

# Estimating Judicial Ideology

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Justices on the US Supreme Court and other judges throughout the American judiciary inescapably make policy with their decisions, whether they want to or not. However, the traditionally dominant view of judging—historically within the legal academy but also among members of the public—is that judges merely apply the law, together with precedent from earlier court decisions, to a set of facts. As an example of this sentiment, US Supreme Court Chief Justice John Roberts famously commented that “[w]e do not have Obama judges or Trump judges, Bush judges or Clinton judges. What we have is an extraordinary group of dedicated judges doing their level best to do equal right to those appearing before them” (Sherman 2018). Judges, in his telling, are simply calling “balls and strikes.”

As far back as the 1940s, scholarship began to challenge the assumptions behind this view. Today, the dominant view among social scientists is that ideology is indeed a key component predicting judicial rulings and judicial behavior. A judge’s ideology shapes the law and, by extension, has significant social and economic consequences for individual litigants and society. Judicial ideology is, therefore, a topic of study and an important factor for understanding the economic and societal impact of the US legal system.

It was not until the last few decades that researchers tackled the question of how best to measure judicial ideology beyond simply using the party of the appointing

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president as a proxy. By far the largest area of this scholarship concerns the US Supreme Court. This is no surprise: the US Supreme Court is the most important court in the country and the final stopping point for many politically sensitive issues. Also, from a research standpoint, the Supreme Court lends itself relatively well to ideological measurement. First, unlike most other courts in the United States, all nine members of the Court hear and vote on cases together. Second, a small and tractable docket makes it possible to subjectively hand-code cases in order to estimate judicial ideology. However, researchers must also be cautious about extrapolating broadly about judicial behavior from the behavior of Supreme Court justices; not only does the very small sample of justices increase uncertainty, but it places considerable importance on nine idiosyncratic individuals who are relatively unconstrained in their position atop the American judicial hierarchy (Bailey 2017).

From the perspective of social scientists, the lower federal courts are perhaps a more important subject of study. Whereas the Supreme Court might hear 70 or 80 cases per year, the lower courts hear hundreds of thousands. In 2018, for example, 49,363 cases were filed in the US Courts of Appeals, one level below the US Supreme Court, and 358,563 were filed in the US District Courts, one level below that (according to the Federal Judicial Caseload Statistics website at <https://www.uscourts.gov/statistics-reports/federal-judicial-caseload-statistics-2018>). In addition, the lower federal courts rule not only on topics of constitutional importance but also on “bread and butter” economic issues and criminal justice questions—topics of significant interests to social scientists and policymakers. Despite their importance, the larger number of judges and the manner in which they hear cases make it more challenging to estimate ideology for judges at these levels. While the US Supreme Court has nine justices hearing cases as a single voting body, the lower courts include 663 federal district court judgeships and 179 courts of appeals judgeships spread across twelve geographic circuits and a federal circuit (according to the US Courts website at <https://www.uscourts.gov/sites/default/files/allauth.pdf>).

Despite these challenges, most contemporary researchers agree that ideology—usually measured via partisanship—is among the most important factors shaping judicial decision making. In this paper, we provide an overview of how scholars think about and measure judicial ideology. We begin by discussing the various measures of judicial ideology that have been estimated from a range of sources: classifying court rulings and judicial votes as conservative or liberal; newspaper editorials about US Supreme Court justices before they are confirmed; agreement and disagreement across the voting records of US justices; the party and ideological scores of the elected politicians who play a central role in appointing federal and state judges; campaign contributions made to and by judicial candidates; evidence from the random assignment of cases to lower federal court judges; and estimates generated by automated text analysis of judicial opinions. We also offer some brief comments on research pertaining to judicial ideology in other countries and on international courts. We also discuss some limitations of this literature: for example, the challenges inherent in comparing measures of judicial ideology across time and across the judicial hierarchy.

We then illustrate an important implication of judicial ideology: ideological polarization among judges. As we show, ideological polarization within the federal courts has risen in the past few decades. Along with this polarization have come increasingly fractious opinions, indicating growing discord and conflict within the courts. We conclude by discussing how these changes require a more complex and realistic perception of what is involved in the exercise of judging.

