_R = .6$ $C_D = .4$		
				$\delta = .25$	$\delta = .25$	$\delta = .25$	$\delta = .10$	$\delta = .25$	$\delta = 1$
<i>R</i> (1)	<i>D</i> (2)	<i>R</i> (3)	<i>D</i> (4)	<i>R</i> (5)	<i>D</i> (6)	<i>All</i> (7)	<i>All</i> (8)	<i>All</i> (9)	<i>All</i> (10)
10	2	.018	.818	.002	.082	.045	.009	.023	.091
9	3	.055	.655	.006	.066	.062	.012	.031	.123
8	4	.109	.509	.011	.051	.073	.015	.034	.145
7	5	.181	.382	.018	.038	.079	.0159	.040	.159
6	6	.272	.272	.027	.027	.082	.0163	.041	.163
5	7	.382	.181	.038	.018	.079	.0159	.040	.159
4	8	.509	.109	.051	.011	.073	.015	.034	.145
3	9	.655	.055	.066	.006	.062	.012	.031	.123
2	10	.818	.018	.082	.002	.045	.009	.023	.091

Note: *R* = number of judges appointed by a Republican president; *D* = number of judges appointed by a Democratic president; C_R = true ideological preference for conservative votes of *R*-appointed judge; C_D = true ideological preference for conservative votes of a *D*-appointed judge; and δ = fraction of times a judge will dissent when the other two judges on the panel were appointed by a president of the opposing party.

30 The number of dissents as a fraction of decided cases is three times the fraction of dissenting votes (the 2.6 percent number above) because there are three votes in each case. So if each judge hears 100 cases a year, this amounts to 1200 cases in a 12-judge circuit, 3600 total votes, and 94 dissenting votes, or 7.8 dissents per 100 decided cases.

31 Table 1 illustrates how the dissent rate can be expected to change as panel composition, dissent aversion, and the ideological gap between *R*s and *D*s changes, in a hypothetical 12-judge circuit, assuming that a judge dissents only when he is sitting with two judges appointed by a president of the opposite party from the one who appointed him. If, for example, there are 10 *R*s and 2 *D*s in the court, an *R* will sit with two *D*s only 1.8 percent of the time, while a *D* will sit with two *R*s 81.8 percent of the time. As we see in columns (5) and (6) in the table, assuming that a judge in the minority disagrees with the majority 40 percent of the time and dissents in

25 percent of those cases, the Rs will dissent in only 0.2 percent of the cases and the Ds in 8 percent. In contrast, in the (shaded) row in the table, in which the number of Rs and Ds is equal, the dissent rate of both Rs and Ds will be 2.7 percent.

If the ideological gap between Rs and Ds declines, so will the fraction of potential disagreements and therefore the dissent rate even if dissent aversion and panel composition are unchanged. For example, if the ideological variables C_R and C_D are .6 and .4 rather than .7 and .3, the ideological gap will decline from .4 to .2, meaning that an R and a D will disagree in 20 percent rather than 40 percent of the cases in which they are on the same panel. This will cause the dissent rate to fall by one-half (compare columns (7) and (9)), but it will remain low for the individual judge even if dissent aversion vanishes ($\delta = 1$), as in column (10) and the circuit is evenly balanced between Rs and Ds (which maximizes the fraction of mixed panels and hence the opportunity to dissent). On these assumptions a judge will dissent in only 5.4 percent of the cases ($.2 \times .272$), though there will be a dissent in 16.3 percent (3×5.4) given an equal number of Rs and Ds.

The assumption in equations (1)–(3) and Table 1 that a judge will dissent only if he is an R or a D on a panel in which the two other judges were appointed by a president of a different party from him yields testable hypotheses regarding the effects of dissent aversion, panel composition, and ideological differences but is unrealistic, as is the assumption that all Ds are liberal in all cases and all Rs conservative in all cases (Epstein & King 2002). In reality there will be cases in which (1) a judge will dissent even if the panel consists of all Rs or all Ds, or (2) one member of the panel (or two members) will switch his (their) vote to support the potential dissenter who feels more strongly about the case than either of the other judges, or (3) the majority will narrow the grounds of the decision, or soften the language of the opinion, to accommodate the concerns of the third judge and thereby head off a dissent¹⁶ Scenario (1) will increase the dissent rate; (2) will leave it unchanged if one judge switches his vote and reduce it if both do; (3) will reduce it.

16 Cass R. Sunstein et al. (2006, 20–21), table 2–1, present evidence of ideological “moderation of the majority position when a panel contains two rather than three judges appointed by a president of the same party.”

2.6. Observed Voting and True Ideological Preferences

34 The combined effect of dissent aversion and ideological diversity is to make a judge's voting behavior less ideological, implying that $V_R < C_R$ and $V_D > C_D$ —that is, that the difference between the actual votes of Rs and Ds will be smaller than would be predicted on the basis of their being Rs or Ds. We therefore rewrite the equations for the judge's voting behavior ((1) and (2)) as a weighted average of his ideology and the ideology of the judges in his circuit who were appointed by a president of the opposite party, with the weights depending on both the ideological composition of panels and dissent aversion. Thus:

$$(4) \quad V_R = C_R(\mu_R + (1-\mu_R)\delta) + C_D(1-\mu_R)(1-\delta)$$

$$(5) \quad V_D = C_D(\mu_D + (1-\mu_D)\delta) + C_R(1-\mu_D)(1-\delta)$$

35 Ideological moderation will be observed in (4) and (5) if a judge gives a positive weight to the ideology of judges of the opposite ideology, provided that the judge has at least some dissent aversion. But if he has absolute dissent aversion ($\delta = 0$), his vote will be strongly influenced by panel composition. As shown in column (4) of Table 2, a D in a court composed of 10 Rs and 2Ds will look much like an R because 62.7 percent of his votes will be conservative, although if he gave free rein to his own ideological preference he would vote conservative only 30 percent of the time.

36 We can think of $\delta = 1$ as a benchmark: how a judge would vote if he always dissented when he disagreed with the other judges on the panel. How a judge *does* vote (V_R and V_D above) will depend on dissent aversion (how far δ is below 1); the composition of the panel, which depends on the number of Rs and Ds in a circuit; and the ideological distance between the Ds and Rs.

37 Notice in Table 2 that as the ratio of Rs to Ds falls, all the judges vote less conservatively, holding constant both δ (provided $\delta < 1$) and a judge's own ideology. This is a pure panel effect and implies that comparing the voting behavior of judges in courts that have different ratios of Rs to Ds can yield misleading inferences concerning a judge's ideology. For example, in Table 2, an R in a court with 3 Rs and 9 Ds will appear to be less conservative than a D in a court of 10 Rs and 2 Ds if δ is less than or equal to .25.

