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The Law and Policy of Judicial Retirement: An Empirical Study

Stephen J. Choi, Mitu Gulati, and Eric A. Posner

ABSTRACT

Lifetime tenure maximizes judicial independence by shielding judges from political pressures but creates problems of its own. Judges with independence may implement their political preferences. Judges may remain in office after their abilities degrade with age. The U.S. federal system addresses these problems in an indirect way. When judges' pensions vest, they receive full pay regardless of whether they work. This limits some of the harmful effects of judicial independence by encouraging judges to vacate their offices when they become old and by causing judges who find their work burdensome to leave office. We test the benefits and costs of this system for federal district judges. We find that the vesting system causes judges to retire as expected, that higher quality and wealthier judges are less sensitive to the financial incentives of the system, and that some judges appear to time retirement so that the president will appoint like-minded judges.

1. INTRODUCTION

Judicial independence is the centerpiece of liberal democracy. In the United States, the founders secured judicial independence by placing the

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judiciary in a coequal branch of government, protecting judicial pay, and providing for lifetime tenure. Lifetime tenure was crucial: if judges did not have to depend on the whims of elected officials such as the president for their future employment, they would not be afraid to rule independently.¹

But lifetime tenure has a conspicuous disadvantage. There is the problem of older judges staying on the job after their skills have eroded. In theory, the judicial council of a circuit can declare a judge disabled, which in turn allows the president to appoint a replacement. However, members of judicial councils seem reluctant to declare colleagues with whom they have worked for years unfit, except in extreme situations (Campbell 2009).² Anecdotally, the more typical process is for the chief judge to have an informal conversation with the judge whose capacity has diminished and try to persuade her to retire. However, these uncomfortable conversations are unlikely to occur until the problem becomes serious (Chase 1972, p. 193; Garrow 2000, p. 1085; 28 U.S.C. secs. 352–64). The result is that judges are likely to stay on the bench longer than they should.

Because of advances in longevity, a judge appointed today at the age of 50 can expect to live until the age of 80.9 and hence have a potential de facto term of 30.9 years (U.S. Department of Commerce 2011, table 102). We do not have comparable figures for the eighteenth century, but we know that life expectancy at birth was much shorter than it is today—only 56 years for men (Fogel 2004, p. 2). The first 20 Supreme Court justices died at an average age of 66.6. A sample of 20 Supreme Court justices and circuit court judges who died in recent years indicates an average age at death of 79.6, a difference of more than a decade.³

1. This is not complete independence. Sitting judges might still be motivated by the prospect of promotion to a higher court or the possibility of resigning and obtaining employment elsewhere in government (former judges have been appointed to positions such as the head of the Federal Bureau of Investigation, attorney general, solicitor general, and the secretary of Homeland Security).

2. The authority for the judicial council comes from the Judicial Council and Disability Act of 1980 (28 U.S.C. secs. 352–64). The Seventh Circuit used this authority in 1999 to remove Judge Paul Riley of the Southern District of Illinois, who had become mentally unfit after 5 years in office (which meant that he was unable to retire at full salary under 28 U.S.C. sec. 372[a]; see also *St. Louis Post-Dispatch* 1999).

3. Our calculations are based on data from United States Courts, Biographical Directory of Federal Judges, 1789–Present (<http://www.uscourts.gov/JudgesAndJudgeships/BiographicalDirectoryOfJudges.aspx>).

This is a problem for several reasons.⁴ First, if, as appears to be the case, medical technology keeps people alive longer but is not as good at preventing the deterioration of their mental faculties, then judges with eroded skills will stay in office longer today than they did in the past.⁵ Second, judges whose judicial philosophies or political commitments are mainstream when they are appointed may linger in office long after those philosophies and commitments lose their respectability. Many commentators argue that presidents should have the option to appoint like-minded judges, which they cannot very often if judges stay in office for long periods of time (Cramton and Carrington 2005).

The contrast with private employment is instructive: private employers fire employees when their skills degrade. The founders rejected this approach for judges because it would compromise judicial independence. If politicians enjoy the power to fire incompetent judges, they can use that power to fire politically inconvenient judges. The impeachment power offered a third way, but it has turned out to be too difficult to use and has largely been directed against judges who commit crimes.⁶

Other systems address the problem of judicial independence and competence in different ways. Aside from Rhode Island, all U.S. states have term or age limits for judges, as do all major democratic countries other than the United States (Calabresi and Lindgren 2006, pp. 820–22). These approaches are crude but effective ways to remove incompetent judges. But they are not costless. If a judge has a single term, then a highly competent and experienced judge cannot be retained. If the judge has a renewable term, then she might decide cases so as to please any political masters—and judicial independence is compromised (see, for example, Shepherd 2009). Mandatory retirement also deprives the state of judges who are experienced and whose abilities have not yet eroded.

The U.S. federal system has evolved an approach for removing incompetent judges despite lifetime tenure. It operates on the carrot prin-

4. A number of scholars believe that Supreme Court justices stay in office for too long. See, for example, Cramton and Carrington (2005) and Calabresi and Lindgren (2005).

5. This increased time in office was suggested anecdotally by Goldstein (2011), who notes that 12 percent of sitting federal district and circuit judges are 80 years old and that the fraction of judges 80 and older has doubled in the last 20 years. See also Garrow's (2000) study for a discussion of the problem of mental decrepitude in the context of the Supreme Court.

6. Only a handful of federal judges have ever been impeached. And over the past half century, every one of them has been removed for what either was or would have constituted criminal behavior (see Federal Judicial Center, Impeachments of Federal Judges [http://www.fjc.gov/history/home.nsf/page/judges_impeachments.html]).

ciple. Rather than remove judges who reach a certain age, the system indirectly bribes judges to leave office or take a reduced workload when they reach a certain age or level of experience.⁷ When judges reach the age of 65, they become subject to the Rule of 80. Under the Rule of 80, a judge receives a full pension—equal to her salary—when the judge’s age and the judge’s years of experience on the bench equal 80. For example, a 65-year-old judge with 15 years on the bench qualifies under the Rule of 80, as does a 70-year-old judge with 10 years on the bench (see 28 U.S.C. sec. 371[e][1]).

It is important to understand that because a judge receives full pay upon satisfying the Rule of 80, the judge has no pecuniary reason to stay in office. The judge may continue to serve but does not receive any money for doing work. In effect, the judge’s salary is reduced to zero. In addition, a judge who leaves office can earn money in the private sector or simply enjoy leisure with no monetary penalty. And judges who take their pensions are exempt from Federal Insurance Contributions Act and Medicare payments (in some states, they are also exempt from state and city income taxes) (Block 2007, p. 539). Thus, the financial benefits to leaving active status are considerable for a federal judge.

The judge who decides to leave full-time office (that is, to give up active status) faces a further choice: to remain on the bench with senior status and a reduced workload or to resign. A judge with senior status usually has a reduced caseload (see 28 U.S.C. sec. 371[e][1]).⁸ Table 1 summarizes the effects of these choices (assuming the Rule of 80 is satisfied).⁹

7. There are also informal means of pressure, as described by Goldstein (2011).

8. The amount of work that the judge chooses to do can matter for two reasons. First, only judges who maintain a workload above 25 percent of the typical load are entitled to extraordinary salary increases (that is, beyond the cost-of-living increases). Second, the number of support staff a judge is entitled to also depends on the workload (circuits typically have a scale according to which staff reductions are a function of workload decreases).

9. A fully specified table could include at least three additional columns for retired, disabled, and involuntarily disabled judges. We only briefly mention these because they do not change our analysis meaningfully. Retirement differs from a resignation in the sense that the judge retains some indicia of office—the retired judge maintains an office, can use the honorific title (as a resigned judge cannot), and remains bound by the Code of Judicial Conduct (hence can have no private practice) but does not exercise judicial authority and is not allocated any staff. Disability under 28 U.S.C. sec. 372(a) is a form of early senior status. The judge who is certified disabled after 5 years on the bench can receive 50 percent of a full salary without regard to age and 100 percent of that salary with 10 years of service, again without regard to age. A disabled judge can continue hearing cases to the extent compatible with the disability. Finally, there is involuntary disability retirement under 28 U.S.C. sec. 372(b). It is not used often, because sec. 372(a) (or senior status under the

Table 1. Summary of Effects of Judge Status Choices

	Active	Senior	Resigned
Salary	Full	Full	Full
Tax benefits	No	Yes	Yes
Private sector pay	No	No	Yes
Accoutrements of power	Full	Partial	No
Caseload	Full	Partial (typically 25%–100%)	None
Political effects	N.A.	Creates vacancy (an extra spot)	Creates vacancy (not an extra spot)

Note. Accoutrements of power would include having an office, wearing a robe, and using the honorific. N.A. = not applicable.

The incentives created by this system are more complex than they first appear. A judge who seeks to maximize the pecuniary return would resign rather than take senior status because resignation permits her to earn income in the private sector. A judge who cares at least a little about money should prefer senior to active status because of the considerable financial benefits. However, that judge's status will be somewhat reduced. At the appeals court level, the judge no longer votes on whether to hear a case en banc and generally does not have the right to assign opinions.¹⁰ At the district court level, there are fewer concrete effects, but there may be a diminishment in status—others may read the choice to take senior status as a sign that the judge has diminished in capacity.¹¹ Finally, a judge who wants to increase the representation of her party on the bench does best by taking senior status (while a same-party president is in office) so as to remain on the bench while a new position is created.¹² If the judge resigns, this temporary extra position would not be created.

Rule of 80) usually is available for a judge who can be persuaded that the time has come to leave.