## Measurement Methods

### Classifying Decisions as Conservative or Liberal

A starting point for estimating judicial ideology has been to classify judicial rulings themselves as “conservative” or “liberal,” looking closely at the votes cast and the reasoning contained therein. The best-known effort to classify judicial rulings—and votes—is available for the US Supreme Court via the Supreme Court Database at Washington University in St. Louis. It is publicly available at <http://scdb.wustl.edu/index.php>. As the website notes, “The Database contains over two hundred pieces of information about each case decided by the Court between the 1791 and 2018 terms. Examples include the identity of the court whose decision the Supreme Court reviewed, the parties to the suit, the legal provisions considered in the case, and the votes of the Justices.” The Supreme Court Database has become a standard research tool in the study of the US Supreme Court and in the ideological valance of Supreme Court rulings.

The database relies on expert coding of all cases ruled on by the Supreme Court since 1946. Cases (and accordingly the votes of individual justices) are coded as being conservative, liberal, or unspecifiable. As an example, the liberal position on criminal cases would be the one generally favoring the criminal defendant; in civil rights cases, the liberal position would be the one favoring the rights of minorities or women, while in due process cases, it would be the anti-government side. For economic activity cases—which make up a perhaps surprisingly large share of the Supreme Court’s docket—the liberal position will be the pro-union, anti-business, or pro-consumer stance. For cases involving the exercise of judicial power or issues of federalism, the liberal position would be the one aligned with the exercise of federal power, although this may depend on the specific issues involved. Finally, some decisions are categorized as “indeterminate,” such as a boundary dispute between states.

Some papers have raised concerns about the nature of the Database’s subjective coding and its reliability, including the possibility of miscoded ideological directionality (Harvey and Woodruff 2013). However, any classification system—human or machine coded—will have errors. As Bailey (2017) discusses, the percent of decisions each justice votes in a conservative direction using the classifications of the Supreme Court Database actually correlates quite well with other, more sophisticated ideological measures. Indeed, other key measures of the justices’ ideology—including ones we discuss below—rely on the conservative/liberal distinctions in the Supreme Court database.

The kind of coding found in the Supreme Court Database is only currently available with this degree of transparency and with attendant covariates for the US Supreme Court. Categorizing the decisions of federal appeals and federal district courts in this way, or categorizing the decisions of state-level judges in this way, is a significant task. One extant and comprehensive data set is the Federal Judicial Center's Integrated Database (IDB) (<https://www.fjc.gov/research/idb>), which collects data from the Administrative Office of the Courts. The IDB "contains data on civil case and criminal defendant filings and terminations in the [federal] district courts, along with bankruptcy court and appellate court case information," but these data are purposefully de-identified in terms of the identity of the federal judges or judge ruling on the case. The IDB has, however, recently been merged with the Courtlistener database of judicial opinions (<https://www.courtlistener.com>), which facilitates extraction of judge-identifying information (as described by Lissner 2019).

Another data set for federal appeals court cases is the United States Courts of Appeals Databases, maintained by a team of researchers once led by the late Donald Songer (<http://www.songerproject.org>). These data also include the coding of various court of appeals case attributes as well as subjective coding on the ideological valance of case outcomes. However, this dataset extends from 1925 to only 2002 and contains only a small subset (approximately 2.6 percent) of published (versus unpublished) cases from the federal courts of appeals; in addition, other scholars have reported finding errors in this database (for example, Epstein, Landes and Posner 2013).

### **Pre-Confirmation Newspaper Editorials**

We now turn to existing measures of ideology at the judge-level—as opposed to case-level. One approach relies on information available in the pre-confirmation process to predict the post-confirmation voting patterns for judges. For example, Segal and Cover (1989) code editorials from four leading conservative and liberal newspapers about US Supreme Court nominees and whether they describe the future justices as liberal, moderate, conservative, or "not applicable." For example, liberal statements would include those describing the candidate's "support for the rights of defendants in criminal cases, women and racial minorities in equality cases, and the individual against the government in privacy and First Amendment cases" (p. 559). The codings were then combined across different coders and newspapers in a systematic fashion. The Segal-Cover scores are periodically updated and accessible through the Washington University Supreme Court Database.