38 This in turn suggests that a judge's overall voting record in the court of appeals may be a poor predictor of how he will vote if he or she is later appointed to the Supreme Court, because dissent aversion is weak in the

Table 2. Ideological Voting and Ideological Preferences.

Court Make-Up		Fraction of Conservative Votes by Judges Appointed by President of Same or Different Party Assuming True Ideological Preferences are $C_R = .7$ and $C_D = .3$							
		$\delta = 0$		$\delta = .25$		$\delta = .50$		$\delta = 1$	
R (1)	D (2)	V_R (3)	V_D (4)	V_R (5)	V_D (6)	V_R (7)	V_D (8)	V_R (9)	V_D (10)
10	2	.693	.627	.694	.545	.696	.464	.7	.3
9	3	.678	.562	.684	.497	.689	.431	.7	.3
8	4	.656	.503	.667	.453	.678	.402	.7	.3
7	5	.628	.453	.646	.414	.664	.376	.7	.3
6	6	.591	.408	.618	.382	.646	.354	.7	.3
5	7	.547	.372	.585	.354	.624	.336	.7	.3
4	8	.496	.344	.547	.333	.598	.322	.7	.3
3	9	.438	.322	.503	.317	.569	.311	.7	.3
2	10	.372	.307	.455	.305	.536	.304	.7	.3

Note: R = number of judges appointed by a Republican president; D = number of judges appointed by a Democratic president; C_R = true ideological preference for conservative votes of R -appointed judge; C_D = true ideological preference for conservative votes of a D -appointed judge; V_R = observed fraction of conservative votes of R -appointed judge; V_D = observed fraction of conservative votes of D -appointed judge; and δ = fraction of times a judge will dissent when the other two judges on the panel were appointed by a president of the opposing party.

Supreme Court and panel-composition effects nonexistent. We can illustrate this point for current Supreme Court justices who served on the court of appeals. The fraction of conservative votes in a sample of civil cases in the courts of appeals for court of appeals judges later appointed to the Supreme Court are (with the number of votes in parentheses): Breyer .592 (103); Ginsburg .371 (97); Stevens .372 (43); Alito .386 (44); Kennedy .421 (19); and Scalia .571 (35).¹⁷ These numbers are only weakly related to the fraction of conservative votes of these judges in the Supreme Court: Breyer .365; Ginsburg .309; Stevens .307; Alito .775; Kennedy .641; and Scalia .768. The data are also roughly consistent with the hypothesis that panel effects influence court of appeals voting. Scalia and Kennedy sat with a majority of Democratic appointees in the court of appeals and

17 The court of appeals vote data are from the Songer court of appeals database as corrected in Landes & Posner (2009). We exclude Roberts, Souter, and Thomas because the database contains very few votes by them. Thomas had 15 votes, Souter 3, and Roberts zero.

voted more liberally than they did in the Supreme Court. Stevens and Ginsburg also sat with a Democratic majority in the court of appeals and voted liberally in both the appellate court and Supreme Court. Breyer sat with a Republican majority in the first circuit and voted more conservatively in the appellate court than in the Supreme Court. The only anomaly is Alito, who sat with a majority of Republican appointees yet voted more liberally in the court of appeals than he has so far in the Supreme Court.¹⁸

2.7. Panel Size and Dissent Aversion

39 The disparity in dissent rate between the Supreme Court and the federal courts of appeals is very striking. The dissent rate in the Supreme Court is about 60 percent; in contrast, in only 80 of our random sample of 1025 published decisions in the courts of appeals are there dissenting opinions (a shade under 8 percent), and later we'll note an average of only 2.8 percent of dissents in court of appeals cases between 1900 and 2006, based on the number of dissents recorded in the Lexis database divided by the number of cases terminated on the merits. The first estimate is probably too high because it excludes unpublished decisions, and the latter too low because of changing norms about dissenting (a fascinating issue that we do not discuss in this paper is institutional policy about publicly recording a dissent) and because judges will rarely bother to record a dissent from an unpublished decision (such decisions are included in the Lexis database) because in most courts such a decision cannot be cited as a precedent.

40 We noted earlier that because the larger the appellate panel, the greater the likelihood of disagreement among the judges, the higher dissent rate in the Supreme Court could be a function of the difference between a panel of nine judges and a panel of only three, the normal panel size in the federal courts of appeals. We need to consider the possibility that the difference in panel size alone explains the difference in dissent rates between the Supreme Court and the courts of appeals—the possibility in other words that dissent aversion is the same in the two judicial tiers.

18 We estimated the fraction of active Rs in a circuit by averaging the yearly fractions for the periods in which the judge served. Since circuit composition changes over a judge's tenure, we do not know how close the sampled votes match the average circuit composition. Nor can we match the panel composition to the judge's votes; the panel composition of the cases in our sample in which he voted might differ from the average circuit composition.

To explore this possibility, assume that all judges on a panel of size n have identical and independent probabilities of voting in favor of the appellant A ($= p$) and appellee B ($= (1 - p)$). As before, let δ (< 1) denote the willingness of a judge to dissent when he disagrees with the majority. In the case of extreme dissent aversion, δ will be close to 0; the greater the willingness to dissent, the greater the value of δ . We assume that δ is the same for all judges, as we are trying to determine the pure effect of panel size on the propensity to dissent.

Since the probability of a unanimous decision is $p^n + (1 - p)^n$, the probability of at least one dissent in a panel of size n (there can be at most only one dissent if $n = 3$) is

$$Pd = \delta[1 - p^n - (1 - p)^n].$$

Pd increases both with δ and panel size since

$$\begin{aligned} \partial Pd / \partial \delta &> 0; \\ \partial Pd / \partial n &= -\delta p^n \ln p - \delta (1 - p)^n \ln (1 - p) > 0, \end{aligned}$$

provided $p < 1$.

Pd is maximized when $p = .5$ and decreases symmetrically as p deviates from .5 (holding panel size constant). That is,

$$\partial Pd / \partial p = -np^{n-1} + n(1 - p)^{n-1} = 0,$$

when $p = .5$. The intuition behind this result is that there is a greater probability of dissent, holding other factors constant, if the judges' views are closely balanced.

