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THE INFLUENCE OF WOMEN AND RACIAL MINORITIES UNDER PANEL DECISION-MAKING ON THE U.S. COURT OF APPEALS

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Abstract

This paper assesses the impact of gender and race on judicial decisions on the federal Court of Appeals, paying particular attention to the institutional nuances of decision-making on three-judge appellate panels within circuits. Our central question is whether and how racial minority and women judges influence legal policy on issues thought to be of particular concern to women and minorities. Proper analysis of this question requires investigating whether women and minority judges influence the decisions of other panel members. We find that the norm of unanimity on panels grants women influence over outcomes even when they are outnumbered on a panel.

1. Introduction

While the concept of representation is central to American political science, it is problematic when invoked in connection with the judiciary. This is because the judiciary's ostensible task of neutral adjudication is in conflict with the notion that judges are political actors who represent discrete groups. Pitkin's (1967) classic distinction between descriptive and substantive representation is useful for distinguishing two senses in which the judiciary could be thought to be representative. A political body or institution is descriptively representative by literally resembling or reflecting the constituent elements of the community that it governs. In contrast, substantive representation is concerned with what the representative actually does on behalf of the interests of the group he or she is associated with.

The goal of this paper is to assess minority representation on the federal Court of Appeals, paying special attention to institutional features of federal appellate panels. For ease of exposition, we refer to both non-whites and women as "minority" judges because both are in a small minority relative to white men on the federal bench. We demonstrate with argument and evidence that past studies of minority representation on federal appellate panels have relied on research designs that fail to accurately capture minority influence on legal policy. Past research on this issue has examined only the individual voting behavior of minority judges, neglecting the fact that federal Court of Appeals cases are decided by majority vote on three judge panels (with the rare exception of en banc decisions). Thus, any adequate assessment of minority influence must consider not only the votes of minority judges, but also must investigate whether minority judges influence the decisions of other judges on their panels and thereby affect panel outcomes

and legal policy. Our findings demonstrate that the gender composition of a panel is a powerful predictor of panel decisions in discrimination cases, and that examining only individual-level variables measuring judges' characteristics is inadequate for drawing inferences about the effects of minority judges' influence on case outcomes. This finding indicates the existence of an important factor that past studies of minority representation on federal appellate courts have missed, and points the way to new approaches to studying this issue.

Advocates of racial and gender diversification of the judiciary have suggested that it will promote the value of descriptive representation by making the judiciary better resemble the public that it governs, and will thereby strengthen at least the appearance of judicial impartiality, as well as the judiciary's legitimacy as a democratic institution (Smith 1994, 198; Tobias 1990, 177; Walker and Barrow 1985, 597). Proponents of diversification, however, have clearly desired and anticipated enhanced substantive representation as well. While bemoaning a federal bench "hostile to civil rights" at the close of the Reagan-Bush era, Barbara Arnwine, executive director of the Lawyers' Committee for Civil Rights Under Law, called for more African-American appointments as a remedy (Smith 1994, 199). Regarding the appointment of more women judges, one judicial scholar explained: "The organized campaign to place women on the bench rests on the hope that women judges will seize decision-making opportunities to liberate other women" (Cook 1981, 216). In particular, diversification advocates have expected that racial minorities and women on the bench would be more concerned about and responsive to questions of race and gender discrimination, *and would actually render decisions more favorable to plaintiffs in such cases* (Ifill 2000; Beiner 1999; Gregory

1997; Tobias 1990; Martin 1990; Martin 1982; Goldman 1979), *as well as help to develop legal doctrine in a direction more favorable to discrimination plaintiffs* (Smith 1994).

The principal explanation given for the expectation that women and minority judges would produce legal policy more advantageous to plaintiffs in discrimination claims is that they are more likely to have encountered discrimination themselves (Beiner 1999; Songer, Davis, and Haire 1994; Martin 1990). That is, their different life experiences, as compared with white male judges, will make them more likely to believe a plaintiff's proof of discrimination. A survey of federal judges lends some support to the idea that female judges have a different perspective on discrimination than male judges. When identifying "major" problems in the legal profession, 81 percent of the women judges in the survey mentioned sex discrimination, while among men none identified sex discrimination, and only 18.5 percent referred to racial or class bias (Martin 1990, 207). Similar findings exist for African-American judges. A survey found that while 83 percent of white judges believe that African-Americans are treated fairly in the American judicial system, only 18 percent of black judges held this view (Ifill 2000, 450).

A number of high-ranking women judges have themselves suggested that they have brought their experiences as women to the bench. Justice Christine Durham of the Utah Supreme Court stated that female judges "bring an individual and collective perspective to our work that cannot be achieved in a system which reflects the experience of only a part of the people whose lives it affects" (Tobias 1990, 177). With respect to anti-discrimination law, Chief Judge Judith Kaye of the New York Court of Appeals (New York's highest court) remarked: "After a life-time of different experiences and a

substantial period of survival in a male-dominated profession, women judges unquestionably have developed a heightened awareness of the problems that other women encounter in life and in law; it is not at all surprising that they remain particularly sensitive to these problems" (Tobias 1990, 178).

To examine empirically the influence of race and gender on judicial decisions, as we do here, does not mean to indulge the facile notion that women or racial minority judges are homogeneous in their politics or values. We emphatically do not believe that there is a monolithic "women's perspective" or "minority perspective" among judges or anyone else. However, in a society with a long history of race and gender discrimination, including discrimination inscribed into law, the assumption that the race and gender of judges will have no bearing upon the policy they make may be equally facile. As discussed below, it would also be difficult to square with the empirical evidence.

Our central question is whether and how racial minority and women judges, who will most frequently be in a numerical minority on panels governed by a majority vote, influence the votes of majority group panel members and thereby affect legal policy on issues thought by advocates of diversification to be of particular concern to women and minorities. Using a sample of employment discrimination cases to probe this question, we find that institutional features of the federal Court of Appeals matter substantially. Where evidence of different preferences for minority judges exists, we find that the norm of unanimity on three-judge panels permits them to influence legal policy even when they are outnumbered on a panel. Women but not racial minorities increase the likelihood of decisions for the plaintiff even when they are in the minority on a three-judge panel.

The paper proceeds as follows. In section 2 we review the literature on the influence of race and gender on judicial decision-making. In section 3 we discuss how the institution of three judge panels might matter to minority representation and lay out the hypotheses we test in the paper. Section 4 discusses the data and our analysis and section 5 concludes.

2. Prior Studies of the Influence of Race and Gender on Judicial Decision-Making

Over the past several decades, most empirical studies of judicial decision-making at the trial and appellate levels have been based largely on the attitudinal model of decision-making (Segal and Spaeth 1993). The attitudinal model is oriented to explaining judicial decision making based upon "each judge's political ideology and the identity of the parties" (Cross 1997, 265). This individualist orientation emphasizes the explanatory power of each judges' sincere preferences independently of either legal doctrine or strategic considerations.

Following this methodological orientation, empirical studies testing whether women and racial minority judges decide certain types of cases differently than their male and white counterparts have produced mixed results. For example, in studies of criminal sentencing rulings at the state trial court level, scholars generally have not found significant differences between male and female judges (Gruhl, Spohn, and Welch 1981; Kritzer and Uhlman 1977). In other studies of state criminal sentencing, some researchers have found significant differences between African-American and white judges (Welch, Combs, and Gruhl 1988), while others have found no such racial differences (Uhlman 1978). At the federal district court level, one study found no effects with respect to a

judge's race or gender in deciding civil rights cases (Walker and Barrow 1985), while another such study found no differences with respect to a judge's race but modest differences along gender lines (Ashenfelter, Eisenberg, and Schwab 1995).[1] One very interesting recent study found that while racial minority and female federal district court judges were not more likely to strike down the federal sentencing guidelines enacted in 1988, of those judges who struck the guidelines, racial minority judges were far more likely to do so based upon a legal theory rooted in individual due process rights rather than a breach of separation of powers (Sisk, Heise, and Morriss 1998). The study's authors concluded that minority judges showed "a tendency . . . to adopt a non-mainstream approach, even if these judges reached the same general outcome at basically the same rate as white judges" (1459).