10. A senior judge may still sit en banc if the court rehears a case in which the judge served on the panel (28 U.S.C. sec. 46[c]).

11. We have been told that there can also be concerns about possible reductions in office size and having to share a courtroom. Block (2007, p. 533) notes the reluctance of some law students to apply for clerkships for senior judges. Along these lines, one piece of advice that one law school provides to law students thinking of applying for clerkships is that “[t]he judge’s senior status may reduce competition for these clerkships” (Saint Louis University School of Law, Judicial Clerkships [<http://slu.edu/school-of-law-home/careers/for-students/judicial-clerkships>]).

12. An intriguing possibility here is that a judge choosing whether to take senior status might be able to negotiate taking that status as a function of who is likely to be appointed as a replacement. One senior judge explicitly acknowledged that part of his decision to

Recall that the purpose of this system is to encourage judges to stop judicial work as their ability erodes. Will it? Let us compare this system to a baseline system in which judges work until a mandatory retirement age of 70. Evaluation of this system is straightforward. It removes judges who would become incompetent after age 70, but it also removes judges who would remain competent after age 70 and does not remove judges who become incompetent before age 70. These false-positive and false-negative costs may well be high.

By contrast, the current system encourages elderly judges to take senior status or to resign but does not compel them to do either. It seems to assume that judges will enjoy their work most when their abilities are sharp. As their abilities decline, the burden of work will mount, and hence the incentive to quit will increase. The retirement system removes the pecuniary incentive to remain a judge beyond this point (as long as the Rule of 80 is satisfied). The main advantage of this system, compared with mandatory retirement, is that judges who remain sharp beyond the age of 70 will be less tempted to resign and thus will continue to contribute to the judicial system—if need be, on a reduced basis. In addition, incompetent judges over 65 who have satisfied the Rule of 80 will be tempted to resign.

However, the assumption that competence and desire to work as a judge are positively correlated might be wrong. Judges might enjoy their status, or they might derive utility from exercising power or influencing policy—and they might do so regardless of their declining competence. Indeed, the mental erosion that ought to compel a judge to resign or

take senior status was a function of who the likely candidates were to replace him. On his choice to take senior status, he explained: "This reality required me to decide whether I would defer taking senior status until it was more likely that my successor would be of my political persuasion, which would require waiting until one of the Democratic Senators had a pick or a Democrat might be elected President three years hence. . . . My decision to take senior status would not therefore be driven by my personal political beliefs but rather by the hope that my successor would meet that standard of excellence. My hope for such a successor was soon realized when the governor's office told me that the governor had two candidates whom he would recommend to the White House to fill my vacancy should I take senior status: One was a former law clerk of mine and one of the very best; the other was also known by me to be extraordinarily well-qualified. I had no trouble 'making way' for either candidate, and I immediately submitted my letter to the President taking senior status. The Governor quickly sent both candidates to Washington, D.C. to be interviewed by the White House Counsel's Office, and one of them, Brian Cogan, now Judge Cogan, soon became my successor" (Block 2007, p. 545). Compare Stras and Scott (2007, p. 470), for a description of the deal that was struck on the Ninth Circuit when Judge Betty Fletcher took senior status in order for her son, William Fletcher, to be able to get confirmation.

take senior status might blind that judge of the need to do so. Another cost is that the system gives judges the power to influence the composition of the bench. If a judge resigns or takes senior status, the president appoints a replacement. If the judge does not approve of the politics of the current president, she may hang on until the next president is elected; if the judge does approve of the politics of the current president, she may be sure to resign or take senior status while that president is still in office. In an unusually clear example of this phenomenon, Judge U. W. Clemon wrote in his resignation letter to Barack Obama, “When it became clear to me last spring that Almighty God had ordained you as the next president of this great nation, I delayed my retirement so that you would appoint my replacement” (Clemon 2009).¹³

Finally, because the current retirement system exerts influence by pecuniary means, its effects on judicial incentives may vary with the wealth or legal skill of judges. Anecdotal evidence suggests that some former judges are well-paid arbitrators or law firm partners;¹⁴ in a number of cases, judges have cited financial considerations as reasons to resign (see, for example, Lattman 2007). Thus, the retirement system may provide less of an incentive to wealthy judges to resign or take senior status than to average judges. It also may be the case that outside job options will be more available to the judges who were more influential and demonstrated greater legal skill when they were active judges. On the flip side, those judges with greater influence and skill may be the ones who enjoyed the work more and, therefore, might be the least willing to exit via either taking senior status or resignation.

So much for theory. In this paper, we test some of these ideas by statistically examining the retirement decisions of a large data set of federal district judges. We find both that the system works as advertised—pecuniary incentives to take senior status (but not to resign) are effective—and that its incidental costs are real. Judges do time their retirement decisions for political reasons, and wealthy judges are not sensitive to pecuniary incentives. These effects operate differently across judges with varying preferences and judicial aptitudes. Judges who work

13. In a survey asking judges whether political factors influenced their decision to take senior status, 81 percent said no, 16 percent said yes, and 3 percent said maybe (Yoon 2005, p. 528).

14. Using Web searches, we have found information on 22 judges in our data set who resigned or retired and then took what appear to be highly paid jobs at prestigious firms or set up arbitration practices.

harder and are better at their jobs are less likely to respond to financial and political incentives to retire.

2. LITERATURE REVIEW

The judicial behavior literature has uncovered evidence that judges decide cases in a way that at least partly advances their ideological preferences. This evidence has led scholars to examine whether judges' political preferences influence other decisions they make, including the timing of their retirements. From this perspective, judges should try to take senior status either when a like-minded president holds office and thus will have the opportunity to appoint an ideologically similar replacement or when legal or institutional changes make it difficult to satisfy their political preferences (the timing effect). Judges are human beings as well as political animals, so retirement may be influenced by factors that contribute to their well-being—including judicial pay, opportunities for higher pay in the private sector, and similar compensation and quality-of-life issues. Vesting of one's pension through satisfaction of the Rule of 80 should increase the probability of taking senior status or resigning (the pension effect).

Barrow and Zuk (1990) find evidence that district judges time their move to senior status in order to create vacancies for appointments by same-party presidents. Spriggs and Wahlbeck (1995) also find evidence for this political timing effect; they obtained data that judges take senior status when their pensions vest. Baker (2000) also finds some evidence of the political timing effect. However, all three of these papers are vulnerable to methodological criticisms (see Yoon 2005, pp. 503–5; 2006, pp. 149–50; Boylan 2004, p. 251). Recent work using more appropriate models and more control variables has uncovered little evidence of timing effects. Boylan (2004) finds that the introduction of sentencing guidelines, which reduced judicial discretion, increased the probability that federal district court judges would take senior status.¹⁵ Yoon (2005, 2006) finds strong evidence for pension effects at the district and circuit court level, but not at the Supreme Court level. Stolzenberg and Lindgren (2010) observe timing and pension effects for Supreme Court justices. A recent study of federal district court judges, Hansford, Savchak, and Songer (2010), finds that only judges eligible for retirement

15. But because Boylan (2004) tests the effect of the sentencing guidelines by using post-1989 (the year in which the guidelines were found to be constitutional) as a dummy variable, he just captures a time trend that is open to multiple interpretations.

are influenced by timing effects; those not eligible for pensions, by contrast, hope to be elevated to the circuit court and so retire only if they are too frequently passed over for promotion, regardless of the political party of the president.

We build on this work in several ways. First, the previous studies do not distinguish judges according to their abilities; we examine how judges of different abilities respond to the incentives created by the retirement system. Second, the prior work does little to distinguish resignation and senior status, which we also examine. Third, we use a new data set that contains the retirement decisions over the last 10 years—the older studies use data sets covering different time periods from further in the past. As we discuss in more detail later, our findings overlap with those in the literature but are somewhat different. Like others, we find pension effects. Unlike Yoon, we find timing effects. Our main contribution is to show how these effects interact with various characteristics of the judges, such as their wealth and ability.

3. JUDICIAL ABILITY AND INSTITUTIONAL DESIGN

Given the wide variation in terms of both the local processes used for selecting nominees for judicial positions and the variety of reasons that someone might be nominated, there is likely to be variance in the types of lawyers who receive judicial appointments. Some judges are dedicated public servants and exceptional intellects who derive enjoyment from judging either because of the intellectual challenges or because of the opportunity to do justice. Other judges may view a judgeship as a secure, high-status, and well-paying job but not as a source of intellectual enjoyment. Still others may see judging as an opportunity to implement their moral and political preferences. And some judges may represent a combination of these various preferences and abilities.

Our point is that judges are heterogeneous, and we expect that the incentives to retire or resign within the federal judiciary system will affect these judges differentially. Those who view judging more as a secure, high-paying job will be more sensitive than other judges to the financial incentives created by the judicial retirement system. Those judges with a more political perspective will be most likely to take advantage of the power to time retirement so as to give a same-party president the opportunity to appoint a like-minded replacement. Judges who derive enjoyment from the intellectual task of judging and doing justice will be insensitive to both types of incentives. To test these hypotheses, we need

a set of proxies that plausibly separate the judges who enjoy their jobs or are more dedicated to them from the others.

Publication Rate. We define Publication Rate as the number of published opinions for a judge in 2001 and 2002 divided by the average number of filings per judge in that judge's district (the total number of filings for the district divided by the number of judgeships in that district).¹⁶

Positive Citations. We define Positive Citations as the average number of positive outside-circuit citations (including federal appellate and trial courts and state courts) to a judge's published opinions from 2001 and 2002 as tracked by Westlaw.