Table 3 shows how the probability of at least one dissent depends on panel size, the judges' probability of voting for the appellant, and dissent aversion (or the converse δ). For example, increasing panel size from 3 to 9 typically increases the likelihood of a least one dissent by around 25 to 50 percent, holding dissent aversion constant. Similarly, a change from 90 percent dissent aversion ($\delta = .10$) to zero dissent aversion ($\delta = 1$) increases the probability of at least one dissent by ten-fold, holding panel size constant. Finally, the probability of at least one dissent increases as the probability of favoring the appellant decreases from .90 to .50, holding δ and panel size constant. Notice that the likelihood of dissent is greater as p goes from 1 to .5 and then begins to decrease as p goes from .5 to 0. If $p = 1$ or 0 there would be no dissent since everyone either would vote for the appellant ($p = 1$) or for the appellee ($p = 0$).

Table 3. Probability of at Least One Dissent in a Panel of Size n (all judges assumed to have identical preferences).

		Panel Size (n)	
p	δ	3	9
.90	.10	.027	.061
.90	.25	.068	.153
.90	1.00	.270	.613
.70	.10	.063	.096
.70	.25	.158	.240
.70	1.00	.630	.960
.50	.10	.075	.100
.50	.25	.188	.249
.50	1.00	.750	.996

Note: δ equals the probability of one or more dissents in a panel of size n .

48 We can extend the analysis to the case of two groups of judges (R s and D s) who have different outcome preferences. Suppose R s are more likely than D s to vote for a conservative outcome (or less likely to vote for a liberal outcome), and suppose the appellant is on the conservative side of the case and the appellee on the liberal side. Table 4 gives the probability of at least one dissent for panels of 2 R s and 1 D , 1 R and 2 D s, 5 R s and 4 D s, and 4 R s and 5 D s. The main difference between the two tables is that adding disagreement among the judges increases the likelihood of a dissent.

49 Notice that, for constant dissent aversion (that is, reading across the rows), the probability of dissent in the 9-judge court is roughly twice that in the 3-judge court. This is the pure panel-size effect. But we know that the probability of dissent in the Supreme Court may be closer to ten times that of the probability of dissent in the courts of appeals. Recall that the dissent rate in the Supreme Court is about 60 percent, and that the dissent rate in the courts of appeals is probably somewhere between 3 and 8 percent. The reason for the range is that the 3 percent figure refers to dissents in all cases terminated on the merits and the 8 percent figure just to dissents in cases decided in published opinions. Probably the 8 percent figure provides a better comparison with the Supreme Court than the lower figure or even the average of the two figures, because cases in which there is a published opinion are usually more difficult and impor-

Table 4. Probability of at Least One Dissent in a Panel of Size n.

			Panel size and Make-up			
<i>pR</i>	<i>pD</i>	δ	2Rs & 1D	2Ds & 1R	5Rs & 4Ds	4Rs & 5Ds
.90	.70	.10	.043	.055	.086	.089
.90	.70	.25	.108	.138	.215	.222
.90	.70	.70	.301	.399	.601	.623
.90	.70	1.00	.430	.550	.858	.890

tant than ones disposed of without a published opinion, and so are more like Supreme Court cases. Therefore seven is probably a better estimate (than twenty) of the ratio of the dissent rate in the Supreme Court to that in the courts of appeals that is not due to dissent aversion. This is still a very high ratio and powerful evidence therefore that dissent aversion is indeed greater in the courts of appeals than in the Supreme Court.

One final adjustment in comparing dissent aversion in the two court tiers should be noted. The Supreme Court “panel” is always mixed—that is, it always contains Justices who have been appointed by presidents of different political parties; there are never 9 Rs or 9 Ds. We expect more dissents, the more ideological division in a panel. This suggests that the dissent rate in mixed, rather than in all, court of appeals panels provides the proper comparison to the Supreme Court dissent rate. And indeed if we divide our court of appeals sample of 1025 published opinions into cases decided by mixed and by uniform panels, we find a higher dissent rate in the former. The dissent rate for mixed panels is 8.6 percent (54 dissents out of 626 published opinions) and 6.5 percent for uniform ones (26 dissents out of 399 published opinions). But the difference is not statistically significant.

Only in the 7 en banc decisions in the Songer sample do the courts of appeals begin to approach the Supreme Court dissent rate, for in 3 of those there is a dissent, which is 43 percent of the total—and en banc decisions are the closest counterpart in the courts of appeals to Supreme Court decisions in point of panel size, ideological diversity, and difficulty or importance. But of course a sample size of 7 is much too small to provide a basis for a confident inference.

There are two further reasons for expecting greater dissent aversion in the courts of appeals than in the Supreme Court. First, beyond a certain point, a high dissent rate will reduce dissent aversion: judges in the

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majority will have less cause for irritation if everyone dissents a lot, and judges who don't dissent will feel like wallflowers. Second, the larger the panel, and so the greater likelihood that several judges, not just one, will be dissenting, the lower the cost of dissent because a dissenting judge may be making another judge or judges (his fellow dissenter or dissenters) happy. A single dissenting judge has no allies.

3. EMPIRICAL ANALYSIS

3.1. The Cost of Dissent

53 A dissent imposes an effort cost on the majority because the author of the majority opinion is likely to revise his opinion to address the objections raised by the dissent. This suggests that majority opinions will be longer when there is a dissent. We collected data on the number of words in our sample of 446 Supreme Court opinions and 1025 court of appeals opinions.¹⁹

54 In the Supreme Court sample there are 202 cases with one dissenting opinion (45.3 percent), 60 (13.5 percent) with two or more dissenting opinions, and 147 (33.0 percent) with one or more concurring opinions.²⁰ Table 5 reveals that a Supreme Court majority opinion tends to be longer if there is one dissenting opinion and even longer if there is more than one. The differences are statistically significant for both the full sample and the 335 orally argued signed opinions when we combine all three years, and significant in most cases for in the individual years.

55 A problem in interpreting the data in Table 5 is that the difficulty or importance of a case is likely to influence both the length of the majority opinion and the presence and number of dissents. To isolate the effect of dissent on length we regress length on dissent, importance, and other factors that may influence length:

$$(6) \quad W_{sc} = f(\text{Oral}, \text{Dissent_1}, \text{Dissent_2}, \text{Mention}, \text{Concur}, \text{Term}, \\ - \text{Subject}, \text{Importance}, u)$$

19 Our initial court of appeals sample consisted of 500 cases randomly selected from volumes 888 to 921 of Westlaw. These volumes mainly include opinions for the year 1990. We excluded 67 cases that were not from 1990, 21 duplicate cases, and 8 that were not decided in a published opinion but merely listed. These adjustments left 404 cases in our sample.