With respect to federal Court of Appeals judges, one early study found that among Carter appointees, race and gender did not influence judges' decisions in criminal, prisoner, and discrimination cases at a statistically significant level (Gotchall 1983). Subsequent research on federal appellate courts found that women were quite significantly more liberal than men in employment discrimination cases, but did not vote differently from men in criminal procedure or obscenity cases (Songer, Davis, and Haire 1994; Davis, Haire, and Songer 1993). Most recently, researchers studying unfair labor practices (ULP) cases under the National Labor Relations Act found that Asian and Hispanic judges had a higher probability of ruling for management, and though African-American judges were not more likely to decide ULP cases in general in favor of one party or the other, they were more prone to decide an important subset of the cases in

1It should be noted that the Walker and Barrow study, which reported non-findings with respect to both race and gender, was limited by a very small sample of racial minority and women judges.

favor of unions. Women judges, as a whole, did not favor either side in ULP suits, but female Republican judges were more likely to decide claims in favor of unions than male Republican judges (Brudney, Schiavoni, and Merritt 1999; Merritt and Brudney 2001).

While studies of the influence of race and gender on judicial behavior have not produced broadly consistent results, a number of the studies have found systematic differences in decision-making by judges along racial and gender lines in the area of civil rights. Moreover, while these differences ranged from modest to substantial in substantive magnitude, all of the positive findings were in the ideological direction anticipated by the advocates of diversification of the bench. That is, women and racial minority judges appear, on average, to be somewhat more sympathetic to complaints of civil rights violations.

Thus, the social scientific evidence supports the assumption that systematic differences *sometimes* exist in the views of racial minority and women judges that are more favorable to parties complaining of civil rights violations. We develop our theoretical framework below assuming the existence of such differences because the purpose of the framework is to assess whether decisional output by federal appellate panels is influenced by the presence of women or minorities *when such differences in viewpoint exist*. While the relationship we posit in elaborating the framework between judges' preferences and their race and gender is highly stylized, the simplifying assumption is necessary in order to pursue a systematic approach to addressing this research question. We think that this assumption is most likely to hold for the kinds of cases studied here, yet we ultimately leave it for the data analysis to determine whether or not such relationships are borne out.

3. The Neglected Importance Of Institutional Structure

All of the studies discussed in the previous section were explicitly motivated by the general question of whether increasing representation of minorities on the bench produces any influence on judicial policy output, particularly in areas thought by advocates of diversification to be of special concern to minorities, such as anti-discrimination law. However, all of the prior scholarship on the Court of Appeals that we reviewed has examined the votes of individual judges in isolation, ignoring the specific institutional structure in which the judges were sitting. This lack of attention to institutional context is especially problematic in studies of minority representation on appellate panels. At the federal trial court level, when a minority trial judge sitting alone presides over a case, that judge has the authority to decide the case him or herself (though, of course, the character of the appellate structure can impose some constraint). At the federal appellate level, with three-judge panels on which a simple majority prevails, a single minority judge sitting on a panel with two members of the majority group lacks the power to decide anything alone. Conversely, the two judges of the majority group possess the power to render binding decisions for the circuit that totally disregard the views of the minority.

The probability of drawing two minority judges on a three-judge panel is substantially lower than the proportion of minority judges in the pool. For example, suppose a circuit has 15 judges serving on it and 2 of those are racial minorities (this is about the average size of a circuit and the average number of racial minorities serving on a circuit today). The probability of drawing a panel that has two minorities is about 3 percent even though

minorities constitute slightly more than 13 percent of the circuit.[2] Thus, compared with federal district courts where each case is heard by a single judge, it is evident that the institution of the federal appellate panel has the potential to considerably dilute the translation of minority representation into doctrinal output representative of minority views where they differ from majority views. In Pitkin's terms, the institutional structure of appellate panels may obstruct the meaningful conversion of descriptive representation on the appellate bench into substantive representation.

This potentially bleak consequence of the appellate panel structure for minority representation would appear to be the likely outcome of a theory of judicial decision-making that ignores some important institutional features of appellate courts. Assuming that the views of minority group judges differ systematically from judges of the majority group on a discrete body of cases, such as employment discrimination cases, and all judges vote their sincere preferences, we should expect to find the following. Judges of the majority group will decide those cases in the same way regardless of whether they have a 3-0 majority or a 2-1 majority, since voting purely based on their attitudes yields adoption of the majority view in both cases. Where the panel is split 2-1 in favor of the majority group, the position of the majority judges will not be influenced by the minority judge. The minority view will only be adopted in the very small proportion of cases in which there are two minority judges on the panel. Finally, within categories of cases in which there are systematic differences between the views of majority and minority judges, this simple theoretical account would lead us to expect to see higher rates of

2This number is computed as follows. Let M be the size of the circuit, K be the number of minorities on the circuit, n be the size of the panel, and x be the number of minorities on the panel. Since we are sampling without replacement (i.e., we cannot pick a judge more than once for the same panel), then the probability of x can be computed from a hypergeometric distribution:

dissent among minority group judges when they serve on panels with two majority group judges, and among majority group judges when they serve on panels with two minority group judges.

However, it appears empirically that this simple theoretical account is incorrect. Federal appellate panels are overwhelmingly unanimous, with dissent rates aggregated across all circuits averaging approximately 6 to 8 percent, varying somewhat with respect to issue area (Songer 1986; Goldman 1975). These extremely high rates of consensus on federal appellate panels prevail even within particularly contentious issue areas, where measures of individual judges' voting and measures of panel outcomes show wide ideological variation (Atkins and Green 1976). Even where there is systematic disagreement among judges with respect to some substantive category of cases and there is wide ideological variation across panel decisions in such cases, panels nevertheless achieve unanimous decisions in the overwhelming majority of those cases. Panel unanimity appears to mask disagreement among panel members.

From the perspective of investigating the consequences of the appellate panel structure for minority representation, the question that immediately arises is what happens to the minority view on panels that are divided, for example, along racial, gender, or ideological lines? Are minority dissents being suppressed without influencing the panel's decision, or are they being withheld as part of a process through which the minority judge influences the content of the panel decision?

A number of hypotheses have been advanced to explain the phenomenon of panel unanimity, which is so prevalent that judicial scholars refer to it as a "norm" (e.g., McIver 1976, 757; see also Goldman 1968 and Songer 1986). Although these hypotheses

have not been considered in connection with the issue of minority representation, they have important implications for it. One set of explanations holds that a judge on a panel who disagrees with the panel majority acquiesces in the majority's brute numerical force, and signs on to an opinion with which he or she disagrees, *without influencing the decision's content*. These explanations for unanimity are (1) workload, (2) a coercive consensus norm, and (3) the loneliness of dissent. We refer to these explanations collectively as "suppressed dissent" hypotheses for explaining panel unanimity. In this scenario, on a panel split 2-1 in favor of the majority group, the two majority group judges vote their sincere attitudes while the minority judge does not.