Affirmance Rate. We define Affirmance Rate as the number of published opinions that were not overruled, including those not appealed, divided by the total number of published opinions in 2001 and 2002.¹⁷ The normal intuition might be that judges with low affirmance rates are likely to be worse; after all, they are being reversed more often. However, judges have a degree of control over how to explain their decisions and can influence the likelihood of reversal (for example, by deciding whether to publish an opinion—unpublished opinions are less likely to get reversed). Hence, other things being equal, a lower affirmance rate might indicate a higher degree of engagement, that is, a willingness to take risks. In prior research looking at the decisions of district judges on preliminary motions, we find some results consistent with this premise (Choi, Gulati, and Posner 2013).

Term Clerks versus Permanent Clerks. Judges can choose to hire either single-term clerks (short-duration clerks, who are usually right out of law school) or multiple-term, often permanent, clerks. Hiring single-term

16. By "published opinions," we mean opinions that are available in the published reports issued by Westlaw. Although Westlaw can publish whatever opinions it wants to publish, anecdotal reports suggest that Westlaw simply publishes whatever opinions judges choose to designate as published opinions. In recent years, because of the widespread availability of judicial decisions in electronic databases, and particularly the passage of the E-Government Act, the distinction between published and unpublished opinions may have become less important. However, we suspect that the choice to send an opinion for inclusion in the print reports is still an important one that reveals information about the case in question and the judge. That being said, we constrain our database of opinions to roughly the period immediately prior to the passage of the E-Government Act in late 2002 (see E-Government Act of 2002, Pub. L. 107-347, 116 Stat. 2899, 44 U.S.C. sec. 101, H.R. 2458/S. 803, enacted December 17, 2002, with an effective date for most provisions of April 17, 2003).

17. We also collected data on appeal rates for individual judges from Westlaw. However, the data here are particularly noisy because of the large variation in particular types of frivolous appeals.

clerks involves more work for judges because they have to train a fresh group of clerks every year. Judges with a taste for the intellectual challenges of judging and the ability to handle the workload, however, will happily do this extra work.¹⁸ By contrast, judges who find the job to be difficult and who need clerks who can do their work for them (in effect, functioning as junior judges) will be more likely to use longer term or permanent clerks.¹⁹

Clerks from Top Law Schools. Judges have discretion in the selection of their law clerks. Given the high status associated with a federal clerkship, federal judges tend to be overwhelmed with applicants. A judge, in choosing clerks, can hire the best applicants, and that is what she would do if the best team possible to assist was desired. However, the judge might also choose to give out clerkships as favors to the children of friends, as rewards to students who signal a particular political bent, or as presents to an alma mater. One way to examine whether a judge is more likely to be using clerk hiring to satisfy personal preferences instead of improving the quality of the work being produced is to look at the fraction of a judge's clerks who have attended one of the top 15 law schools. We assume that every federal district judge, no matter how obscure, can hire a law clerk who finished near the top of the class at a top-15 law school. If the judge systematically hires clerks from schools below the top 15, she is probably not very concerned about the quality of the work. Such a judge, we predict, is more likely to respond to inducements such as the Rule of

18. We base this assumption on conversations with federal judges. One district judge told us, "[J]udges who pick [long-]term clerks are less ambitious and less confident of their own ability (in my view). . . . Smartest clerks are [short-]term clerks. Smart hard working judges, who are ambitious and not dependent on their clerks intellectually, want: smart clerks who might end up in leadership/leading positions in government, private practice, the academy, etc." (personal communication with the authors, May 22, 2012). Along these lines, other researchers report the view that short-term clerks are perceived to be smarter and that long-term clerks are better able to substitute for the judge. Take the following passage: "One of our subjects recounted with evident distaste how it had been widely rumored among the bar that the decisions and opinions of one of the career-clerks-equipped district judges were the product of the clerks rather than the judge. One of the district judges' clerks with whom we spoke described his co-clerk [a career clerk] . . . as more concerned with 'efficiency' and less inclined to 'discursive discussion' than the other clerks. . . . [T]he career clerk was also said to be very good at predicting the behavior of his judge" (Oakley and Thompson 1980, p. 104).

19. It has been suggested, along these lines, that the availability of law clerks enables judges with diminishing capacities to stay on the job longer than they might otherwise be able to (Makar 1997; Posner 1995, p. 181). It stands to reason, therefore, that that particular effect is more likely to operate with the use of permanent clerks than with the use of term clerks.

80 and the prospect of furthering policy preferences. As our measure of the fraction of top law school clerks, we compute the fraction of clerks from top law schools for each judge from 1996 to 2000.²⁰

Intellectual Challenge versus High Status. We assume that judges who enjoy the intellectual challenge of judging and possess an aptitude for judicial work will have higher publication rates, more positive citations, and more single-term clerks as well as a greater fraction of top law school clerks. We are less clear on the relationship between low affirmance rates and these judges—high numbers of reversals may indicate a problem with a judge’s decision making, or it may also indicate that a judge is more willing to take risks with decisions. We also look at variables that identify judges who are more inclined to view judging as simply a high-status, high-paying job and judges who care mostly about promoting their own political views or that otherwise help us shed light on the incentives created by the judicial retirement system.

Wealth. Judges who are wealthy should care little about the Rule of 80. These wealthy judges are not on the bench because of the attractive retirement benefits that a federal judgeship provides. Therefore, we predict that wealthier judges should be less responsive to this particular inducement.

Politics. Judges who are of the opposite party from the president may seek to stay active longer than they would otherwise. Once a same-party president takes office, such judges may then have a discontinuously greater change of leaving active status.

Climate. Judges who do not enjoy the business of judging may be more likely to leave active status when the opportunity cost of remaining a judge is high. One opportunity cost is the ability to enjoy good weather outside of the judge’s chambers. We assume that this weather effect will have relatively little impact at younger ages, when the judge has only recently joined the bench. After all, the judge would have been aware of the weather conditions in a particular location. However, age can make a cold-weather climate less attractive. We predict that as a judge ages, a cold-weather climate will become increasingly correlated with a greater propensity to leave active status.

Other Factors. In addition to these factors, we also look at a number of other demographic factors, such as race, gender, age, prior occupation (as a judge, prosecutor, or private practitioner), and whether a judge attended a top law school. These are all variables that could influence the

20. We are grateful to Daniel Katz for sharing his data on law clerks with us.

choice to retire, although it is not clear that these variables would necessarily distinguish judges in terms of their susceptibility to the Rule of 80 and the opportunity to influence the politics of their successors. Hence, we use these as control variables.

4. DATA SET

Our data set consists of information about the decision making of all of the federal district judges who held office in 2001 or 2002 (developed in Choi, Gulati, and Posner 2013). We focus only on those judges who did not have senior status for at least part of the time in 2001 or 2002. Eliminating the others leaves us with 596 initially active district judges. Most of the judges in our sample were appointed in 2000 or earlier (95.5 percent). Some were initially appointed in 2001 (2.0 percent) and 2002 (2.5 percent). We track our initial set of active judges from 2000 to 2010.

Table 2 shows data on our sample of judges. The circuit with the most federal district judges is the Ninth Circuit (85 judges). The circuit with the least is the District of Columbia Circuit (13 judges). Of the 596 judges who were initially active in our sample, 55.7 percent were still active at the end of 2010. We focus in this study on voluntary judicial departures—through either resignation (2.0 percent of the sample) or taking senior status (37.8 percent of the sample). A small number of judges left involuntarily—through either death (2.0 percent) or impeachment (.2 percent). A small fraction of judges were also elevated to a higher court (2.4 percent went to the federal court of appeals).

The fraction of the sample that departed voluntarily varies in a relatively narrow range from 2001 to 2008 (from 8.4 to 11.4 percent). In 2009, the year following Obama's election, however, the fraction of the total sample that departed jumps to 16.9 percent (the highest fraction for all sample years). In 2010, the fraction drops to 6.3 percent (the smallest fraction for all sample years).

5. TESTS

5.1. The Rule of 80 and Judicial Quality

For our Rule of 80 tests, we define Rule80, a time-varying covariate, as being equal to one if the judge meets requirements of the Rule of 80 in the year in question or the next year and zero otherwise. We exclude those judges who leave active status involuntarily (through either death

Table 2. Sample of Judges

	Frequency	Percentage
Circuit:		
First	28	4.7
Second	59	9.9
Third	53	8.9
Fourth	50	8.4
Fifth	70	11.7
Sixth	61	10.2
Seventh	46	7.7
Eighth	39	6.5
Ninth	85	14.3
Tenth	34	5.7
Eleventh	58	9.7
District of Columbia	13	2.2
Total	596	100.0
Status:		
Dead	12	2.0
Resigned	12	2.0
Senior	225	37.8
Elevated	14	2.4
Impeached	1	.2
Active	332	55.7
Total	596	100.0
Year departed: ^a		
2001	25	10.6
2002	20	8.4
2003	22	9.3
2004	20	8.4
2005	26	11.0
2006	22	9.3
2007	20	8.4
2008	27	11.4
2009	40	16.9
2010	15	6.3
Total	237	100.0

^aIf resigned or took senior status.

or impeachment). We also exclude judges who are elevated to a higher court. We therefore test the voluntary decision on the part of district judges either to remain on active status as district judges or to resign or take senior status.