20 The percentage of dissents—58.8—is different from our earlier figure of 62 percent. That figure was based on all cases decided between 1952 and 2008, while this one is based on our sample for just three terms: 1963, 1980, and 1990.

Table 5. Words in Majority Opinions Supreme Court Cases: 1963, 1980 & 1990 (Number of Cases in parentheses).

Year	All Cases			Orally Argued Signed Opinions		
	No. Dissents			No. Dissents		
	0	1	2 or More	0	1	2 or More
1963 (179)	2337 (72)	2399 (84)	4206* (23)	3432 (44)	4059 (48)	5624* (17)
1980 (143)	4530 (54)	5527 (71)	5570 (18)	5307 (41)	6082 (62)	6910 (14)
1990 (124)	3564 (54)	4536* (51)	5884* (19)	4376 (42)	4687 (49)	6130* (18)
All Years (446)	3362 (180)	4006* (206)	5146* (60)	4308 (127)	5041* (159)	6177* (49)

Note: * $p < .05$ compared to 0 dissents.

W_{sc} equals the number of words (including words in footnotes) in the Supreme Court's majority opinion; $Oral = 1$ if there was both an oral argument and a signed opinion; $Dissent_1 = 1$ if there is one dissenting opinion and $Dissent_2 = 1$ if there is more than one dissenting opinion; $Mention = 1$ if the majority opinion mentions the dissent; $Concur = 1$ if there is a concurring opinion. *Term* consists of dummy variables denoting the term of the court (1963, 1980, or 1990); *Subject* consists of dummy variables denoting subject matter (such as civil liberties or economics); *Importance* identifies the importance of the case; and u is the residual. We proxy importance by the number of Supreme Court and court of appeals citations to the opinion. The average number of citations, in both the Supreme Court and the courts of appeals, to majority opinions in Supreme Court cases decided in a signed opinion is 172, compared to 32 for the other opinions, and is 154 for the majority opinions when there is a dissent compared to 114 when there is not. Majority opinions in orally argued cases are both longer (see Table 3) and more likely to attract a dissent (62 percent, compared to 52 percent for all other opinions).

Table 6 contains our regression estimates. *Oral* is the most significant variable in regression (4.1), indicating that opinions in orally argued cases are nearly 3000 words longer than other opinions. Turning to equation (4.2), which restricts the sample to the 335 orally argued cases decided by signed opinions, one dissenting opinion increases the length of the majority opinion by more than 1000 words, but only if the majority

Table 6. Regression Analysis of Words in Supreme Court Majority Opinions: 1960, 1983 and 1990 (t-statistics in parentheses).

	Eq. 4.1	Eq. 4.2
<i>Oral</i>	2924*** (10.17)	-
<i>Dissent_1</i>	141 (0.58)	277 (0.87)
<i>Dissent_2</i>	913* (2.51)	1357** (2.93)
<i>Mention</i>	867* (2.63)	725 (1.86)
<i>SC Cites</i>	91.6*** (7.63)	93.8*** (6.88)
<i>CA Cites</i>	- 0.721 (1.51)	- 0.823 (1.52)
<i>Concur</i>	75.6 (0.32)	76.1 (0.26)
<i>1980 Term</i>	1751*** (6.52)	2056*** (5.87)
<i>1990 Term</i>	957** (3.29)	1202*** (3.29)
<i>Subject Matter</i>	Yes	Yes
<i>Constant</i>	308 (0.72)	2673*** (4.66)
R ²	.49	.23
No. Observations	446	335

Notes: (1) * $p < .05$, ** $p < .01$, *** $p < .001$. (2) *SC Cites* denotes citations in subsequent Supreme Cases to the majority opinion and *CA Cites* denotes citations in subsequent court of appeals opinions to the majority opinion.

mentions the dissent. If not, the effect is still positive (plus 277 words), but statistically insignificant.²¹ When there are two or more dissenting opinions, not only is the majority opinion more than 1000 words longer, but the difference is statistically significant whether or not the majority mentions the dissent, although a mention adds between 700 and 900 words to the majority opinion, depending on the equation.

58 The importance of the case, as proxied by Supreme Court citations to the majority opinion, has a positive and highly significant effect on the length of majority opinions in both equations (4.1) and (4.2). Citations in the courts of appeals to the Supreme Court majority opinion, however, have no significant correlation with the length of the majority opinion. This is puzzling, since appellate court citations are an even better measure of the importance or influence of a Supreme Court decision than citations by the Court. The Court isn't bound by its prior decisions, so it doesn't

21 *Dissent_1* and *Mention* are jointly significant at the $p < .01$ level in equation (4.1) and at $p < .05$ the .05 level in equation (4.2).

Table 7. Words in Majority Opinions U.S. Court of Appeals, 1989-1991 (Number of Cases in parentheses).

Dissent	All	Reversed	Affirmed
No	3354 (945)	3799 (387)	3046 (558)
Yes	4733* (80)	4774* (41)	4690* (39)
All	3462 (1025)	3893 (428)	3153 (597)

Notes: (1) *the difference in the length of majority opinions with and without a dissent is significant at $p < .05$. (2) Reversals include reversed, reversed in part, and vacated decisions.

matter terribly which ones it cites. The court of appeals is bound. A possible explanation for why Supreme Court citations to majority opinions are significant indicators of the importance of a case but court of appeals citations to Supreme Court majority opinions are not is that the Supreme Court is more concerned with and attuned to the impact of its decisions as precedents guiding future decisions than it is with their impact on the courts of appeals; and the Court may also have an imperfect awareness of how its decisions influence those courts.

Neither the concurrence nor the subject-matter variables are significant in any regression. The fact that concurring opinions do not result in longer majority opinions may seem surprising, since such opinions often reflect disagreement with the majority's reasoning. Often, however, they do not reflect disagreement; they may address a point that the majority opinion omitted because it did not command a majority of the Justices, or they may criticize a dissent ("riding shotgun" for the majority opinion).

The time dummy variables are highly significant, indicating that majority opinions were longer in both the 1980 and 1990 terms. This suggests that as the number of cases declined from 179 in 1963 to 143 in 1980 to 124 in 1990, the Supreme Court wrote longer majority opinions.

Table 7 presents data on the length of opinions in the courts of appeals. On average, majority opinions are 41 percent longer when there is a dissent. To correct for differences in importance between cases that do and do not draw a dissent, we divide our sample into reversals and affirmances. Since reversals are more likely to involve difficult issues (otherwise the court of appeals presumably would have reached the same decision as the lower court), we expect reversals to produce longer majority opinions and more dissents. The table shows that opinions reversing are indeed typically longer than opinions affirming and more likely to draw a dissent

(9.6 percent versus 6.5 percent).²² And they are longer still if there is a dissent: in the reversal sample about 26 percent longer and in the affirmance sample 54 percent longer if there is a dissent. The reason for this difference is unclear, but may reflect increasing marginal effort cost, since reversal opinions are longer than affirmance opinions even when there is no dissent.