The workload explanation is that federal appellate judges simply have too much work to do sitting on panels and writing their assigned majority opinions. Their heavy workload restrains them from taking on the extra work of writing dissenting opinions, particularly given that such opinions do not affect the outcome of the case and carry no precedential weight (Songer 1986; Green 1986; Atkins and Green 1976).[3] The coercive consensus norm refers to the idea that among appellate judges on a panel, "social pressure exists . . . for the judge to adhere to the dominant value or position expressed in a decision" (Atkins 1973, 43), and that a consensus norm underwritten by this social pressure amounts to a "behavioral restriction" (Atkins and Green 1976). This norm is said to be motivated by a view among judges that dissenting opinions create legal uncertainty, reduce the court's credibility, and may even provoke opposition to a decision (Atkins 1973). Finally, judicial politics scholars have theorized that judges who disagree with a panel decision may withhold their dissent, in part, due to the "intrinsic loneliness of dissent" (Songer 1982, 227; Atkins and Green 1976, 738, n. 2).

If any of these three suppressed dissent hypotheses are correct, the effect is the same for purposes of the present discussion. Within categories of cases in which the views of majority and minority judges differ systematically, panel unanimity would be masking the failure of minority judges to influence legal policy in all but the few cases in which they constitute a majority of the panel.

However, there is a second set of explanations for the unanimity of appellate panels that, if true, would yield a more optimistic conclusion about how appellate panels mediate minority representation into legal policy. This set of explanations contemplates that the process by which a dissent is withheld involves the moderation of the majority view toward the would-be dissenter's preferred position. These explanations are (1) deliberation, (2) a norm of consensus through bargaining, and (3) fear of "whistle-blowing." We refer to these explanations collectively as "modified content" hypotheses for explaining panel unanimity. In this scenario, on a unanimous panel divided 2-1 in favor of the majority group, neither the two majority group judges nor the minority group judge vote their sincere preferences, but rather they achieve a compromise decision between their respective ideal points.

The deliberation explanation is straightforward, and is most consistent with the conventional legal model of decision making on a multi-judge panel. According to this view, sitting on an appellate panel is a collegial and not an isolated decision-making process. Judges take one another's views seriously in the deliberative process, and this will tend to cause judges on a heterogeneous panel to moderate their views toward the center as compared to judges on a homogeneous panel (Revesz 1997; Kornhauser and Sager 1993).

3However, as we discuss below, dissents may have a "whistle-blowing" effect.

The norm of consensus through bargaining is motivated by the same concerns as the coercive consensus norm—fear that dissents promote legal uncertainty, reduce the court's credibility, and possibly diminish compliance. According to this view, judges deliberate "in a spirit of 'give-and-take' (or accommodation) in an effort to reach decisional consensus and thus avoid public dissension" (Goldman 1968, 479–80). As one judge put it, emphasizing why a dissenter who is not entirely happy with a panel decision might sign on: "Often a judge would rather bargain with his peers and achieve a decision, although not as broad-sweeping as he would want but nevertheless in the right direction, than write a ringing dissent while having no influence on the outcome of the case" (Goldman 1968, 479–80).

Finally, the whistle-blower hypothesis holds that in circumstances in which the preferred majority holding is contrary to legal doctrine, the public filing of a dissent identifying the deviation from doctrine would alert others of the majority's transgression, most importantly the larger circuit and the Supreme Court, both of which could overturn the decision. Because this would increase the chances of reversal, the threat of the dissent will cause the majority to comply with doctrine, and this will cause the dissenter to join, making the decision unanimous (Cross and Tiller 1998).

If any of these three modified content hypotheses are correct, then panel unanimity need not entail neglect of minority group views on panels with one minority judge. Instead, the existence of unanimity would reflect substantive modifications of the majority view in the direction of the minority, as compared with panels of three majority judges. If this were true, the unanimity norm on appellate panels would be functioning to facilitate rather than impede substantive minority representation.

Our empirical analysis tests whether the evidence supports the suppressed dissent hypotheses or the modified content hypotheses as applied to heterogeneous panels. That is, we seek to determine whether, in panels divided along racial, gender, or ideological lines, the presence of minority judges influences the content of panel decisions. Some recent innovative scholarship has found that in certain types of ideologically sensitive cases, the ideological composition of an appellate panel, as measured by the party of the appointing president of each of the judges, exerts significant influence on the judges' votes (Revesz 1997; Cross and Tiller 1998). For example, a Democrat is markedly more likely to vote conservatively when sitting on a panel with two Republicans, as compared to sitting on an ideologically unified panel of three Democrats.

Drawing upon this approach, we examine the panel-level effects—that is, the effects of panel composition—in terms of minority representation on panels deciding employment discrimination cases. While our data does not enable us to choose with confidence among the specific hypotheses that fall under the general categories of suppressed dissent or modified content, we can test between the two categories. If we find that the probability of an outcome in favor of a civil rights plaintiff increases when only one minority serves on a panel, this would be evidence in favor of the modified content hypotheses. If the probability increases further when a second minority is added to the panel, this would suggest that achieving a panel majority allowed the minority judges to move the outcome in a more liberal direction. If the probability of a ruling for the plaintiff does not increase further when a second minority is added to the panel, this suggests one of two things. First, if minority representation is modifying the content of decisions through deliberation or bargaining, it simply may be that the increase in

liberality thus achieved satisfies the preferences of minority group judges even when they are in a majority on the panel. Second, as we discuss below, a panel with two minorities may regard itself as a more likely target for review, and may be restrained by this concern from moving in a more liberal direction. If we find that the probability of an outcome in favor of a civil rights plaintiff does not increase when one minority serves on a panel but does increase when two serve, this would be evidence in favor of the suppressed dissent hypotheses. We would interpret this result as indicating that the more liberal votes of minority judges when they are in a majority better represent their sincere preferences, which are not influencing outcomes when only one serves on a panel. Finally, if we find that neither one nor two minorities serving on a panel affects the probability of an outcome for the plaintiff, this could simply indicate that there is no difference between the views of minority group and majority group judges as evaluated by the measure of case outcome.

While the key focus of this analysis is on how panel-level variables affect case outcomes, the theoretical development also suggests that we need to be concerned with the effects of circuit-level variables. Legal doctrine varies substantially across circuits, especially with respect to more divisive doctrinal areas such as employment discrimination law. Circuits are able to enforce their views against potentially wayward panels through the en banc review process, or the threat of it.

Cameron, Segal, and Songer (2000) provide persuasive evidence that the ideological composition of a Court of Appeals panel is a cue used by the Supreme Court as an efficient auditing mechanism in selecting cases for review in their effort to control lower courts. They find that the greater the ideological distance between the Supreme Court

and a Court of Appeals panel, measured as a function of the party of the appointing president, the greater the probability that the Supreme Court will review the case, controlling for case facts and case outcome. Likewise, it is plausible that when minority judges constitute a majority on a panel addressing anti-discrimination law, they will recognize themselves as more likely to be scrutinized for review by their circuit en banc and the Supreme Court. The institutional constraints imposed by the circuit may cause them to refrain from moving further in their preferred direction than when there is one minority on a panel. The potential for whistle-blowing may magnify this effect. Although a female or a racial minority judge may be an effective whistle-blower when they are in the minority on a panel, females or racial minorities can have the whistle blown on them when they constitute a majority. Whatever the source of the concern about review, it is important to account for institutional effects at the circuit level in order to obtain reliable estimates of the effects at the individual judge and panel levels.[4]

Past studies of the influence of minority representation on Court of Appeals decision-making in civil rights cases have neglected the key institutional variable of the circuit in which the panel is situated.[5] According to theoretical accounts that emphasize judges' sincere preferences as an explanation for their voting patterns, the ideological composition of the circuit is not a matter of great concern. As we will see in the

4Note that the small percentage of cases that are reviewed en banc or by the Supreme Court is not evidence that such reviews are not effective in policing panel decisions or that whistle-blowing is not a concern of judges. Forward-looking judges should anticipate the possibility of review and adjust their decisions to avoid it, which would lead to a small percentage of cases actually being reviewed.