We tabulate a number of judge characteristics. The judge characteristics we assess include whether the judge is female (Female), black (Black), and of a minority race other than black (Other Race). We also

Table 3. Summary Statistics

Variable	N	Mean	25th Percentile	Median	75th Percentile	SD
Female	596	.225	0	0	0	.418
Black	596	.114	0	0	0	.318
Other Race	596	.057	0	0	0	.232
Age2000	596	56.451	51	56	61	7.385
Experience2000	596	8.156	3	7	12	6.375
Prior Judge	596	.435	0	0	1	.496
Prior Prosecutor	596	.091	0	0	0	.287
Prior Private Practice	596	.403	0	0	1	.491
Top School	596	.136	0	0	0	.343
Publications Rate	428	.025	.005	.012	.026	.036
Positive Citations	573	1.776	.750	1.355	2.171	1.934
Affirmance Rate	573	.917	.875	.952	1.000	.124
Multiple-Term Clerks	559	.798	1.000	1.000	1.000	.402
Fraction of Top School Clerks	512	.380	.000	.333	.667	.349
Net Worth	553	1.120	.280	.590	1.182	1.971
Judge Democrat	596	.532	0	1	1	.499
Cold Weather	596	.485	0	0	1	.500

look at the age (Age) and number of years of federal judicial experience (Experience) of the judge in the year in question. Next, we tabulate whether the judge was employed immediately before becoming a federal district judge as a state court judge or magistrate (Prior Judge), as a prosecutor (Prior Prosecutor), or in private practice (Prior Private Practice). Finally, we look at whether the judge graduated from Harvard, Yale, or Stanford Law Schools (Top School). Table 3 provides summary statistics of the judge characteristic variables as well as other independent variables. The Appendix provides a description of the variables.

For our tests, we employ a Cox proportional hazard model. The dependent variable is the number of years (from the start of the study period in 2000) until a judge chooses to leave active status. For judges who remain active at the end of our study time period in 2010, the number of survival years is equal to 10 (the number of years from 2000 to 2010). For each judge, the data set contains separate observations for each year of survival with both time-invariant characteristics of the judge (including Female, Black, Other Race, Prior Judge, Prior Prosecutor, Prior Private Practice, and Top School) and time-varying characteristics (including Age and Experience). The Cox proportional hazard model we estimate is as follows:

$$h(t, \mathbf{X}) = h_0(t)e^{\mathbf{x}\beta}.$$

where $h(t, \mathbf{X})$ is the hazard rate. The Cox model is semiparametric and does not require us to make assumptions about the baseline hazard rate, $h_0(t)$. In the Cox model, \mathbf{X} represents the vector of regressors, and β is a vector of estimated coefficients. For our first model, we include as regressors our judge characteristic variables Female, Black, Other Race, Age, Experience, Prior Judge, Prior Prosecutor, Prior Private Practice, and Top School. We also include the Rule80 variable.

The results of model 1 are reported in Table 4. The hazard ratio is shown for each independent variable. The hazard ratio represents a multiplier relative to the baseline hazard rate. A hazard ratio of more than 1 represents a positive effect on the odds of a judge choosing to leave the bench. Conversely, a hazard ratio of less than 1 represents a negative effect on these odds.

We construct two additional models to test whether judges with varying quality (along the dimensions we measure) respond differently to the Rule of 80. In model 2, with the results shown in Table 4, we include an indicator variable for whether the judge's publication rate is at the seventy-fifth percentile or lower for our sample judges (Low Publication Rate). We also include an interaction term between Rule80 and Low Publication Rate to assess the particular impact of the Rule of 80 on such judges. In model 3 (Table 4), we include an indicator variable for whether the judge's value of positive citations is at the seventy-fifth percentile or lower for our sample judges (Low Positive Citations). We also include an interaction term between Rule80 and Low Positive Citations. We select the seventy-fifth percentile to eliminate the top 25 percent of judges who are more likely to be superstar judges. The judicial behavior literature indicates that superstar judges may have discontinuously greater publication and citation numbers compared with non-superstar judges (for discussions, see, for example, Choi and Gulati 2004; Farber 2005). Unlike for model 1, we estimate models 2 and 3 only for those judges still active at the beginning of 2003 to avoid possible endogeneity problems with Low Publication Rate and Low Positive Citations, which are both determined on the basis of opinions published in 2001 and 2002.

We find that judges respond strongly to incentives created by the Rule of 80, consistent with a pension effect. In the results of the three models shown in Table 4, the hazard ratio for Rule80 is greater than 1 (statistically significant at the 1 percent level). In the year a judge meets the

requirements of the Rule of 80 and the year after, the judge is much more likely to take senior status. The magnitude of the hazard ratio is also large. In model 1, for example, the hazard ratio for Rule80 is 12.22, which indicates that judges who have recently qualified for full retirement pay are 12.22 times more likely to take senior status. The results provide strong evidence that the Rule of 80 does in fact cause judges to withdraw from active status, consistent with Yoon (2005, 2006).

We also find evidence about the relationship between judicial ability and retirement. In model 2, the hazard ratio on Low Publication Rate is less than 1 and statistically significant at the 10 percent level, which indicates that less productive judges are generally less likely to leave the federal bench (perhaps because of lower opportunity costs). In contrast, the hazard ratio on Rule80 \times Low Publication Rate is greater than 1 and statistically significant at the 1 percent level. The hazard ratio for the sum of Low Publication Rate and Rule80 \times Low Publication Rate is equal to 2.10 (and statistically significant at the 5 percent level), which indicates that the Rule of 80 has a particularly strong effect in getting judges with low publication rates to depart from active status. These results are consistent with some judges valuing their judgeship for the high status and high pay of the job: judges who do not work hard remain in office (instead of taking a higher paying but more challenging private sector job) until they can make more money and work even less hard by taking senior status.

In model 3, the hazard ratio on Low Positive Citations is less than 1 and statistically significant at the 1 percent level, which indicates that judges with low rates of positive citations (and thus lower opinion quality) are less likely to leave the federal bench (perhaps again because of lower opportunity costs). In contrast, the hazard ratio on Rule80 \times Low Positive Citations is greater than 1 and statistically significant at the 5 percent level. The hazard ratio for the sum of Low Positive Citations and Rule80 \times Low Positive Citations is equal to 1.03 but is not significantly different from zero. These results are consistent with but weaker than the results for Low Publication Rate. Judges with low citation rates, like those with low publication rates, remain in office rather than take more challenging private-sector jobs, but they are no more likely than other judges to retire when the Rule of 80 takes effect.

In model 4, we include an indicator variable for whether the judge's affirance rate is at the seventy-fifth percentile or lower for our sample judges (Low Affirance Rate). As with models 2 and 3, we estimate model 4 only for those judges still active at the beginning of 2003 to

Table 4. Effects of Rule80 and Judge Quality

	Model 1	Model 2	Model 3	Model 4
Female	.621* (.138)	.595* (.142)	.625* (.140)	.627* (.141)
Black	.850 (.240)	.848 (.259)	.885 (.260)	.908 (.267)
Other Race	.831 (.277)	.772 (.270)	.762 (.267)	.760 (.265)
Age	1.099** (.0147)	1.127** (.0160)	1.117** (.0154)	1.113** (.0153)
Experience	1.043** (.0115)	1.050** (.0121)	1.040** (.0117)	1.040** (.0116)
Prior Judge	1.432 (.403)	1.266 (.399)	1.295 (.372)	1.345 (.390)
Prior Prosecutor	.752 (.293)	.617 (.267)	.750 (.294)	.793 (.310)
Prior Private Practice	1.432 (.398)	1.362 (.425)	1.369 (.387)	1.409 (.401)
Top School	1.109 (.219)	1.047 (.231)	1.015 (.206)	1.031 (.209)

Rule80	12.22** (1.792)	5.220** (1.509)	6.562** (1.803)	15.85** (3.603)
Low Publication Rate		.562* (.142)		
Rule80 × Low Publication Rate		2.845** (.962)		
Low Positive Citations			.494** (.129)	
Rule80 × Low Positive Citations			2.084* (.676)	
Low Affirmance Rate				1.539+ (.385)
Rule80 × Low Affirmance Rate				.538* (.159)
N	4,617	3,781	3,773	3,773
Log likelihood	-1,151.1	-1,022.7	-1,105.3	-1,106.4
Pseudo-R ²	.206	.201	.203	.202

Note. Exponentiated coefficients of Cox proportional hazards models are presented, with standard errors in parentheses. Models 2-4 are estimated only for those judges who were active at the beginning of 2003 to avoid possible endogeneity issues with Low Publication Rate, Low Positive Citations, and Low Affirmance Rate, which are defined on the basis of opinions published in 2001 and 2002.

+ $p < .10$.

* $p < .05$.

** $p < .01$.

avoid possible endogeneity problems with Low Affirmance Rate, which is determined on the basis of opinions published in 2001 and 2002. The hazard ratio for judges with low affirmance rates is above 1 (significant at the 10 percent level). This suggests that judges with low affirmance rates are more likely to exit than ordinary judges. There are two possibilities here. The first is that being reversed may be a particularly unpleasant experience (anecdotally, judges do not like being reversed). It stands to reason, then, that judges who find the job less rewarding will be more likely to exit in order to take advantage of other opportunities. The second possibility is that the judges with low affirmance rates are the subset of judges who are more willing to take risks—that is, to write the kinds of opinions that advance the law and are at risk of being reversed. These judges may well be the better judges and, assuming that the market recognizes this, will be the ones with better private-sector options. We find some clues into which of these possibilities is at play when we look at the interaction with Rule80.