62 To better isolate the impact of a dissent on the length of the majority opinion, we estimate the following multiple regression equation:

$$(7) \quad W_{CA} = f(\text{Dissent}, \text{Reverse}, \text{First}, \text{Caseload}, \text{Circuit}, \text{Civil or Area}, u)$$

63 where W = the length of the majority opinion in the court of appeals; $\text{Dissent} = 1$ if there is a dissent; $\text{Reverse} = 1$ if the lower court decision is reversed; $\text{First} = 1$ if the case is decided for the first time and 0 if it is decided after rehearing or remand to the lower court or from the Supreme Court;²³ Caseload = caseload per judge in the circuit;²⁴ Circuit is a set of dummy variables that denote the circuit in which the case was heard; and a subject-matter variable (either $\text{Civil} = 1$ for a civil and 0 for a criminal case or Area , which consists of six dummy variables denoting respectively a criminal, civil rights, labor, economic activity and regulation, due process, privacy, or first amendment case). We expect positive regression coefficients on the *Dissent*, *Reverse*, and *First* (there are likely to be more issues to discuss when a case is heard the first than the second time) variables and a negative coefficient on the *Caseload* variable (the greater the caseload per judge, the less time available for writing opinions and therefore the shorter the opinion). We include *Circuit* variables to account for circuit-specific factors (such as different circuit rules or norms on publication of opinions or opinion writing generally) that might affect the length of published opinions. We add subject-matter variables to allow for the possibility that the type of case will influence the length of the majority opinion. Table 8 contains our regression results.

22 The difference in words is significant at the .01 level but the difference in dissents only at the .10 level.

23 In our sample, 949 cases were decided for the first time, 9 on rehearing, 20 after remand to the lower court, 9 on remand from the Supreme Court, and 32 were noted as other (plus 2 as not ascertained). We assigned the value 1 only to the 949 cases decided for the first time.

24 Caseload equals the number of appellate cases terminated on the merits in 1990 divided by the sum of active judges and senior status judges (weighted by the number of cases terminated by a senior judge relative to an active judge) in 1990.

Table 8. Regression Analysis of Words in Majority Opinions U.S. Court of Appeals, 1989-1991 (t-statistics in parentheses).

Independent Variables	Eq. 6.1	Eq. 6.2
<i>Dissent</i>	1384*** (4.65)	1382*** (4.54)
<i>Reversal</i>	654*** (4.44)	654*** (4.33)
<i>First</i>	819** (2.73)	822** (2.70)
<i>Civil</i>	139 (0.99)	-
<i>Caseload</i>	- 7.34** (2.49)	- 7.45** (2.46)
<i>Circuit Dummies</i>	Yes***	Yes***
<i>Subject Area Dummies</i>	No	Yes
<i>Constant</i>	3829*** (6.71)	3812*** (6.52)
<i>R</i> ²	.11	.12

Notes: (1) * $p < .05$, ** $p < .01$, *** $p < .001$ (2) All regressions have 1025 observations and use robust standard errors.

Consistent with our predictions, the *Dissent*, *Reverse*, and *First* variables have positive and highly significant impacts on the length of majority opinions. We cannot reject the hypothesis in equations 6.1 and 6.2 that a dissent adds roughly the same number of words (about 1380) to a majority opinion as the combined effect of a reversal (654 words) and of the decision being the first decision (that is, not decided after rehearing or remand to the lower court or from the Supreme Court) in the litigation (about 820 words). The circuit's caseload has a significant negative effect of the length of the majority opinion. For example, an increase in the caseload from a low of 66.8 cases per judge (the D.C. circuit) to 130.1 cases per judge (the mean of all circuits) reduces the average number of words in a majority opinion by 468.²⁵ (However, raw caseload figures do not reflect differences in the average difficulty of cases across circuits; we have not attempted an adjustment for difficulty.) The circuit dummy variables are jointly significant in both regressions 6.1 and 6.2, but only the Second and Eighth circuits produce shorter, and the Third Circuit longer,

25 Notice that this is not a total measure of caseload, but is rather the number of opinions that each judge is responsible for. Since most decisions in the courts of appeals are by panels of three, since all but the First Circuit have at least nine judges (and the First Circuit uses visitors to fill out its panels), and since judges have to vote on all the cases they hear, the actual average caseload per court of appeals judge is approximately three times the figures given above. However, this adjustment does not affect our analysis.

Table 9. Citations in Majority and Dissenting Opinions to 266 Supreme Opinions with Dissents 1963, 1980, & 1990.

Opinion	SC Citations		Ct. Appeals Citations	
	Mean	Median	Mean	Median
<i>One Dissenting Opinion</i>				
Majority	7.81	5	144.96	60
One Dissent	0.24	0	1.54	0
Ratio	32.1	-	94.2	-
<i>Two or More Dissenting Opinions</i>				
Majority	9.93	6	146.97	87
Two or More Dissents	0.53	0	3.00	1.5
Ratio	18.6	-	49.0	-

Note: There were 206 opinions with one dissent and 60 with two or more dissents. In the former group, 175 dissenting opinions had 0 Supreme Court citations and 108 dissenting opinions had 0 court of appeals citations. In the latter group, 38 had 0 Supreme court citations and 17 had zero court of appeals citations. In contrast, of the 266 majority opinions (with dissenting opinions) 34 had 0 Supreme Court citations and 19 had 0 court of appeals citations.

opinions than the other circuits, holding constant circuit caseload, subject matter, and other variables. We find no significant effects of case type (either the *civil* or *subject area* variables) on opinion length.

3.2. The Benefits of Dissent

65 We estimate the benefits of dissenting by comparing case citations to majority and to dissenting opinions. We assume that the more citations to an opinion, the greater its influence is likely to be in shaping the law and therefore the greater the benefit to the author of the opinion.²⁶ Table 9 summarizes the number of citations in Supreme Court and court of appeals opinions to majority and dissenting opinions of the Supreme Court.

66 Although there are famous examples of Supreme Court dissents that later became the law, the average Supreme Court dissent is not heavily cited, even in the lower courts. Table 9 shows that a dissenting opinion in cases decided by the Court during the 1963, 1980, or 1990 terms was

26 A large and growing literature uses citations to measure the influence of judicial opinions and judges. *See, for example,* James H. Fowler et al. (2007).