5Indeed, we are aware of only two recent related studies of the effects of judges' race and gender on decision-making to have included circuit variables. These studies analyzed decisions under the National Labor Relations Act, a substantive area of law not identified by advocates of diversification of the judiciary as one in which differences in decision-making were anticipated (Brudney, Schiavoni, and Merritt 1999; Merritt and Brudney 2001).

empirical analysis reported in the next section, however, the circuit in which panels decide cases has a significant influence on the ideological direction of panel decisions.

4. Data and Empirical Analysis

Our data consists of a random sample of 400 published federal Court of Appeals employment discrimination cases decided in 1998 and 1999, 200 from each year.[6] Scholars studying publication of Court of Appeals decisions have shown that they may differ from unpublished decisions regarding how often particular issues are raised, that the rate of publication varies across circuits and across judges (Merritt and Brudney 2001), and that the population of published decisions may not be representative of all cases litigated regarding some case characteristics (Eisenberg and Schwab 1989). These studies counsel that researchers must take care to sample from a pool of cases best suited to answer their particular research question. Our fundamental concern is the influence of minority representation, if any, on the development of *legal policy*, and thus published decisions are the appropriate object of study. Published Court of Appeals opinions are binding law on all subsequent panels and all district judges in the circuit unless overturned by the circuit en banc or the Supreme Court.[7]

We take our sample from two recent years rather than over a longer period for two reasons. First, due to the significant increase of women and minorities on the federal appellate bench over the past decade, sampling from this period increased our chances of

6The sample was drawn from the pool of published cases in the Westlaw database classified under Westlaw headnotes for employment discrimination cases, or with reference to any employment discrimination statute in the case summary.

drawing a sufficient number of cases with women and minority judges to render reliable findings. Second, by sampling within a narrow temporal frame, we aim to isolate the influence of judges' race and gender on panel decisions from significant changes over time in pertinent Supreme Court or circuit doctrine, variables that can influence case outcomes and can be difficult to account for.

We examine employment discrimination cases for a number of reasons. As discussed above, anti-discrimination law is the domain in which advocates of diversification of the judiciary expect to find differences in decision making by women and racial minority judges, and it is an area in which some past studies have found such differences. Furthermore, employment discrimination cases are the most common type of suit filed in federal court. In the five years from 1996 to 2000, the number of such federal suits ranged between 21,000 and 23,000 per year, averaging approximately 8.5 percent of the total federal cases filed annually.[8] Thus, by examining employment discrimination claims we are able to both focus on anti-discrimination law and a case type that is a staple of today's federal court docket.

We test models with two closely related but analytically distinct units of analysis. The first is each individual judge's vote for either the plaintiff or the defendant, and the second is whether the case outcome is for the plaintiff or the defendant. Individual judges' votes must be analyzed to directly assess whether and to what extent the votes of majority group judges are influenced by minority group judges on a panel. The case-level outcome must also be analyzed to gauge the influence of minority judges on case

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7Judge Patricia Wald of the District of Columbia Circuit characterized writing published decisions as writing "for the law books," while describing unpublished decisions as "a class of legal 'untouchables' " that "cannot be cited as authority for any proposition" (Wald 1995, 1373).
8Judicial Business of the United States Courts, 2000 Annual Report of the Director, Table C-2A.

outcomes and thus legal policy, which is the question that motivates this study. The individual vote analysis directly models dynamics among panel members, and the case outcome analysis measures the results of those dynamics for legal policy. The more strongly the norm of unanimity operates in our sample, the higher the rate at which individual judges' votes will correspond to case outcomes, and thus the more convergence there will be in the results produced by the two levels of analysis. While we expect a high degree of consistency between the individual level and the panel level results given the norm of unanimity, we test this expectation rather than assuming it.

We coded each judge's decision as one for a pro-plaintiff (liberal) vote, and zero for a pro-defendant (conservative) vote, and coded case outcome likewise. For decisions in which some issues were decided for the plaintiff and others for the defendant, if one party was substantially victorious over the other we coded the case as having been decided for that party. If a ruling was roughly evenly split, so that there was no clear victor, it was not included in the sample.

It must be emphasized that the task of measuring how a minority judge on a multi-judge court might influence an opinion is a difficult one. The most clearly observable manifestation of influence is to increase the probability of a decision in favor of the plaintiff, which is the measure we use here. However, changing the outcome entirely from the defendant to the plaintiff is the most extreme form of influence. A great deal of the bargaining and deliberation among judges focuses on how to frame a decision once it is decided which party will prevail (Epstein and Knight 1998). Judges almost always have choices between framing a decision in terms that range from having minimal or no policy consequences for future cases, to having far reaching influence on a large class of

future cases. For example, often in the same case a decision could (1) be hinged on the particular configuration of facts in the case, giving it minimal policy consequences, (2) be resolved by the announcement of a broad rule with profound policy consequences, or (3) be disposed of with some intermediate formulation. Judges have latitude in deciding whether to include alternative holdings in an opinion, or whether to include dicta (material not necessary to support the holding), which, while lacking strict precedential weight, can powerfully influence the development of doctrine. Cases also often involve multiple issue dimensions, leaving judges ample room to decide how to frame and/or bundle the issues in a decision (Segal 1997), which can have important doctrinal consequences. As noted above, a recent study found that although racial minority district judges were not more likely than white judges to strike down the federal sentencing guidelines enacted in 1988, among those judges who struck the guidelines, racial minorities were far more prone to do so based upon a legal theory rooted in individual due process rights rather than a breach of separation of powers (Sisk, Heise, and Morriss, 1998). While a purely outcome-based measurement would not detect this important difference, the precedent founded on individual rights will be far more likely to have future doctrinal value to advocates of criminal defendants than will a precedent based upon a breach of separation of powers. In sum, there is a vast array of choices and material for minority and majority group judges to deliberate on and bargain over in employment discrimination cases short of whether the ruling will be in favor of the plaintiff or the defendant.

If any of the modified content hypotheses are correct, then deliberation or negotiation over these types of issues could explain why a minority judge would join a panel decision

for a defendant even in a case in which he or she would have preferred an outcome for the plaintiff. While judicial politics scholars have studied this type of bargaining in close case studies of Supreme Court decisions, relying upon written communications between judges and progressive drafts of opinions as evidence (Epstein and Knight 1998; Maltzman, Spriggs, and Wahlbeck 2001), such data is not available for a Court of Appeals study the size of ours. For this reason, the only evidence we can use to test for minority influence on substantive output is whether it is actually causing a greater proportion of cases to be decided for the plaintiff. Since we are only able to test for this most extreme form of influence, we are conducting a very conservative test for the existence of minority influence. To the extent that we do find minority influence on outcomes, this is compelling evidence in support of the conclusion that minority judges are influencing substantive decision-making in favor of plaintiffs in other, more subtle ways. We contend that evidence that minority judges increase the probability of a panel outcome for the plaintiff would represent the tip of the iceberg.