With the interaction between Low Affirmance Rate and Rule80, we see a hazard ratio below 1 (significant at the 5 percent level), which tells us that these judges with low affirmance rates are less likely to be influenced by the Rule of 80. That, in turn, suggests that judges who are willing to court reversal more (and thus have a lower affirmance rate) at the district court level are more engaged with the job of judging and less susceptible to financial incentives.²¹ The hazard ratio for the sum of Low Affirmance Rate and Rule80 \times Low Affirmance Rate is equal to .83 but is not significantly different from zero.²²

As for our control variables, in all four models, the hazard ratio for Female is less than 1 (significant at the 5 percent level in the models), which indicates that female judges are less likely than male judges to leave active status. The hazard ratio on Female in model 1 indicates that the rate of voluntary departure from active service for female judges is

21. A possible selection effect may also occur. Those judges with low affirmance rates who find reversal unpleasant may have exited the judiciary prior to qualifying for a pension under the Rule of 80. Those judges with low affirmance rates who remain on the bench until they qualify under the Rule of 80 may be the more risk-taking and engaged judges.

22. We calculated the average affirmances per appeal for the 2001–2 period for each of our district judges on the basis of all appealed cases, including both published and unpublished decisions (Affirmances per Appeal). As a robustness test, we reestimated model 4 and replaced Low Affirmance Rate with Affirmances per Appeal and Rule80 \times Low Affirmance Rate with Rule 80 \times Affirmances per Appeal. In our unreported results, the hazard ratios on Affirmances per Appeal and Rule 80 \times Affirmances per Appeal were not significantly different from zero.

37.9 percent less than that for male judges (holding all other variables constant). One can speculate about this result—perhaps women find the job more interesting, or more of them become senile later in life and thus are less likely to find judging burdensome, or perhaps our control variables do not fully account for differential opportunity costs—but we do not have an explanation.

In all four models, the hazard ratios for Age and Experience are greater than 1 (and statistically significant at the 1 percent level), which indicates that judges with greater age and judicial experience are more likely to leave active status. These results are consistent with the hypothesis that older judges grow tired of judging—either because judging becomes more difficult at advanced age (the age effect) or because judging becomes more tedious with experience (the boredom effect).

We performed a number of robustness tests. We reestimated the models used for Table 4 with the addition of alternate definitions of Top School,²³ an independent variable for district court workload,²⁴ an independent variable for the number of judges in the district court,²⁵ and squared terms for age and experience.²⁶ The ability of senior judges to

23. We do not employ a continuous measure of school quality because we conjecture that a discontinuous drop exists in school quality. For example, there is likely a bigger drop in quality between the top 15 law schools and the next 15 law schools, compared with the drop in quality between the schools ranked 86–100 and the schools ranked 101–115. Instead, we reestimated the models of Table 4 with an expanded definition of Top School encompassing the top 10 schools as ranked by *U.S. News and World Report* in 1987 (Top 10 School). We obtained results qualitatively the same as those shown in Table 4. The hazard ratios on Top 10 School were statistically insignificant in all the models. We also reestimated the models of Table 4 with an expanded definition of Top School encompassing the top 15 schools as ranked by *U.S. News and World Report* in 1987 (Top 15 School). We obtained results qualitatively the same as those shown in Table 4. The hazard ratios on Top 15 School were statistically insignificant in all the models.

24. We added the number of filings of civil and criminal cases per judge for the district court in 2000 (Filings per Judge) as an independent variable (to proxy for the workload facing judges in the specific district court). We obtained results qualitatively the same as those shown in Table 4. The hazard ratios on Filings per Judge were statistically insignificant in all the models except for the reestimated model 4, for which the hazard ratio for Filings per Judge was greater than 1 and statistically significant at the 10 percent level.

25. We added the number of district judges in the specific district court as an independent variable (to test whether the size of the court matters to the retirement decision). We obtained results qualitatively the same as those shown in Table 4 with the following differences. The hazard ratios on Female in the reestimated models 2 and 3 were statistically significant at only the 10 percent level. The hazard ratios on the number of district judges were statistically insignificant in all the models.

26. We added squared terms for Age and Experience to control for possible nonlinearities in the relationships of these variables with the decision to retire. We obtained results qualitatively the same as those shown in Table 4 with the following differences. The hazard

avoid cases may depend on district-specific rules. To control for this possibility, we added district court effects to the models of Table 4.²⁷ We also reestimated the models with errors clustered by judge²⁸ and through a logistic regression on judge-year data with errors clustered by judge. We obtained results qualitatively similar to those in Table 4 in all our robustness tests.

5.2. The Rule of 80 and Other Judicial Characteristics

We examine a number of other judicial characteristics that may affect how the Rule of 80 affects individual judges. We first divide our sample of judges on the basis of a proxy for the judge's level of engagement with the job. Our proxy looks at whether a judge hires one-term clerks (who typically come from top law schools) or use clerks who stay for multiple terms. We assume that judges who use one-term clerks are more inclined to expend effort training clerks or, alternatively, do not rely on clerks as much and thus do not find having inexperienced clerks as costly.

ratio on Low Publication Rate in the reestimated model 2 was less than 1 but statistically significant at the 10 percent level. The hazard ratio on Low Positive Citations in the reestimated model 3 was less than 1 but statistically significant at the 5 percent level. The hazard ratio on Low Affirmance Rate in the reestimated model 4 was greater than 1 but statistically significant at only the 11.6 percent level. In addition, the hazard ratios on Age and Age² were not statistically significant in any of the models. The hazard ratio on Experience was greater than 1 and statistically significant at the 1 percent level, while the hazard ratio on Experience² was less than 1 and statistically significant at the 1 percent level in all the models. These findings indicate that greater experience initially correlates with an increased propensity to retire, but at greater levels of experience each additional year of experience correlates with a diminishing increase in the propensity to retire. Stolzenberg and Lindgren (2010) found a specific curvilinear relationship between experience and the annual probability of retirement for Supreme Court justices. Following Stolzenberg and Lindgren (2010), we replaced Experience in the models of Table 4 with Experience³ and the product of Experience³ and ln(Experience). We found that the coefficients on Experience³ and ln(Experience) were positive and statistically significant at the 1 percent level in all three reestimated models. For the other independent variables in our reestimated models, we obtained results qualitatively the same as those shown in Table 4.

27. With the addition of district court effects, we obtained results qualitatively the same as those shown in Table 4 with the following differences. In model 1, the hazard ratio on Female was statistically significant at the 10.6 percent level, just beyond conventional significance. In model 3, the hazard ratio on Female was statistically significant at the 10 percent level. In model 4, the hazard ratio on Low Affirmance Rate was not statistically significant; the hazard ratio on Rule80 \times Low Affirmance Rate was less than 1 and statistically significant at the 10 percent level.

28. With the addition of errors clustered by judge, we obtained results qualitatively the same as those shown in Table 4 with the following differences. In model 1, the hazard ratios on Female and Experience were statistically significant at only the 10 percent and 5 percent levels, respectively.

We classify a judge as using either one-term or multiple-term clerks (Multiple-Term Clerks) by examining each judge's hiring patterns from 1996 to 2000.²⁹ We use model 1 of Table 4 as our base model and add a variable for Multiple-Term Clerks as well as an interaction term between Rule80 and Multiple-Term Clerks. We report the results in Table 5.

We construct a second model to examine whether judges who hire clerks from top schools differ from other judges. We divide our sample of judges on the basis of the fraction of their clerks who came from a top-15 law school (as assessed from 1996 to 2000). We define Non-Top School Clerks as a judge who has a fraction of Top School Clerks that is at the seventy-fifth percentile or lower for the judges in our sample. We use model 1 of Table 4 as our base model and add a variable for Non-Top School Clerks as well as an interaction term between Rule80 and Non-Top School Clerks. We report the results for model 2 in Table 5.

We construct a third model to address the possibility that judges with a high net worth may not respond to financial incentives to take senior status as much as judges with a lower net worth do. We define Large Net Worth as being equal to one if the judge's net worth is at the seventy-fifth percentile or greater for all judges in the sample (\$1.18 million) and zero otherwise. We use model 1 of Table 4 as our base model and add Large Net Worth and an interaction term between Large Net Worth and Rule80 to assess whether a high net worth diminishes the importance of the Rule of 80 in the decision of a judge to leave active status. The results for model 4 are reported in Table 5.

In model 1, the hazard ratios for Multiple-Term Clerks and Rule80 \times Multiple-Term Clerks are not significantly different from zero. We find no evidence that a judge's preference for short-term or long-term clerks is correlated with the general decision to leave active status and the specific influence of satisfying the requirements of the Rule of 80. Multiple-Term Clerks include judges with both 2-year clerks and more permanent clerks. To test the separate importance of permanent clerks, we replace Multiple-Term Clerks and Rule80 \times Multiple-Term Clerks with an indicator variable for a judge with permanent clerks (Permanent Clerks) and Rule80 \times Permanent Clerks in an alternate specification.³⁰ The hazard ratios on Permanent Clerks and Rule80 \times Permanent Clerks are not statistically significant at conventional levels. The hazard ratio

29. If a judge has one single-term clerk and one multiple-term clerk, we code that judge as Multiple-Term Clerks.

30. Two-year clerks are grouped with 1-year clerks as the base category in this alternate specification, and the results are not reported in the table.