Table 10. Regression Analysis of Citations to Dissenting Opinions in Majority Opinions in the 1963, 1980, and 1990 Terms.

	<i>SC Cites</i>	<i>CA Cites</i>
<i>SC cites to maj. opinion</i>	.012** (2.77)	-
<i>CA cites to maj. opinion</i>	-	.002** (2.90)
<i>Orally Signed</i>	.077 (0.64)	.640 (1.32)
<i>2 or more dis. opinions</i>	.228* (2.05)	.837 (1.75)
<i>Mention</i>	-.025 (0.23)	.968* (2.06)
<i>No. dissenting votes</i>	.038 (0.83)	.415* (2.09)
<i>1980 Term</i>	.266* (2.42)	.536 (1.14)
<i>1990 Term</i>	.149 (1.19)	.646 (1.21)
<i>Constant</i>	-.120 (0.93)	-.803 (1.45)
<i>R²</i>	.08	.15
<i>No. Observations</i>	266	266

Notes: (1) * $p < .05$, ** $p < .01$ (2) We also estimated regressions to Majority Opinions but do not report them here. In the regressions, signed opinions in orally argued cases had a positive and significant effect on both Supreme Court and court of appeals citations. The only other significant variables were the 1980 and 1990 variables, which had positive and significant (at least one in each regression) effects.

cited on average only .24 times by the Supreme Court and 1.54 times by the courts of appeals. There are, of course, many more court of appeals decisions than Supreme Court decisions, so this ratio is not interesting. If anything, lower court judges are less likely to cite Supreme Court dissents than Supreme Court Justices are, because lower courts are rigidly bound to follow majority rulings by the Supreme Court. Indeed, this is suggested by another ratio: the ratio of citations to Supreme Court majority opinions to citations to a dissenting opinion (in cases in which there is one dissenting opinion): the ratio is 32 to 1 in the Supreme Court and 94 to 1 in the courts of appeals. Of the 206 Supreme Court opinions in which there was one dissent, 175 of the dissents were never cited by the Supreme Court and 108 were never cited by the courts of appeals. When there are two or more dissenting opinions, dissents are cited more frequently, but still rarely; the ratios are 19 to 1 in the Supreme Court and 49 to 1 in the courts of appeals.

In Table 10 we see that the more frequently the majority opinion is cited, the more frequently the dissent is cited, and also that there are more citations in the courts of appeals to Supreme Court dissents when the majority

Table 11. Citations to 82 Court of Appeals Published Opinions in 1990 with Dissents.

Opinion	Inside Circuit		Outside Circuit	
	Mean	Median	Mean	Median
<i>Majority</i>	13.188	7	5.338	3.5
<i>Dissent</i>	0.138	0	0.1375	0
<i>Ratio</i>	95.9	-	38.8	-

Note: There is a weak but statistically insignificant positive relationship between cites to dissenting and majority opinions.

opinion mentions the dissent and when the number of dissenting Justices is greater; but this effect is not found in the Supreme Court.

68 As shown in Table 11, dissents in the courts of appeals opinions are almost never cited in those courts (we have not examined citations by other courts to court of appeals opinions). The mean (and median) number of citations to a dissent is .138 (and 0) both within and outside the circuit, whereas majority opinions in cases in which there is a dissent are cited an average of 13.2 times inside and 5.3 times outside the circuit; the medians are 7 and 3.5 respectively.²⁷ (Of the 80 dissenting opinions in our court of appeals sample, 72 were never cited inside the circuit and 75 were never cited outside the circuit.) There thus appears to be only a very slight payoff to a court of appeals judge (except from the utility he receives from expressing his disagreement with the majority) from writing a dissent, since its impact on the law, at least as proxied by citations, is close to zero.

69 There is, however, a possible benefit from writing a dissent that we have not yet considered. It is widely believed that the Supreme Court is more likely to grant certiorari (that is, decide to hear the case and decide it on the merits) when there is a dissent in the lower court. We can test this hypothesis because the cert. pool memos prepared by the Justices' clerks indicate whether there was a dissent. Using data consisting of a random sample of 705 petitions that were denied and a complete set of the 650 petitions that were granted in the 1986 to 1993 terms from cases in the courts of appeals (excluding en bancs),²⁸ we regressed grant (= 1) and denied

27 There is a positive relationship between citations to dissenting and majority opinions, but it is weak and not statistically significant.

28 Because the dataset oversamples on grants, we used weights in the regression to reflect the percentage of grants and denies (paid and unpaid petitions) sampled.

(= 0) on whether there was a dissent (= 1) or not (= 0).²⁹ We find that the likelihood of a grant in the absence of dissent is 1.7 percent, increasing to 9.0 percent if there was dissent; the difference is statistically significant, and the effect should provide some offset to the cost of dissenting.

3.3. Dissent Rates in Circuits

We expect that the dissent rate in a circuit will be lower, the fewer the number of judges in the circuit, the greater their workload, and the narrower the ideological differences among the judges. A greater number of judges lowers the collegiality cost of dissenting, a lighter workload lowers the opportunity cost of dissenting, and a narrower range of ideological differences reduces the number of occasions to dissent. To test these hypotheses, we estimate regressions based on data on dissent rates in the 12 regional circuits (the federal circuit is excluded) for the period 1990–2006. We measure the dissent rate by the number of dissents reported in Lexis divided by the number of cases terminated on the merits;³⁰ the number of judges by the number of active judges plus the number of senior judges³¹ (adjusted downward by the ratio of the average number of cases in which a senior judge participates to the number in which an active judge participates); the workload by cases terminated on the merits divided by the number of judges (active plus adjusted senior status);³² and ideological differences

70

29 Using logistic regression, the results are as follows (*t*-statistics in parentheses):

$$\text{Probability of a Grant} = -4.04 + 1.73(\text{dissent}) \\ (58.23) \quad (8.79)$$

Because we do not control for the many other factors that may affect the Court's decision to grant or deny certiorari (e.g., circuit splits), we cannot rule out the possibility that the effect of dissents is smaller or even larger than what we report here. On the other hand, our results are consistent with multivariate studies that control for these other factors. See Gregory A. Caldeira, John R. Wright, & Christopher J. W. Zorn (1999); Ryan C. Black & Ryan J. Owens (2009).

30 We also measured the dissent rate from West data. There are some small differences between the West and Lexis dissent numbers but the correlation between the two exceeds .98. These data, as mentioned earlier in the text in connection with the Lexis data, are based on unpublished as well as published data.