We include a number of explanatory variables measuring judge characteristics in our models. The key variables of interest are gender (female=1, male=0) and race (racial minority=1, white=0).[9] In addition to gender and race, we accounted for factors that prior studies have found to be related to judges' voting patterns in ideologically divisive issue areas such as employment discrimination cases. A number of past studies have found that the party affiliation of the appointing president is significantly correlated with the ideological direction of a judge's decisions at the Court of Appeals level (Cross and Tiller

9Racial minorities include African-American, Hispanic, and Asian judges. Our source for coding judges' race and gender was the Federal Judicial Center's biographical data, which can be found at http: //air.fjc.gov/history. We also estimated specifications that accounted for the age of judges, which did not

1998; Revesz 1997; Songer, Davis, and Haire 1994), and the district court level (Rowland and Carp 1996). Giles, Hettinger, and Peppers (2001; n.d.) contend that using the common space NOMINATE scores of the appointing president computed by Poole (1998) is superior to using variables that indicate the party of the appointing president. Their argument is that NOMINATE scores pick up the variation in ideology that exists across presidents of the same party but is ignored by party dummy variables. They find that NOMINATE scores are better predictors of individual judges' voting decisions than are party variables. Following their lead, we report results using NOMINATE scores as a general measure of ideology for judges.[10]

Case characteristics can also have a significant influence on judges' decisions. Researchers have found that variation in judges' voting can be explained by case facts and the identity of the litigants (Songer, Davis, and Haire 1994; Songer and Haire 1992; Songer and Sheehan 1992). We coded these characteristics for each case in the analysis. With respect to case facts, we coded the protected classification alleged to be the basis of the discrimination (e.g., race, gender, religion, age, national origin, disability, or some combination of these; we leave out the dummy variable for disability discrimination, making it the referent), as well as whether there were allegations of a "hostile environment," such as sexual or racial harassment.[11] We also include dummy variables

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have statistically significant effects, and so for the sake of parsimony we left them out of the models reported below.

10Larger or more positive NOMINATE scores indicate more conservative presidents/judges. Giles et. al. also account for senatorial courtesy in appointments by including the common space NOMINATE score of relevant senators in their models. We do not include measures of senators' ideology because it would require weighting senators' ideology against presidents' ideology and it is not clear what the weights should be. We also estimated models using party indicators, but the specifications with the NOMINATE scores generally fit the data better. The main results on the gender and race variables reported below did not change significantly across the different specifications.

11While Songer, Davis, and Haire (1992) included in their analysis of employment discrimination cases variables measuring evidence of past discrimination, whether the relief sought involved quotas or

that indicate whether or not the case involved claims of reverse gender or racial discrimination. Regarding the identity of the parties, we coded whether the defendant was a governmental entity (government defendant=1, other=0), and whether the plaintiff was the Equal Employment Opportunity Commission (EEOC plaintiff=1, other=0). Past researchers have also found that whether the plaintiff or defendant is appealing the trial court decision may be a significant predictor of the outcome on appeal (Clermont and Eisenberg 2001; Eisenberg and Schwab 1989), and thus we included a set of dummy variables to account for whether the plaintiff, defendant, or both parties appealed (plaintiff appeal=1 if plaintiff appealed, =0 otherwise; both appeal=1 if both the plaintiff and the defendant appealed, =0 otherwise; this makes appeal by the defendant the reference category). These variables also indicate the direction of the lower court decision since an appeal by one party indicates a decision in favor of the other. We also coded the cases for whether the lower court decision on appeal was a pretrial or post-trial ruling (posture=0 if post-trial; =1 if pretrial).

Finally, we include circuit-level effects in our model, which should account for both constraints on judges' decisions imposed by concerns about being overturned by the circuit en banc, as well as the ideological tilt of a particular circuit's doctrine. Further, the circuit-level effects are necessary due to possible variation in the nature of claims arising in different circuits (Brudney, Schiavoni, and Merritt 1999). Circuit effects are operationalized with a set of dummy variables indicating the circuit in which the case was

affirmative action, whether the relief sought would affect seniority rights, and whether an amicus brief was filed, preliminary analysis showed these variables to be insignificant, and since they are not theoretically central to our analysis, we excluded them to avoid cluttering up the model.

litigated.[12] The reference category for the circuit dummies is the 9th Circuit, which we expect to be the most plaintiff-friendly given its liberal bent.[13]

With respect to predicting individual judge's votes, we model panel-level effects explicitly by including a battery of variables that indicate the gender, racial, and ideological profile of a judge's colleagues on the panel, and with respect to predicting case outcomes we include variables indicating the same characteristics for all three judges on the panel. Although including these sets of dummy variables consumes several degrees of freedom, this approach is superior to including one ordinal variable for each of the panel's characteristics we are interested in. For example, we could indicate the number of female colleagues serving on the panel by including a variable which ranges between zero and two (in our sample there are no cases where three women serve on the panel). But this would impose monotonicity in the effects of this variable, which could lead to the wrong inferences about panel-level effects. That is, the approach would constrain the marginal effect of the variable to be the same whether the change on the panel is from zero to one female colleague, or one to two female colleagues. If there is an effect only when two women serve on the panel (i.e., they constitute a majority), we

12Although the circuit dummies are a rather crude way to measure circuit-level factors, we think they are superior to other alternatives. We also estimated a model with circuit composition variables for race, gender, and party of the appointing president. These variables, while perhaps less crude than the dummies, miss aspects of circuit doctrine not related to race, gender, or party, as well as variation in the substance of circuit caseloads. We also tried including the mean of the common-space NOMINATE scores for the judges on the circuit to account for circuit ideology, and constructed a general measure of ideology, though it was so highly correlated with party that we saw little value added to putting it in our model. The results reported below on the main gender and race variables were robust to all of these different operationalizations of circuit-level effects and tests indicated that it is necessary to include variables accounting for circuit effects in order to avoid misspecification bias. Another approach to accounting for circuit-level factors would be to use a hierarchical model, where coefficients on explanatory variables are allowed to vary across circuits. This is a potentially fruitful approach, but would require a great many more cases within each circuit than we have in our sample and thus is left to future work.

13The results reported below were robust to using other circuits as the reference category. In some cases, judges serve on the panels "by designation" though they do not sit on the circuit where the case was heard. The circuit dummy for these cases is still the circuit where the case was litigated.

could obtain a positive and statistically significant coefficient. But this would imply an increase in the probability of the dependent variable equaling one when the value of the ordinal variable changed from zero to one, even though there is no real increase in the probability when only one woman is added to the panel. A better approach is to allow the marginal effect to be different depending upon the number of female colleagues on the panel. Including a dummy variable that has a value of one if at least one female colleague serves on the panel and a dummy variable that has a value of one if at least two female colleagues serve on the panel allows us to properly assess the effect of going from zero to one and from one to two women on the panel. "Dummying out" the gender and race variables is thus superior to including ordinal variables. The variable accounting for the ideological positions of a judge's colleagues is simply the mean of their NOMINATE scores.

Additionally, we need to allow the effects of the colleague dummy variables to vary depending on the race and gender of the judge in question. For example, if the judge is female then having one female colleague on the panel implies that it is majority female. But if the judge in question is male, having one female colleague implies that the panel is majority male. The inferences drawn from the coefficient on the one female colleague dummy are thus very different for male and female judges. Further, if we estimated only one coefficient for both genders for the one female colleague variable we would not be able to isolate the influence of female judges on male judges, which is a central object of our inquiry. Proper tests of our hypotheses require estimating separate coefficients for different genders and racial groups.

Our sample limits us somewhat in our ability to test hypotheses about panel-level effects because it does not include cases where *only* women or racial minorities served on the panel. Such cases are extremely rare. The dummies for gender and race indicate whether at least one or at least two female colleagues served on the panel, and whether at least one or at least two racial minority colleagues served on the panel. However, with our sample we are able to estimate coefficients on the variables measuring two female or two racial minority colleagues on the panel only for male and white judges, respectively. Descriptive statistics for the variables included in the empirical model appear in table 1.

Before we discuss our results, we note that, consistent with past studies, there were dissents in approximately 5 percent of the cases in our sample (21 of 400). We found no statistically significant relationship between panels divided along racial or gender lines and the occurrence of dissents. Thus, the norm of unanimity prevails in our sample of employment discrimination cases even on heterogeneous panels.