Table 5. Effects of Rule80 and Other Factors

	Model 1	Model 2	Model 3
Female	.621* (.142)	.591* (.143)	.549** (.125)
Black	.813 (.238)	.759 (.241)	.843 (.240)
Other Race	.851 (.284)	.857 (.287)	1.110 (.365)
Age	1.106** (.0152)	1.100** (.0158)	1.139** (.0177)
Experience	1.039** (.0118)	1.040** (.0123)	1.062** (.0145)
Prior Judge	1.497 (.431)	1.522 (.512)	1.738+ (.545)
Prior Prosecutor	.821 (.324)	.949 (.406)	1.237 (.527)
Prior Private Practice	1.533 (.438)	1.499 (.497)	1.644 (.517)
Top School	1.145 (.232)	1.115 (.251)	1.034 (.213)
Rule80	8.126** (3.230)	6.198** (1.925)	14.45** (2.704)
Multiple-Term Clerks	1.139 (.368)		
Rule80 × Multiple-Term Clerks	1.520 (.641)		
Non-Top School Clerks		.611+ (.176)	
Rule80 × Non-Top School Clerks		2.465* (.875)	
Large Net Worth			1.991* (.542)
Rule80 × Large Net Worth			.301** (.0984)
N	4,308	3,942	4,300
Log likelihood	-1,132.7	-1,024.3	-1,066.7
Pseudo-R ²	.203	.207	.223

Note. Exponentiated coefficients of Cox proportional hazards models are presented, with standard errors in parentheses.

+ $p < .10$.

* $p < .05$.

** $p < .01$.

on Rule80 × Permanent Clerks is greater than 1 (indicating that judges with permanent clerks are more likely to retire upon qualifying for a pension under the Rule of 80) but statistically significant at only the 15.3 percent level. Our conjecture was that judges with permanent clerks were more likely to find judicial tasks to be difficult and need clerks to supplement their work. Consistent with what we found with regard to

judges with low positive citation rates and low publication rates, judges with permanent clerks were more likely to react to the incentive effects of the Rule of 80.

In model 2, the hazard ratio on Non-Top School Clerks is less than 1 and statistically significant at the 10 percent level, which indicates that judges who hire clerks who are not from top schools are generally less likely to leave the federal bench. In contrast, the hazard ratio on Rule80 \times Non-Top School Clerks is greater than 1 and statistically significant at the 5 percent level. The hazard ratio for the sum of Non-Top School Clerks and Rule80 \times Non-Top School Clerks is equal to 1.51 and is statistically significant at the 10 percent level. This result is consistent with the Rule of 80 having an effect on inducing judges who utilize clerks who do not graduate from top law schools to retire. Once again, we find that judges who are more likely to find the task of judging difficult are also more likely to react to the incentive effects of the Rule of 80.

Finally, our results of model 3 provide evidence for a wealth effect: judges with a high net worth do not respond as strongly to satisfying the requirements of the Rule of 80. While the hazard ratio on Rule80 (for judges of all wealth levels) is greater than 1 (statistically significant at the 1 percent level), Rule80 \times Large Net Worth has a hazard ratio below 1 (statistically significant at the 10 percent level). The hazard ratio for the sum of Large Net Worth and Rule80 \times Large Net Worth is equal to .599 (statistically significant at the 5 percent level). This indicates that judges with a large net worth have a higher propensity to leave office before they qualify for a pension under the Rule of 80 but a lower propensity to take senior status once they qualify under the Rule of 80 compared with judges with lower net worths who qualify under the Rule of 80. The wealth effect shows the disadvantages of using financial carrots to encourage judges to leave office or reduce their case-loads. Rich judges can afford to leave office if they do not enjoy it (which is good) but are hard to force out when they get old (which is bad). A selection effect is also possible. Those judges with high net worths who stay in office until they qualify under the Rule of 80 are the subset of judges with high net worth for whom serving as a judge is inherently valuable (hence why these judges did not resign earlier despite having the financial resources to do so). It is not surprising that this specific subset of judges will be more inclined to remain judges past qualifying under the Rule of 80.

We performed a number of robustness tests. We reestimated model

3 of Table 5 with an alternate definition of Large Net Worth and a continuous measure of Net Worth.³¹ We also reestimated the models of Table 5 with errors clustered by judge³² and through a logistic regression on judge-year data with robust errors clustered by judge. We obtained results qualitatively similar to those in Table 5.

5.3. Political Timing Effects

Federal district judges of the party opposite of the president's party may seek to remain in active status longer than they otherwise would have with a same-party president. By remaining on active status, the judge is able to occupy a seat in the district, thereby reducing the number of seats available for the opposite-party president to fill. Once the opposite-party president leaves office and is replaced by a same-party president, a judge with political goals should be more inclined to leave office. We test for such a political timing effect.

For our test, we use the hazard model from model 1 of Table 4 (with judge characteristic variables and Rule80). We add Judge Democrat, defined as being equal to one if the judge was appointed by a Democratic president and zero otherwise. The results of model 1 are reported in Table 6. During the time period of our study (from 2000 to 2010), the president changed from a Republican (Bush) to a Democrat (Obama) in early 2009. We define the variable Obama as being equal to one if the year in question is either 2009 or 2010 and zero otherwise. For model 2, we add Obama and an interaction term between Obama and Judge Democrat to model 1 of Table 6.

In both models of Table 6, the hazard ratio for Judge Democrat is less than 1 (statistically significant at the 1 percent level), which indicates that Democratic judges are less likely to take senior status when compared to their Republican counterparts. Judges appointed by Democrats

31. In the reestimation, the definition of Large Net Worth was based on a net worth greater than the ninetieth percentile for our sample of district judges (\$2.71 million). The hazard ratio on Large Net Worth at the ninetieth percentile was greater than 1 but not statistically significant. The hazard ratio on Rule80 \times Large Net Worth at the ninetieth Percentile interaction term was less than 1 and statistically significant at the 1 percent level. We also reestimated model 3 of Table 5 with log(Net Worth) to provide a continuous measure of net worth. The hazard ratio on log(Net Worth) was greater than 1 and statistically significant at the 5 percent level. The hazard ratio on Rule80 \times log(Net Worth) was less than 1 and statistically significant at the 1 percent level. Consistent with our results in Table 5, the Rule of 80 effect is moderated for judges with a high net worth.

32. With errors clustered by judge, we obtained results qualitatively the same as those shown in Table 5 with the following difference. In model 3, the hazard ratio on Large Net Worth was statistically significant at the 1 percent level.

Table 6. Political Timing Effects

	Model 1	Model 2
Female	.692 (.156)	.707 (.160)
Black	1.003 (.291)	.994 (.288)
Other Race	.953 (.318)	.956 (.319)
Age	1.111** (.0156)	1.109** (.0157)
Experience	1.029* (.0129)	1.032* (.0131)
Prior Judge	1.392 (.391)	1.347 (.379)
Prior Prosecutor	.706 (.273)	.692 (.267)
Prior Private Practice	1.406 (.391)	1.378 (.384)
Top School	1.168 (.232)	1.204 (.240)
Rule80	11.69** (1.718)	11.39** (1.681)
Judge Democrat	.657** (.105)	.543** (.0989)
Obama × Judge Democrat		2.176* (.731)
Obama		4.13 × 10 ¹³ (.000000995)
Log likelihood	-1,147.5	-1,144.4
Pseudo-R ²	.208	.211

Note. Exponentiated coefficients of Cox proportional hazards models are presented, with standard errors in parentheses. $N = 4,617$.

* $p < .05$.

** $p < .01$.

are 30.8 percent less likely to leave active status when compared with judges appointed by Republicans.

In model 2, the hazard ratio for Obama is not statistically significant. In contrast, the hazard ratio for Obama × Judge Democrat is greater than 1 (and statistically significant at the 5 percent level). While Democratic judges are less likely to take senior status prior to Obama's election, this relationship switches once Obama becomes president. With Obama as president, Democratic judges are no longer less likely to leave when compared with Republican judges.³³ The hazard ratio for the sum

33. Indeed, those judges we code as Republican who departed when Obama became

of Judge Democrat and Obama \times Judge Democrat is equal to 1.182. Once Obama became president, Democratic judges were 18.2 percent more likely to leave active service than were Republican judges.³⁴ This pattern is consistent with a timing effect: Democratic judges hold onto their seats while a Republican is president—in the hope of a shift to a Democratic president, whereupon they resign or take senior status.

Thus, the results are consistent with the worry that a real cost of the federal retirement system is that it enables judges to delay retirement for partisan reasons. Our findings are at odds with those of Yoon (2005, 2006) and Boylan (2004) but consistent with those in prior papers such as Barrow and Zuk (1990) and Spriggs and Wahlbeck (1995). A possible explanation for this difference is that our data set is more recent than their data sets and that the judiciary has become more highly politicized in the last few decades. Yoon's data set, in particular, extends for more than 100 years, and so recent trends may be masked.

We performed two robustness tests. We reestimated the models of Table 6 with errors clustered by judge³⁵ and with a logistic regression on judge-year data with robust errors clustered by judge. We obtained results qualitatively similar to those in Table 6.

5.4. Weather Effects

A judge's decision to leave active status may turn on the geographical location of the district in which the judge sits. In particular, we hypothesize that judges from districts with colder weather (and harsher winters) will be more likely to resign or take senior status so that they can move to, or spend more time in, warmer climates.

president may not be fully aligned with other Republican judges. We code Kimba Wood, for example, as Republican because Ronald Reagan appointed her. But Bill Clinton later nominated Wood for the job of attorney general, thereby indicating that Wood's views may have, in fact, been more attuned with those of Democrats. Wood took senior status on June 1, 2009.

34. The sum of Judge Democrat and Obama \times Judge Democrat is not statistically significant, which indicates that we cannot rule out the hypothesis that once Obama became president, Democratic and Republican judges had an equal propensity to leave active service. Even equality, nonetheless, is a significant shift from the pre-Obama time period in our study, when Democratic judges were much less likely than Republican judges to retire.