31 Judges who reach retirement age can continue to sit, as much or as little as they want, in lieu of retirement; and most do continue sitting, though with a lighter caseload.

32 Caseload is an imperfect measure of workload because cases are not uniform with respect to the time and effort required to dispose of a case. The Administrative Office of the U.S. Courts calculates and publishes weighted-caseload statistics for the district courts, but not for the courts of appeals. Posner (1996, 227–236) calculates weight-caseload statistics for the courts of appeals for 1993. This falls within our sample period, but we have not calculated weighted caseloads for the other years in the sample.

Table 12. Regression Analysis of Log Dissent Rates in Circuits: 1991–2006 (t-ratios in parentheses).

	Eq. (11.1)	Eq. (11.2)
<i>L.Judges (adjusted)</i>	.634*** (3.88)	.676*** (3.65)
<i>L.Caseload (adjusted)</i>	– .685** (2.98)	– .714** (3.06)
<i>L.Std.Dev. Ideology</i>	.584* (2.09)	.689* (2.51)
<i>Year Dummies</i>	No	Yes***
<i>Year</i>	– .037*** (4.52)	–
<i>Constant</i>	72.34*** (4.44)	– 1.168 (1.14)
<i>R</i> ²	.47	.49
<i>No. Observations</i>	204	204

Note: **p* < .05, ***p* < .01, ****p* < .001.

by the standard deviation of the ideology of the judges in the circuit.³³ We also include dummy year variables and cluster the observations by circuit. All variables are in logarithms except for the year variables. The dissent rate averages about 2.8 percent over the 1990–2006 period and ranges from a high of 4.8 percent in the Sixth Circuit to a low of 1.1 percent in the Eleventh Circuit. These rates understate the percentage of opinions with dissents because some appeals are terminated without an opinion.

71 Table 12 reveals that the dissent rate is positively and significantly related to the number of judges and the ideological difference among judges in the circuit, and negatively and statistically related to the circuit's caseload. The effects are large. For example, a 10 percent increase in the number of judges in a circuit increases the dissent rate by about 6.5 percent and a 10 percent increase in the caseload per judge decreases the dissent rate by about 7 percent.

72 The dissent rate in the courts of appeals has declined by about 2.5 percent per year, from about 3.4 percent in 1990–1992 to 2.4 percent in 2005–2007. This is consistent with their increasing caseload over this period. For example, the mean number of cases terminated on the merits per active judge has increased from an average of 155.4 in the 1990–1992 period to 205.1 in the 2005–2007 period.³⁴

33 To measure ideology, we use the Judicial Common Space scores. See Michael W. Giles, Virginia A. Hettinger, & Todd Peppers (2001), and Lee Epstein et al. (2007).

34 The mean is an unweighted average of the caseload in the individual circuits.

3.4. Splitting the Fifth Circuit in 1982

In 1982 the Fifth Circuit was divided into the Fifth and the newly created Eleventh Circuit. Before the split, the Fifth had 25 judges. After the split, it had 13 judges and the Eleventh Circuit had 12 judges. Since the collegiality cost associated with dissenting is greater the smaller the circuit, we would expect the sharp drop in the number judges in the Fifth Circuit to have led to a reduction in the frequency of dissents. And because the collegiality cost would be roughly the same in the newly created Eleventh Circuit, the combined Fifth and Eleventh Circuits should have a lower overall dissent rate than the Fifth before it was divided. That is what we find (see Figure 2). The average dissent rate in the Fifth Circuit was 3.6 percent from 1971 to 1982 and 1.7 percent from 1983 to 2007, and the difference is significant at the .001 level. The average dissent rate was 1.7 percent in the Eleventh Circuit, and 1.7 percent in the combined Fifth and Eleventh Circuits.

A closer look at the data, however, suggests that the decline in the dissent rate after 1982 was not caused by a reduction in circuit size but instead by a significant increase in the average caseload (see Figure 3), which increased the cost of dissenting. Although there were 25 judges in the Fifth Circuit before the split, 10 had been appointed in 1980, so that for most of the period before the split the number of judges (15) was only slightly greater than the number (13) afterward. It is implausible,

Figure 2. Ratio of Dissents to Cases Terminated on the Merits in the 5th and 11th Circuits (1971-2007).

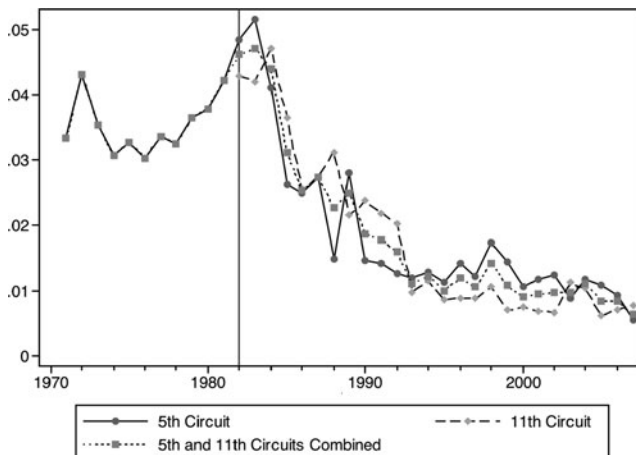
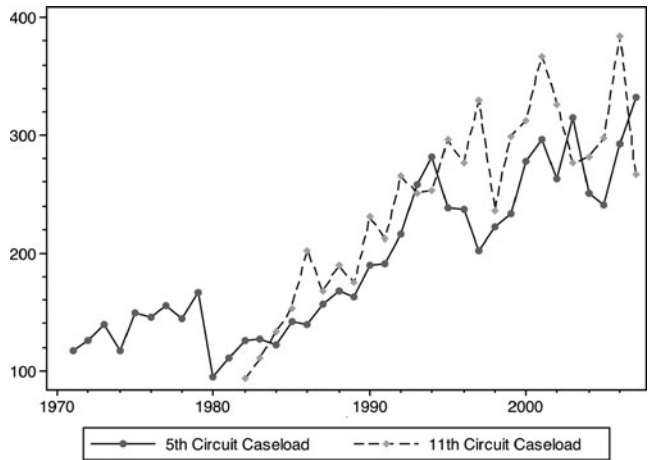


Figure 3. Caseload in the 5th and 11th Circuits (1971–2007).