The results of the logit analysis of individual judges' votes are reported in table 2. For purposes of comparison, we estimated models with and without panel composition variables. In the absence of panel composition variables, we find that the gender of the judge and the NOMINATE score of the president who appointed him or her affect the vote (see the columns for Model 1 in table 2). The coefficients on gender and ideology are bounded away from zero and indicate that a female judge is about 10 percent more likely to vote for the plaintiff.[14] A judge with a NOMINATE score that is one standard deviation above the median (and thus more conservative) is 4 percent less likely to do so.

14Marginal effects were determined by simulating probabilities. The values of all of the variables included in the model were set to their median values and then the value of a specific variable was varied from zero to one or vice versa for the dummy variables or perturbed one standard deviation for the continuous variables in order to determine its marginal effect.

A judge's race does not affect his or her probability of favoring the plaintiff as measured by case outcome. Several of the variables measuring case characteristics have statistically significant effects at the .05 level or better. A claim of harassment increases the probability of voting for the plaintiff, while a claim of reverse race discrimination decreases this probability. A judge is more likely to vote to overturn a decision in favor of a plaintiff than a decision for a defendant. Nine out of the eleven circuit dummies are significant at the .05 level or better, and indicate that all but the 6th and 11th circuits are less likely to produce decisions in favor of the plaintiff than the 9th Circuit. Accounting for circuit-level effects is clearly an important part of the model specification. A Wald test for excluding the circuit dummies gives a χ^2_{11} statistic of 88.22 (p<.0001). This indicates that past studies of minority representation on the Court of Appeals which have examined individual votes without accounting for these institutional effects have produced somewhat biased results due to the omission of relevant variables.

The results from the logit model that includes the panel composition variables (reported in the columns for Model 2 of table 2) lead us to different inferences about the influence of gender and ideology. When the gender composition variables are included, we still find that the coefficient on the gender of the individual judge is statistically distinguishable from zero. The variable that indicates the presence of one female colleague on the panel has a positive and statistically significant coefficient for males but not for females. The marginal effect of this variable is to increase the probability that a male judge votes for the plaintiff by 19 percentage points, nearly double the marginal effect of a judge's individual gender when the panel-level variables are excluded. The marginal effect for the variable measuring the individual judge's gender is also about 19

percent. Our interpretation of this result is that when one woman serves on a panel, the men on that panel tend to vote more liberally, and at about the same rate as women. This finding makes sense given the norm of unanimity and supports the modified content hypotheses. Whether through deliberation or bargaining she is able to increase the likelihood that the men will find for the plaintiff, or they are concerned about the woman acting as a whistle-blower in cases in which they otherwise may have departed from doctrine, it is evident that men vote differently when there is at least one woman serving on a panel with them, ceteris paribus.

However, the coefficient on the dummy variable indicating the presence of at least two women on the panel as distinguished from one is not bounded away from zero for male judges. In combination with the statistical insignificance of the variable for female judges indicating one female colleague, this means that having a majority of women on the panel does not increase the probability that either male or female judges on the panel will vote for the plaintiff over the increase that occurs when there is one woman serving on the panel. This finding is consistent with three alternative interpretations. The first is that if minority representation is modifying the content of decisions through deliberation or bargaining when there is one women on a panel, it simply may be that the increase in liberality thus achieved satisfies the preferences of women judges even when they are in a majority on the panel. The second is that, while a second woman on a panel does not increase the probability that the other two judges will vote for the plaintiff, there may be other pro-plaintiff influences on non-outcome based dimensions of legal policy that are achieved within a decision for a given party. The third is that, as suggested by the whistle-blower/auditing argument, if two women on a panel regard increasing the

liberality of their decision to be more likely to provoke a dissent and/or attract review by the circuit en banc or the Supreme Court, they may be constrained from using their numerical majority to decide cases in favor of civil rights plaintiffs at a higher rate than panels with one woman.[15]

None of the coefficients on the variables pertaining to race have effects that are statistically distinguishable from zero. Neither the race of the individual judge nor the racial composition of the panel affects judges' votes in a systematic way. This result is consistent with two alternative interpretations. Either racial minority judges do not hold views different from white judges on employment discrimination claims as measured by case outcome, or if they do, they are suppressing their dissents without influencing the case outcome.[16]

The results for the general ideological composition of the panel are similar to our findings regarding gender composition. The NOMINATE scores of a judge's colleagues

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15One might argue that the finding on the two women dummy is being driven by the fact that if two women are on a panel, it is likely that one of them is a Republican-appointed judge who would be less plaintiff-friendly and would therefore negate the influence of the Democratic-appointed woman. We included additional panel composition dummy variables to account for gender-party combinations. Adding these variables actually strengthened the result on the variable indicating the presence of a single woman (regardless of party) on the panel, while the two women variable remained insignificant. We also tried an alternative specification where the set of panel composition dummy variables indicated the presence of exactly one women, exactly two women, etc. The marginal effects of these variables would give the change in the probability between having zero and one woman on the panel, zero and two women on the panel, etc. The results of this specification were approximately the same as those reported above. Finally, we estimated an alternative specification where we interacted the gender variable with the variables indicating claims of gender discrimination and reverse gender discrimination in order to account for possible changes in the liberal/conservation interpretation of a vote for the plaintiff. The coefficients on these interaction terms proved to be statistically insignificant and left the qualitative results for other variables unchanged.

16We also estimated a model separating judges into more detailed racial classifications. In our sample, a larger proportion of Hispanic judges than African-American judges were appointed by Republicans. Grouping these Hispanic and African-American judges together might mask the effects of race. However, we did not find different results when we included separate indicators for each race represented in the sample. Further, as with the gender variable, we estimated an alternative specification in which we interacted the judge's race with variables indicating a claim of racial discrimination and reverse racial discrimination. The interaction terms did not have effects that were statistically distinguishable from zero, nor did their inclusion significantly alter the results on other variables.

on a panel affects his or her decision, in addition to his or her own NOMINATE score. A one standard deviation increase in the average NOMINATE score of a judge's colleagues reduces the likelihood of a finding for the plaintiff by 24 percentage points. This is almost double the size of the marginal effect for the judge's own NOMINATE score. A Wald test indicates that the panel composition variables significantly improve the fit of the model—the Wald χ^2_5 statistic is 21.44 (p=0.001)—indicating the model would be misspecified without these variables.

The results obtained for the other variables common to Model 2 and Model 1 are essentially the same. The same case characteristic variables are statistically significant in Model 2 as in Model 1. Eight of the eleven circuit dummies are statistically significant, and the Wald test again indicates that they significantly improve the fit of the model, giving a χ^2_{11} value of 63.75 (p<0.0001).

To sum up the key results, the effects of gender and ideology on individual judges' votes are not driven solely by a judge's own gender or general ideological position; the gender composition of the panel influences the behavior of male judges and the general ideological composition of the panel influences the way *all* judges on a panel vote. The presence of one woman on the panel appears to affect male judges' votes in a way that is consistent with the modified content hypotheses. Had we not included panel composition variables in the model, we would have dramatically underestimated the substantive significance of gender and ideology. Yet neither the race of individual judges nor the racial composition of panels appear to influence outcomes in employment discrimination cases.

Given the low rate of dissents in our sample, we expect that the patterns of individual voting behavior by judges described above accurately reflect the influence of minority representation on case outcomes and legal policy. To test this directly, we rerun the model using case outcome, rather than individual judges' votes, as the dependent variable. Table 3 shows that the results at the case outcome level are indeed highly consistent with those at the level of individual judge's votes. The variable indicating the presence of at least one woman on the panel has both a statistically and substantively significant effect, increasing the probability of an outcome favoring the plaintiff by about 20 percent. However, as before, adding another woman to the panel gives no additional benefit to the plaintiff. The general ideological makeup of the panel matters, while its racial composition does not. The results on the rest of the variables in the model resemble what we found in our previous analyses.