A strength of this approach is that it uses external (non-case specific) information to estimate judicial ideology. This makes it straightforward to use these scores to predict or better understand voting later on by the justices. Segal and Cover (1989) demonstrate the validity of these scores by comparing them to justices' votes on civil rights and civil rights cases, using the classifications from the Supreme Court Database. For example, they find a high correlation (0.80) between the coding scheme and the justices' voting on civil liberty cases (p. 561).

A limitation of this approach is that the scores are static: once a candidate is confirmed, such estimates can no longer be updated and therefore fail to capture

key Supreme Court dynamics. For example, these scores will not include “ideological drift” among the Justices, which refers to the empirical observation that Justices occasionally move away from their original ideology, usually gravitating in a liberal direction during their tenures (Owens and Wedeking 2012). A well-known example of ideological drift is Justice Harry Blackmun who was appointed by Republican Richard Nixon but who shifted in an ideologically leftward direction in the years following his seminal opinion in *Roe v. Wade* (410 US 113 [1973]).

Another limitation is that Segal-Cover scores are only available for judges for whom a wealth of pre-confirmation information is available. This tends to hold only for Supreme Court nominees, who garner significant confirmation coverage and are the subject of extensive journalistic editorializing. Such information is rarely available for lower federal court judges (appeals court or district judges) and state court judges. Lastly, Segal-Cover scores require a subjective assessment of subjective information (in the form of newspaper editorials), as opposed to being based on observed behavior of judges.

### Voting Patterns

While Segal-Cover scores leverage pre-nomination information to measure ideology for Supreme Court Justices, other methodologies use the observed behavior of judges (or justices of the US Supreme Court) while on the bench. The most commonly used measures are those of Martin and Quinn (2002), which leverage overlapping tenures of US Supreme Court justices to estimate dynamic ideal points based on their voting behavior. These measures draw from item response theory (IRT), commonly used to estimate some latent variable from observed responses: for example, the technique is frequently used in the standardized testing literature to estimate an unobserved quantity of interest, such as the test-taker’s latent knowledge or ability. Underpinning the Martin and Quinn methodology is a unidimensional spatial model of voting, which assumes that justices maximize their utility by voting for the outcome nearest their ideal point, allowing for a degree of error. The model is similar to Poole and Rosenthal’s NOMINATE scores, which estimate ideal points for members of Congress based on roll call votes (Poole and Rosenthal 1997; Poole 2005). At a high level, vote-based models of ideology essentially position individuals along a liberal-conservative dimension such that those who often vote together are placed near one another, while those who are less likely to vote together are further apart.

The Martin and Quinn (2002) approach relies on a dynamic Bayesian item response model. To model the dynamic component, they assume that ideal points follow a random walk process. Scores are estimated using Markov Chain Monte Carlo simulations. The eventual result, updated in each Supreme Court term, is a trendline of scores for each Supreme Court justice over time, as we will present later in the paper when discussing polarization that has emerged over time.

Martin-Quinn scores are widely used in the Supreme Court literature and the approach has some notable advantages. First, within a single term, it can estimate relative judicial ideology and generate useful estimates of uncertainty—similar to

what has been done in the past with Congressional ideology (Clinton, Jackman, and Rivers 2004). Second, Martin-Quinn scores do not require subjective coding of cases as conservative or liberal (Fischman and Law 2009). Third and related, Martin-Quinn scores rely on actual observed behavior (votes), rather than inferring ideology from third-person writings (such as editorials) or other kinds of subjective evaluations (such as case coding).

Martin-Quinn scores have some drawbacks as well. First and most important, estimation is only feasible for courts where judges decide cases together as a voting body. This largely restricts their usefulness beyond the US Supreme Court and state supreme courts.

Second, Martin-Quinn scores are estimated on the basis of justices' votes, meaning that using the scores to predict or analyze voting patterns will inevitably raise theoretical and empirical concerns about endogeneity. That is, trying to use Martin-Quinn scores as an independent variable to predict voting in the same term would mean that the same underlying vote data are being used in both the independent and dependent variables. The usual approach in dealing with this is to lag the Martin-Quinn scores by at least one term and then use them to predict or understand justices' votes in the following term.