35. With errors clustered by judge, we obtained results qualitatively the same as those shown in Table 6 with the following differences. In both models, the hazard ratios on Female were less than 1 and statistically significant at the 10 percent level. The hazard ratios on Experience were greater than 1 and statistically significant at the 1 percent level in both models. The hazard ratio on Obama in model 2 was less than 1 and statistically significant at the 1 percent level. The hazard ratio on Obama \times Judge Democrat in model 2 was greater than 1 and statistically significant at the 1 percent level.

Table 7. Effects of Cold Weather

	Model 1	Model 2
Female	.619* (.138)	.617* (.137)
Black	.850 (.241)	.861 (.243)
Other Race	.842 (.282)	.863 (.288)
Age	1.099** (.0147)	1.075** (.0184)
Experience	1.044** (.0116)	1.044** (.0116)
Prior Judge	1.451 (.412)	1.679+ (.500)
Prior Prosecutor	.753 (.294)	.928 (.373)
Prior Private Practice	1.453 (.410)	1.622+ (.472)
Top School	1.094 (.221)	1.089 (.220)
Rule80	12.19** (1.790)	12.07** (1.781)
Cold Weather	1.046 (.145)	.0280* (.0477)
Age × Cold Weather		1.055* (.0266)
Log likelihood	-1,151.0	-1,148.7
Pseudo-R ²	.206	.208

Note. Exponentiated coefficients of Cox proportional hazards models are presented, with standard errors in parentheses. $N = 4,617$.

+ $p < .10$.

* $p < .05$.

** $p < .01$.

For our test, we use the hazard model from model 1 of Table 4 (with judge characteristic variables and Rule80). We add Cold Weather, defined as being equal to one if the judge is located in a cold-weather district and zero otherwise. The results of model 1 are reported in Table 7. For model 2, we add an interaction term between Age and Cold Weather, reflecting the likely greater sensitivity of elderly people to harsh climates.

In model 1 of Table 7, the hazard ratio on Cold Weather is not statistically significant. Being in cold-weather districts in general does not have a significant effect on the propensity of judges to leave active status. This makes sense, since these judges are the ones who chose to take jobs in cold areas in the first place. In model 2, the hazard ratio

on Cold Weather is less than 1 and statistically significant at the 5 percent level. In contrast, the interaction term between Age and Cold Weather is greater than 1 and statistically significant at the 5 percent level. When judges are younger, location in a cold-weather district is associated with an increased propensity to remain at the job, as compared with those in more mild weather districts. When the age of the judge is equal to the median age in our sample (56.45 years), then being in a cold-weather district corresponds with a 42.5 percent decreased likelihood of departing from active status (and, thus, an increased likelihood of staying on the job). Remember, however, that judges under the age of 65 do not really have much of an option to reduce their workload unless they resign—and, if they do, they do not receive a pension. The more interesting effects are when the judges get older and within the range of eligibility for their pensions.

When the age of the judge is equal to 70 years, a cold-weather district corresponds with an 18.8 percent increased likelihood of departing active status. With greater age, continuing as a judge in a cold-weather district becomes increasingly less attractive—sunny retirement locations beckon seductively.³⁶

The lesson is that when assessing a judge's incentive to resign or take senior status, one must take into account all factors that relate to the attractiveness of work and the magnitude of opportunity costs. Work impinges on opportunities to travel or move one's residence; for older judges in colder areas of the country, this cost may be significant.

We performed two robustness tests. We reestimated the models of Table 7 with errors clustered by judge and with a logistic regression on judge-year data with robust errors clustered by judge. We obtained results qualitatively similar to those in Table 7.

5.5. Productive and Unproductive Senior Judges

Judges who choose to take senior status are not the same. Some senior judges continue at a high level of productivity, sometimes taking on even greater caseloads than when they were active judges. Other senior judges

36. In theory, a judge who takes senior status can move from a cold location to a sunnier one. However, the sunny location has to have a need, and the chief justice has to approve the assignment. There are examples of judges moving, such as Judge Ruggero Aldisert of the Third Circuit, who moved his chambers to Santa Barbara for health reasons. Stras and Scott (2007, p. 453) note the large number of cases from outside his circuit on which Judge Aldisert has appeared. While we do not have data on how common such practices are, our impression from anecdotal evidence is that they are rare.

Table 8. Summary Statistics for Senior Judges

Variable	Mean	25th Percentile	Median	75th Percentile	Standard Deviation
Presenior load	411.4	314.5	425.8	493.0	155.5
Postsenior load	211.2	113.5	192.5	301.3	135.6
Change in load	-.401	-.677	-.512	-.249	.768

Note. The change in load is defined as (postsenior load – presenior load)/presenior load. Values are reported only for judges who took senior status and had a positive workload while a senior judge. $N = 142$.

continue to draw their federal pay but reduce drastically their workloads.³⁷ To assess workload, we collect data from Westlaw on each judge's caseload for the years 2001–9. For each judge who took senior status, we compute the percentage change from the average caseload during his or her active judge years to that during his or her senior judge years (excluding the year that senior status was taken).

Table 8 provides summary statistics for the senior-status judges. The mean (median) drop in workload for a senior judge was 40.1 percent (51.2 percent). A wide variation exists in the change in workload. Senior judges at the twenty-fifth percentile dropped their workload by 67.7 percent; senior judges at the seventy-fifth percentile dropped their workload by only 24.9 percent.

There is an initial puzzle. If a judge does not like to work, it makes sense to take senior status and a reduced workload (or to resign). But if a judge likes to work, why would she take senior status with a heavy load rather than remain on active status? The likely answer is some combination of the following: the judge wants only a modest reduction in caseload, the judge wants to jettison the more boring cases such as the pro se claims (senior judges can choose to avoid certain categories of cases; see Block 2007), the judge wants the financial benefits of senior status, or the judge wants to create a vacancy for the president to fill.

We assess whether the decision to become a low-workload senior judge is different from the decision to become a high-workload senior judge. We categorize our judges on the basis of whether they are at or below the seventy-fifth percentile in terms of the percentage change in

37. This wide variation in the caseloads of senior judges was noted by Yoon (2005, p. 522), who used survey data. Yoon observed that there was significant variation among the caseloads taken by senior district court judges, with 35 percent of them carrying loads between 26 percent and 50 percent of a full caseload and 23 percent reporting that they had full caseloads.

the average caseload (Low-Workload Senior Judge) or above the seventy-fifth percentile (High-Workload Senior Judge). So a High-Workload Senior Judge is one who reduced her caseload by less than 24.9 percent (corresponding to the seventy-fifth percentile) from their average caseload in their active judge years.

To test the differences between those judges who decide to retain high workloads and those who choose low workloads, we use a multinomial logit model. For the dependent variable, we use Outcome, which is defined as being equal to zero if the judge stays in active service, one if the judge takes senior status with a small decline in caseload (High-Workload Senior Judge), and two if the judge takes senior status with a large decline in caseload (Low-Workload Senior Judge). We assume that when judges choose to take senior status, they also make a choice about the workload they expect to take on when they continue as a senior judge. The model is estimated on judge-year data. Errors are clustered by judge. The model is as follows:

$$\begin{aligned} \text{Outcome}_i = & \alpha + \beta_{1i}\text{Female}_i + \beta_{2i}\text{Black}_i + \beta_{3i}\text{Other Race}_i \\ & + \beta_{4i}\text{Age}_i + \beta_{5i}\text{Experience}_i + \beta_{6i}\text{Prior Judge}_i \\ & + \beta_{7i}\text{Prior Prosecutor}_i + \beta_{8i}\text{Prior Private Practice}_i \\ & + \beta_{9i}\text{Top School}_i + \beta_{10i}\text{Rule80}_i + \beta_{11i}\text{Large Net Worth}_i \\ & + \beta_{12i}\text{Rule80} \times \text{Large Net Worth}_i + \beta_{13i}\text{Judge Democrat}_i \\ & + \beta_{14i}\text{Obama}_i + \beta_{15i}\text{Obama} \times \text{Judge Democrat}_i \\ & + \beta_{16i}\text{Cold Weather}_i + \beta_{17i}\text{Age} \times \text{Cold Weather}_i + \varepsilon_i. \end{aligned}$$

Table 9 reports the results. The coefficients on Female and Black are both negative and statistically significant (at the 10 percent and 1 percent levels, respectively) for the High-Workload Senior Judge outcome. In other words, female and black judges are less likely to serve as high-workload senior judges, when compared with remaining in active service. Those black and female judges who otherwise would be high-workload senior judges, and thus have both the preference and the ability to remain productive, choose to remain on active status. In contrast, the coefficients on Female and Black are not significantly different from zero for the Low-Workload Senior Judge and Resign outcomes (not reported). Female and black judges are no less likely than other judges to become low-workload senior judges. For those female judges without the pref-

Table 9. Multinomial Logit Model of Productive and Unproductive Senior Judges

	High-Workload Senior Judge	Low-Workload Senior Judge
Female	-1.760 ⁺ (1.030)	-.683 (.538)
Black	-35.24** (.474)	-.669 (.561)
Other Race	-.388 (1.060)	.00246 (.587)
Age	.214** (.0572)	.229** (.0747)
Experience	-.0283 (.0550)	-.0239 (.0413)
Prior Judge	.0220 (.969)	-.174 (.611)
Prior Prosecutor	-34.91** (.957)	-.456 (.764)
Prior Private Practice	.508 (.927)	.397 (.615)
Top School	.207 (.612)	.338 (.493)
Rule80	.366 (.229)	.528* (.232)
Large Net Worth	-.448 (.556)	-1.295** (.446)
Rule80 × Large Net Worth	.583 (.428)	.510 (.389)
Judge Democrat	-.536 (.559)	-1.306** (.415)
Obama × Judge Democrat	.00996 (1.380)	1.426** (.349)
Obama	-4.437** (1.036)	-38.10** (.319)
Cold Weather	-6.214 (4.659)	-3.986 (5.200)
Age × Cold Weather	.0895 (.0749)	.0610 (.0837)
Constant	-14.47** (3.179)	-14.30** (4.394)

Note. The base category is active status. The multinomial logit model is estimated on judge-year data with errors clustered by judge and standard errors shown in parentheses. $N = 3,705$. Log likelihood = -1,432.1.