We conducted a robustness check using Generalized Estimating Equations (GEEs) to bolster confidence in our key results. While we are interested in individual judges' decisions, a judge-level analysis is open to the criticism that it underestimates the size of the true standard errors because it assumes that we have more independent pieces of information than we actually have. It is reasonable to say that observations on judges serving on the same three-judge panel are correlated in ways that we are not able to observe. A standard regression analysis would assume that all observations on judges are independent. If they are not, the use of standard regression techniques could result in overconfidence in the precision of our estimates and lead to incorrect conclusions about the statistical significance of estimated coefficients, particularly on the panel composition variables. GEEs, which allow us to account for unobserved correlation among

observations, offer a solution to this problem (see Zorn 2001).[17] GEEs relax assumptions about the independence of observations, which makes them particularly useful when examining collegial decision-making bodies whose members interact in ways that we do not observe but are likely to affect their behavior. Observations are grouped into clusters, and then parameters are estimated to model the correlations among observations in the cluster. With circuit court decisions, each three-judge panel represents a cluster.[18]

Table 4 reports GEE estimates of our model as a robustness check on our logit estimates.[19] We estimated an "exchangeable" correlation structure, which assumes that the correlations are the same across judges serving on a panel.[20] The results on panel composition effects obtained from the logit model are robust to allowing for correlation among judges serving on the same panels. While their standard errors are a bit larger relative to the estimated coefficients, the variable for male judges indicating the presence of a female colleague and the panel ideology measure still have effects that are statistically significant at better than the .01 level. We still find effects for these panel composition variables even after allowing for correlation between judges' decisions.

17A simple way to address the problem of correlation would be to include a dummy variable for each three-judge panel that appears in the data. This is not a satisfactory approach because, in addition to introducing *N*/3-1 additional parameters into the model (where *N* indicates the number of cases), it would prevent us from estimating the effects of case-level variables which theory and past research tell us should be included in the specification, because the dummy variables would be perfectly collinear with the case-level variables.

18We could also model each circuit as a cluster and have panel-clusters within circuit clusters. But one-level clustering by panels should adequately account for circuit-level correlation not picked up by the circuit-level effects.

19We also estimated models treating the data as generated by a complex survey sampling design. That is, we treated each appellate case as if it was a primary sampling unit and the three judges who decided the case as repeated observations within the unit. This approach is an alternative way to allow for correlation among judges within the unit/cluster. Not surprisingly, the results were qualitatively the same as those reported for the GEE estimation.

20We also estimated an "unstructured" correlation matrix, but the results were essentially the same as reported here.

This is additional evidence that the gender and ideological makeup of the panel matters just as much as the gender and ideology of the individual judge.

According to the GEE results, only one of the case characteristic variables has a statistically significant effect at the .05 level or better: a judge is more likely to vote to reverse a decision in favor of a plaintiff than one for a defendant. Four of the circuit effect variables—for the 4th, 5th, 7th, and 10th Circuits—are significant. Even when we account for correlation between judges on a given panel and thereby also partially account for correlation between judges on a given circuit, we find circuit-level effects. The GEE results suggest that the correlation (conditional on the explanatory variables) among judges serving on the same panels and on the same circuit is quite high, estimating the correlation parameter ρ as .891.[21]

5. Conclusion

The key finding of this paper is that studies of the influence of minority representation on the Court of Appeals must take panel composition into account. Because past studies have paid insufficient attention to institutional structure, they have deployed a problematic research design that fails to properly evaluate the influence of minority judges on federal appellate decision-making. Had we followed past Court of Appeals studies and evaluated only individual judge characteristics, we would have dramatically underestimated the effect that increased representation of women on the federal appellate bench has had on the outcome of discrimination claims. The use of panel composition

21Since GEE does not produce standard errors for ρ, we should be cautious about drawing inferences based on this parameter. See Zorn 2001 for details about an alternative specification for GEEs that will produce

variables revealed a highly robust finding that the presence of a woman on a panel makes males on the panel substantially more likely to rule for a discrimination plaintiff, and concomitantly increases the probability of a panel decision in favor of a plaintiff. Had we included only individual-level judge characteristics, we would have underestimated the real influence of gender by about half. Moreover, had we neglected to include variables to account for circuit-level effects, our results would have suffered from bias due to misspecification. Since past Court of Appeals studies of minority representation have been marked by both of these methodological problems, we believe that our approach produces more reliable estimates of the influence of minority representation on Court of Appeals decision-making. Our analysis indicates that the results of past studies, particularly those finding an absence of any distinctive influence of women and racial minority judges on federal appellate policy-making, are in need of reevaluation taking into account panel and circuit-level effects.

This paper also contributes to work in the literature that finds that the structure of judicial institutions shapes the content of the policy they produce. We posited two sets of hypotheses regarding how the institution of three judge panels, where a strong norm of unanimity prevails, might affect judges' decisions. We find evidence for the modified content hypotheses in the context of both gender and ideology. The implication here is important to the relationship between descriptive and substantive representation. The fact that one woman on a panel makes it more liberal on anti-discrimination issues demonstrates that the majoritarian character of the panel, because it is mitigated by a strong norm of unanimity, does not obstruct the conversion of women's descriptive

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standard errors for ρ (so-called "GEE2") but is less useful for making inferences about explanatory variables.

representation into some degree of substantive representation. While the marginal effect is nontrivial, we again emphasize that measuring change in terms of the probability of a decision for the plaintiff is the most extreme form of influencing a decision. We believe that beneath the marginal effects on the probability of entirely flipping a decision from defendant to plaintiff are larger influences on the many dimensions of policy formation that occur within a decision for a given party. In this regard it must be said that our finding that panels with two women were not more likely to decide cases in favor of the plaintiff than panels with one women does not necessarily demonstrate that they did not produce decisions more favorable to civil rights plaintiffs.

We did not find clear evidence either in support of or against the suppressed dissent hypotheses in the data. While the null effects for the race variables would be consistent with the suppressed dissent hypotheses if racial minority judges held more liberal views on employment discrimination cases, they may in fact not be more liberal. Moreover, past research indicates that the measure of case outcomes may be missing subtle but important differences between the decisions of racial minority and white judges that have significant policy consequences (Sisk, Heise, and Morriss 1998). The participation of minority judges on panels might not change case outcomes from defendant to plaintiff, while at the same time, for example, influencing the reasoning of decisions in a way that produces doctrine that is more favorable to plaintiffs.

Developing a deeper comprehension of how the majoritarian appellate panel structure mediates diversification of the judiciary into policy output requires a more thorough understanding of the dynamics among judges serving on panels as well as the dynamics between the panels and the larger circuit. One extension of this paper that would enhance

our understanding would be to explore research designs that could differentiate between the competing causal explanations within the modified content and suppressed dissent hypotheses. A second extension would be to attempt to operationalize more fine-grained measures of influence than case outcome. Finally, application of our approach to other types of cases would yield additional insights.