Note: Caseload = terminations on the merits/number of judges.

therefore, to attribute the sharp drop in the dissent rate in the 1982–2007 period to the small drop in the number of judges. Regression analysis confirms this. We find a significant decrease in the dissent rate associated with an increase in the caseload, but no significant effect of changes in the number of judges.³⁵

3.5. Dissents and Concurrences in the Supreme Court

75 The economic theory of judicial behavior predicts that a decline in the judicial workload would lower the opportunity cost of dissenting and increase the frequency of dissents, and also that the greater the ideological heterogeneity among judges the more likely they are to disagree and so the higher the dissent rate will be. We expect similar effects for concurring opinions. To test these hypotheses, we estimate regressions from annual data on Supreme Court cases for the 1953 to 2008 terms.

76 Table 13 presents our results. The dependent variable is the number of dissenting opinions divided by the number of cases (eq. 12.1); and the

35 The regressions is $D = .062^{***} - .0002(C/J)^{***} - .0003 J$ $R^2 = .74$
(7.67) (10.07) (0.80)

where D = dissent rate, C/J = caseload, and J = number of judges. *** indicates $p < .001$.

Table 13. Regression Analysis of Log Dissent and Concurrence Rates in the Supreme Court: 1956–2008 (t-ratios in parentheses).

	Log (Total No. Dissenting Opinions/No. Opinions) (Eq. 12.1)	Log (Total No. Concurring Opinions/No. Opinions) (Eq. 12.2)
<i>Log Caseload</i>	– .330* (2.52)	– .059 (0.29)
<i>Log Other Cases</i>	– .015 (0.45)	.211** (3.10)
<i>Ideological Differences</i>	.596*** (3.95)	.307 (0.93)
<i>Time</i>	– .004 (1.94)	.017** (3.18)
<i>Dummy 1953–1955</i>	– .351*** (3.63)	– .360 (1.64)
<i>Constant</i>	8.867* (2.02)	– 33.912** (2.99)
R^2	.34	.70
<i>No. Observations</i>	56	56

Notes: (1) * $p < .05$, ** $p < .01$, *** $p < .001$ (2) All regressions have 56 observations and use robust standard errors. (3) Variable Definitions: Caseload = Opinions with oral argument; Other Cases = Per curiam opinions without oral argument, decrees and cases decided by equally divided vote; Ideological Differences = the standard deviation of Segal-Cover scores; Time = trend variable; and Dummy 1953–1955 = 1 for the 1953–1955 terms and 0 otherwise.

number of concurring opinions divided by the number of cases (eq. 12.2).³⁶ To illustrate, if the court decides 100 cases and in 40 there is one dissenting opinion, in 20 two, and in 5 three, there are 95 dissenting opinions in all, hence .95 dissenting opinions per case. The independent variables include the number of decisions after oral argument (86 percent of the total), which we call the “caseload” variable; the number of other decisions (the “other cases” variable) (decisions in nonargued cases plus a small number of decisions in original as distinct from appealed cases and a few cases decided by an equally divided vote); an estimate of ideological heterogeneity (the standard deviation of Segal-Cover ideology scores); and a time trend variable that accounts for combined effects on dissents of other factors (e.g., the rise in opinions dissenting from denial of certiorari, word processing and electronic research, and the number of law clerks). Finally, we add a dummy variable for the 1953–1955 terms because of an inexplicably small number of opinions in the first

36 We also estimated regressions using alternative dependent variables, such as the fraction of cases with at least one dissenting opinion (which does not distinguish between a case with one and a case with two or more dissenting opinions), the average number of dissenting votes per opinions, and the fraction of cases with one or more concurring opinions. The results were similar to those reported here.

three years of our data (50 percent below 1956 and subsequent years) for both cases with and without oral argument.³⁷

77 We find that the number of decisions in argued cases (the caseload variable that we emphasize) has a significant negative impact on the fraction of dissenting opinions. Since both the dissent and caseload variables are in logarithms, the regression coefficient indicates that a 10 percent decrease in the caseload increases the dissent rate by about 3.3 percent. We also find that the greater the ideological heterogeneity of the Justices, the greater the increase in dissenting opinions. Of the remaining variables, only the 1953–1955 dummy variable is significant. We have no explanation for why the effect of that variable is negative and relatively large, indicating about a 35 percent drop in the dissent rate although this is offset by the negative coefficient on the caseload variable, so that the net effect on the dissent rate is close to zero in the 1953–1995 time period.

78 Equation (12.2) reveals a significant positive time trend of the frequency of concurring—a 1.7 percent increase per year. We find no significant effect of the caseload on concurring opinions, but, surprisingly, a significant positive effect associated with an increase in “other cases.” We have no explanation for this finding.

4. CONCLUSION

79 This paper is a contribution to a growing literature, at the intersection of law, economics, and political science, that seeks to explain judicial behavior by means of a realistic model of a judge’s utility function, and to test the explanation empirically, exploiting a rich body of statistics primarily concerning the federal courts. The question we ask in this paper is why and when appellate judges, both federal court of appeals judges and U.S. Supreme Court Justices, dissent. The traditional answer given by the legal profession—the “legalistic” as distinct from “realistic” answer—is

37 To illustrate, the number of opinions after oral argument is 84 (1953), 93 (1954), and 98 (1955), compared to 121 (1956), 127 (1957), and between 101 and 153 over the next 15 years. The number of other decisions is 4 (1953), 5 (1954), and 6 (1955), followed by 6 (1956), 28 (1957), and between 11 and 75 over the next 15 years. A possible explanation for the reduction between 1953 and 1955 is that just before the start of the 1953 term Chief Justice Vinson died suddenly; Warren took the oath of office on the first day of the term. The Court probably wasn’t up to speed on cert. grants. Then there was *Brown*, which was scheduled for reargument on December 9, 1953, and took a great deal of the Court’s time. Jackson died at the start of the 1954 term and wasn’t replaced until March 1955.

that a judge dissents when he disagrees with the majority. But such an answer depends on an inadequate understanding of judges' incentives. We show that a realistic conception of such incentives predicts "dissent aversion" in the circumstances prevailing in the courts of appeals, but not in the circumstances prevailing in the Supreme Court. The reasons for the difference have to do with differences in the costs and benefits of dissent in the two courts. These costs and benefits are a function in turn of workload (which increases the time cost of dissenting), the costs in impaired collegiality from frequent dissenting (which is related in turn to the size of the court), the likelihood that a dissent will influence the future course of the law, the ideological composition of the court, the importance of a case (which can be proxied by citations to the majority opinion), and the degree to which the court adheres to precedent. We find that the predictions generated by our theory of judicial behavior are generally well supported by the data, though there are unresolved puzzles that provide an agenda for future research.

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