⁺ $p < .10$.

* $p < .05$.

** $p < .01$.

erence and ability to remain productive, this finding cuts against the hypothesis based on earlier findings (that female judges are less likely to resign than their male counterparts).

The coefficient on Rule80 is not significantly different from zero for the High-Workload Senior Judge outcome. In contrast, the coefficient on Rule80 is positive and statistically significant at the 5 percent level for the Low-Workload Senior Judge outcome. In other words, when a judge satisfies the requirements of the Rule of 80, she is more likely to become a low-workload senior judge, compared with remaining on active status. By contrast, a judge who satisfies the requirements of the Rule of 80 is no more likely to become a high-workload senior judge, compared with remaining on active status. Judges who otherwise would be high-workload senior judges unsurprisingly are not more likely to leave active status when qualifying for a pension under the Rule of 80. These judges are not motivated by the desire to consume more leisure by reducing workloads, and the timing of their choices to take senior status appear largely unrelated to satisfying the Rule of 80.

One might wonder whether the judges who are unmotivated by the prospect of a lower workload upon satisfying the Rule of 80 are instead motivated by the political timing effect. That turns out not to be the case. The effect of Obama becoming president on the relative propensity of Democratic and Republican judges to take senior status is driven primarily by judges who decided to become low-workload senior judges. While the coefficient on Judge Democrat is negative and statistically significant at the 1 percent level, the coefficient on Obama \times Judge Democrat is positive and statistically significant at the 1 percent level for the Low-Workload Senior Judge outcome. The coefficients on Judge Democrat and Obama \times Judge Democrat, in contrast, are not significantly different from zero for the High-Workload Senior Judge outcome. Democratic judges who otherwise would prefer senior status but choose to remain on active status in the hope of a change in the presidency may artificially suppress a preference for a lower workload. Once they do take senior status (once Obama became president), these judges take full advantage of their preference for a low workload.

Put simply, the judges with the preference and ability to remain productive not only do a great deal of work for free (that is, even after they qualify under the Rule of 80 and could get the same salary for no work or a lot less work) but also happen to be less political. These are the judges who derive utility from the work of judging, whether because of the intellectual challenge of judging or the desire to do justice.

6. CONCLUSION

The literature on judicial behavior is dominated by studies of the extent to which the individual policy preferences of judges drive their behavior. Policy preferences, however, are generally but one element of any individual's preference set, and we do not ordinarily think of them as being the most important one. It is plausible that federal judges, having been selected through a political process, have stronger policy preferences than most of us. However, it seems plausible that their behavior is also driven by the types of factors that motivate the rest of us: preferences of income, leisure, and good weather. Examining the choices that judges make with respect to retirement can help us unpack the extent to which judges are like the rest of us.

We find that judges respond to incentives, including financial incentives, like the rest of us. And, indeed, the existing retirement system for federal judges seems to be designed to take advantage of the foregoing. It seeks to usher out elderly judges by offering them no compensation for doing judicial work once they satisfy the requirements of the Rule of 80—and the system works as advertised. But our results suggest that the system also has imperfections.

Wealthy judges are less sensitive to these financial incentives than poorer judges are, while judges with high opportunity costs are more sensitive to them. Judges with partisan goals can manipulate the timing of their retirements in order to advance those goals. However, some of our results suggest reasons for optimism regarding the retirement system. Consistent with prior research, we find that judges react to the Rule of 80. We advance prior research in our finding that there is significant variation in terms of the strength of those reactions. Further, these reactions seem to relate to measures of judicial ability. Judges with stronger abilities appear relatively unmotivated by the financial and leisure inducements of the Rule of 80. Judges with weaker abilities, by contrast, react strongly. In particular, we see that the lower ability judges are highly motivated by the Rule of 80 to leave active status. Roughly speaking, this result holds up across four of the proxies we use to measure judge heterogeneity (citations, publications, the hiring of permanent versus term clerks, and the types of law schools from which clerks are hired). In effect, the retirement system, by offering financial incentives least attractive to the most talented judges, eliminates a lot of the chaff while preserving some of the wheat.

APPENDIX: VARIABLE DEFINITIONS

Female. Indicator variable defined as equal to one if the judge is female and zero if the judge is male.

Black. Indicator variable defined as equal to one if the judge is black and zero otherwise.

Other Race. Indicator variable defined as equal to one if the judge is Hispanic, Asian, or a racial minority other than black and zero otherwise.

Age2000. Age of the judge in the year 2000.

Age. Age of the judge in the year in question.

Experience2000. Number of years between the year of appointment for the judge in question and the year 2000.

Experience. Number of years between the year of appointment for the judge in question and the year in question.

Prior Judge. Indicator variable defined as equal to one if the judge's immediate prior position before appointment was as a magistrate judge or a judge in another court system and zero otherwise.

Prior Prosecutor. Indicator variable defined as equal to one if the judge's immediate prior position before appointment was as a prosecutor and zero otherwise.

Prior Private Practice. Indicator variable defined as equal to one if the judge's immediate prior position before appointment was in private practice and zero otherwise.

Top School. Indicator variable defined as equal to one if the judge in question graduated from Harvard, Yale, or Stanford Law Schools and zero otherwise.

Publication Rate. The average number of published opinions in 2001 and 2002 for the judge in question as a fraction of the per-judge number of filings for the district court in which the judge sits.

Low Publication Rate. Indicator variable defined as equal to one if the judge's publication rate is at the seventy-fifth percentile or lower for our sample judges and zero otherwise.

Positive Citations. The average number of positive citations per opinion published in 2001 and 2002 for the judge in question.

Low Positive Citations. Indicator variable defined as equal to one if the judge's rate of positive citations is at the seventy-fifth percentile or lower for our sample judges and zero otherwise.

Affirmance Rate. Number of nonoverruled published opinions, including nonappealed opinions, divided by the total number of published opinions for the judge in question in 2001 and 2002.

Low Affirmance Rate. Indicator variable defined as equal to one if the judge's affirmance rate is at the seventy-fifth percentile or lower for our sample judges and zero otherwise.

Rule80. Indicator variable defined as equal to one if the judge qualifies for a pension under the Rule of 80 in the year in question or the year after the year in question and zero otherwise.

Multiple-Term Clerks. Judge who uses multiple-term clerks rather than one-term clerks as determined by hiring patterns from 1996 to 2000.

Top School Clerks. Judge who hires clerks from top-15 law schools as assessed from 1996 to 2000.

Non-Top School Clerks. Judge who has a fraction of top school clerks that is at the seventy-fifth percentile or lower for our sample judges.

Net Worth. Net worth of the judge in millions of dollars.

Large Net Worth. Indicator variable defined as equal to one if the judge's net worth is at the seventy-fifth percentile or greater for our sample judges (\$1.18 million) and zero otherwise.

Judge Democrat. Indicator variable defined as equal to one if the judge in question was appointed by a Democratic president and zero otherwise.

Obama. Indicator variable defined as equal to one if the year in question is 2009 or 2010 and zero otherwise

Cold Weather. Indicator variable defined as equal to one if the judge is located in the Central District of Illinois, District of Alaska, District of Colorado, District of Columbia, District of Connecticut, District of Delaware, District of Idaho, District of Kansas, District of Maine, District of Maryland, District of Massachusetts, District of Minnesota, District of Montana, District of Nebraska, District of New Hampshire, District of New Jersey, District of North Dakota, District of Oregon, District of Rhode Island, District of South Dakota, District of Utah, District of Vermont, District of Wyoming, Eastern District of Michigan, Eastern District of Missouri, Eastern District of New York, Eastern District of Oklahoma, Eastern District of Pennsylvania, Eastern District of Tennessee, Eastern District of Texas, Eastern District of Virginia, Eastern District of Washington, Eastern District of Wisconsin, Middle District of Pennsylvania, Northern District of Illinois, Northern District of Indiana, Northern District of Iowa, Northern District of New York, Northern District of Ohio, Northern District of Oklahoma, Northern District of West Virginia, Southern District of Illinois, Southern District of Indiana, Southern District of Iowa, Southern District of New York, Southern District of Ohio, Southern District of West Virginia, Western District of Michigan, Western District of Missouri, Western District of New York, Western District of Oklahoma,

Western District of Pennsylvania, Western District of Virginia, Western District of Washington, or Western District of Wisconsin and zero otherwise.

Low-Workload Senior Judge. Judge at or below the seventy-fifth percentile in terms of the percentage change in the average caseload between active status and senior status.

High-Workload Senior Judge. Judge above the seventy-fifth percentile in terms of the percentage change in the average caseload between active status and senior status.

President Same Party. Indicator variable defined as equal to one if the judge is of the same political party as the president for the year in question and zero otherwise.

Salient. Fraction of cases published by the judge in 2001 and 2002 that involved church and state, campaign finance, federalism, First Amendment, and other constitutional rights.

Circuit Quality. Out-of-circuit citations to majority opinions of appellate judges in the circuit.

Circuit GHP Distance. Distance between the district court judge in question's political ideology and the average Giles, Hettinger, and Peppers (2001) score for circuit court judges.

Circuit Diversity. Equality of Republican and Democratic appellate judges in the circuit.

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