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Table 1: Descriptive Statistics

Variable	Mean	Std. Dev.	Min.	Max.
Outcome	0.347	0.476	0	1
Gender	0.146	0.353	0	1
One female colleague on panel (female judge)	0.030	0.170	0	1
One female colleague on panel (male judge)	0.247	0.431	0	1
Two female colleagues on panel (male judge)	0.015	0.122	0	1
Race	0.085	0.279	0	1
One nonwhite colleague on panel (nonwhite judge)	0.020	0.140	0	1
One nonwhite colleague on panel (white judge)	0.140	0.347	0	1
Two nonwhite colleagues on panel (white judge)	0.010	0.099	0	1
NOMINATE score	0.138	0.493	-0.535	0.568
Panel colleagues NOMINATE scores (mean)	0.138	0.280	-0.510	0.568
Race discrimination	0.222	0.416	0	1
Gender discrimination	0.328	0.469	0	1
Harassment	0.185	0.388	0	1
Age discrimination	0.240	0.427	0	1
Religious discrimination	0.015	0.122	0	1
Nationality discrimination	0.030	0.171	0	1
Reverse gender discrimination	0.043	0.202	0	1
Reverse race discrimination	0.026	0.158	0	1
Disability discrimination	0.297	0.457	0	1
Government defendant	0.333	0.471	0	1
EEOC plaintiff	0.015	0.122	0	1
Defendant appeal	0.155	0.362	0	1
Plaintiff appeal	0.752	0.432	0	1
Both appeal	0.092	0.290	0	1
Posture	0.718	0.450	0	1
1st Circuit dummy	0.060	0.238	0	1
2nd Circuit dummy	0.062	0.242	0	1
3rd Circuit dummy	0.033	0.177	0	1
4th Circuit dummy	0.028	0.164	0	1
5th Circuit dummy	0.098	0.297	0	1
6th Circuit dummy	0.055	0.228	0	1
7th Circuit dummy	0.203	0.402	0	1
8th Circuit dummy	0.190	0.392	0	1
9th Circuit dummy	0.062	0.242	0	1
10th Circuit dummy	0.077	0.267	0	1
11th Circuit dummy	0.102	0.303	0	1
D.C. Circuit dummy	0.030	0.171	0	1

Note: N=1200.

Table 2: Logit Analysis of Judges' Votes in Appeals Court Decisions

Variable	Model 1 Coefficient	Model 1 Std. Err.	Model 2 Coefficient	Model 2 Std. Err.
Intercept	1.373	0.336	1.102	0.356
Gender	0.420	0.200	0.832	0.233
One female colleague (female judge)	___	___	-0.411	0.454
One female colleague (male judge)	___	___	0.811	0.182
Two female colleagues (male judge)	___	___	-0.370	0.574
Race	-0.017	0.270	-0.257	0.313
One nonwhite colleague (nonwhite judge)	___	___	0.254	0.578
One nonwhite colleague (white judge)	___	___	-0.212	0.240
Two nonwhite colleagues (white judge)	___	___	-0.239	0.750
NOMINATE score	-0.451	0.154	-0.608	0.162
Panel colleagues' NOMINATE scores	___	___	-1.064	0.245
Race discrimination	0.342	0.201	0.392	0.208
Gender discrimination	-0.067	0.181	-0.131	0.186
Harassment	0.760	0.199	0.714	0.209
Age discrimination	0.081	0.187	0.020	0.193
Religious discrimination	-0.730	0.600	-0.737	0.629
Nationality discrimination	-0.395	0.507	-0.074	0.500
Reverse gender discrimination	0.374	0.376	0.545	0.391
Reverse race discrimination	-1.303	0.609	-1.390	0.613
Government defendant	0.139	0.158	0.126	0.162
EEOC plaintiff	0.266	0.590	0.127	0.612
Plaintiff appeal	-1.541	0.231	-1.580	0.237
Both appeal	0.667	0.282	0.668	0.289
Posture	0.013	0.202	-0.047	0.208
1st Circuit dummy	-1.376	0.395	-1.099	0.410
2nd Circuit dummy	-0.716	0.362	-0.638	0.372
3rd Circuit dummy	-1.924	0.508	-1.383	0.547
4th Circuit dummy	-2.088	0.568	-1.952	0.578
5th Circuit dummy	-2.503	0.384	-2.102	0.403
6th Circuit dummy	-0.016	0.377	0.172	0.401
7th Circuit dummy	-1.573	0.305	-1.210	0.321
8th Circuit dummy	-1.356	0.311	-0.824	0.328
10th Circuit dummy	-1.596	0.367	-1.413	0.382
11th Circuit dummy	-0.404	0.325	-0.159	0.334
D.C. Circuit dummy	-1.253	0.486	-1.183	0.496
Likelihood ratio test	271.33 (p<.0001)		321.24 (p<.0001)	
% correctly predicted	78.5		80.7	

Note: Table entries are maximum likelihood estimates. N=1200.

Table 3: Logit Analysis of Case Outcomes

Variable	Coefficient	Std. Err.
Intercept	1.099	0.622
One woman on panel	0.837	0.283
Two women on panel	-0.470	0.629
One nonwhite on panel	-0.216	0.365
Two nonwhites on panel	0.279	0.798
Mean of panel NOMINATE scores	-1.750	0.558
Race discrimination	0.485	0.364
Gender discrimination	-0.164	0.327
Harassment	0.799	0.365
Age discrimination	0.096	0.337
Religious discrimination	-0.685	1.086
Nationality discrimination	-0.170	0.872
Reverse gender discrimination	0.626	0.690
Reverse race discrimination	-1.795	1.175
Government defendant	0.129	0.282
EEOC plaintiff	-0.275	1.091
Plaintiff appeal	-1.526	0.413
Both appeal	0.714	0.504
Posture	-0.056	0.363
1st Circuit dummy	-1.168	0.715
2nd Circuit dummy	-0.616	0.648
3rd Circuit dummy	-1.399	0.946
4th Circuit dummy	-2.680	1.188
5th Circuit dummy	-2.262	0.714
6th Circuit dummy	-0.011	0.698
7th Circuit dummy	-1.245	0.559
8th Circuit dummy	-0.916	0.573
10th Circuit dummy	-1.477	0.665
11th Circuit dummy	-0.236	0.583
D.C. Circuit dummy	-1.114	0.855
Likelihood ratio test	112.49	($p<.0001$)
% correctly predicted	81.3	

Note: Table entries are maximum likelihood estimates. N=400.

Table 4: GEE Analysis of Judges' Votes in Appeals Court Decisions

Variable	Coefficient	Std. Err.
Intercept	1.146	0.621
Gender	0.834	0.282
One female colleague (female judge)	-0.407	0.593
One female colleague (male judge)	0.812	0.280
Two female colleagues (male judge)	-0.369	0.592
Race	-0.270	0.374
One nonwhite colleague (nonwhite judge)	-0.243	0.792
One nonwhite colleague (white judge)	-0.227	0.368
Two nonwhite colleagues (white judge)	-0.681	1.145
NOMINATE score	-0.604	0.178
Panel colleagues' NOMINATE scores	-1.062	0.349
Race discrimination	0.372	0.326
Gender discrimination	-0.098	0.311
Harassment	0.653	0.361
Age discrimination	0.017	0.340
Religious discrimination	-0.709	1.143
Nationality discrimination	-0.093	0.884
Reverse gender discrimination	0.453	0.727
Reverse race discrimination	-1.517	1.027
Government defendant	0.086	0.270
EEOC plaintiff	-0.085	1.416
Plaintiff appeal	-1.538	0.393
Both appeal	0.681	0.503
Posture	-0.073	0.318
1st Circuit dummy	-1.134	0.652
2nd Circuit dummy	-0.627	0.654
3rd Circuit dummy	-1.422	0.780
4th Circuit dummy	-2.045	0.857
5th Circuit dummy	-2.058	0.699
6th Circuit dummy	0.019	0.719
7th Circuit dummy	-1.246	0.549
8th Circuit dummy	-0.868	0.572
10th Circuit dummy	-1.440	0.677
11th Circuit dummy	-0.185	0.591
D.C. Circuit dummy	-1.180	0.804
p	0.891	___

Note: Table entries are logit estimates. N=1200.

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