Third, because Martin-Quinn scores are estimated every term (with a random walk prior), any estimates within a particular year incorporate the idiosyncrasies of that term's docket. Indeed, comparing the absolute Martin Quinn scores across different years is unwise, because of changing dockets. Indeed, comparing them across years implicitly relies on the assumption that "the distribution of case characteristics is constant over time" (Ho and Quinn 2010), which, given the discretionary nature of the Court's docket, is usually an unreasonably strong assumption. (This has led to the critical observation that Martin-Quinn scores are basically cardinal, not ordinal estimates.) A related point is that the scores themselves reflect the idiosyncrasies of that year's docket. To see this, suppose that an otherwise liberal leaning justice feels strongly that burning the US flag is not protected speech (as the otherwise reliably liberal Justice John Paul Stevens, an army veteran, did). If the Court in any one year decides to take on several cases involving flag-burning, then this justice's ideology would be estimated as being more conservative. But this would be reflective of a largely idiosyncratic docket as opposed to a meaningful shift in ideology.

Fourth, the Martin-Quinn scores are one-dimensional. Lauderdale and Clark (2014) develop a method to recover issue-specific preferences for Supreme Court justices across substantive legal issues. They find that allowing for multiple dimensions better predicts judicial voting behavior and that the identity of the median justice can vary across issues.

A final possible concern with the use of Martin-Quinn scores is that, because they are estimated on the basis of voting by US Supreme Court Justices only, they are not comparable with ideological estimates of other political actors—like those for members of Congress. To address this, Bailey (2007) uses instances of Supreme Court review of Congressional statutes and other cases on which there is presidential and Congressional input (for example, cases in which the executive has filed



an amicus brief with the Supreme Court) to bridge ideology across institutions and time. The results are ideological measures across key American political entities that are estimated on the same scale and, thus, easily comparable.

### **Appointment-based Measures**

The seminal research of Segal and Spaeth (2002) showed that the party of a judge's appointing president is a powerful predictor of Supreme Court decision-making across a variety of subject matters. Perhaps the simplest way to "estimate" judicial ideology for all federal judges—Supreme Court Justices, federal appeals judges, and federal district judges—is to assign them either the partisan affiliation or the ideology of the US president who appointed them. The simplest operationalization is to compare Republican-appointed judges to Democratic-appointed judges. Several studies employ this strategy to make compelling arguments that Republican-appointed judges tend to vote in a more conservative direction than Democratic-appointed judges or that the partisan composition of three-judge panels predicts the ideological direction of rulings (for example, Sunstein et al. 2006).

Of course, the party of the appointing president is, at best, an inexact proxy of judicial ideology. Judges appointed by presidents of the same party can differ significantly in terms of their jurisprudence and policy preferences; for example, judges appointed by Donald Trump are, according to most reports and related measures, far more conservative than those appointed by Gerald Ford, a more moderate Republican. Even looking at judges appointed by the same president—for example, through the use of an indicator for the appointing president's identity—masks substantial variation. To take one example, George H.W. Bush made two US Supreme Court appointments: the first, Clarence Thomas, has been among the Court's most conservative members, while the second, David Souter, finished his career mostly voting with the Court's liberal members. In addition, focusing exclusively on the party of appointing president ignores the US Senate's role, which, per Article III of the U.S. Constitution, must confirm all federal judicial nominees. Suppose the Senate is controlled by the opposing party (or a more moderate or more extreme subset of the president's own party). In that case, the president is effectively constrained and often ends up nominating a candidate whose ideological preferences may not closely match his own. For example, in 2004, George W. Bush named Harriet Meiers, his own White House counsel, to replace Sandra Day O'Connor on the US Supreme Court. Senate Republicans, however, took an unusual position in opposing the nomination largely because Meiers was viewed as someone who might be intolerably moderate on the important conservative issue of abortion. Bush withdrew her nomination and instead nominated Samuel A. Alito, a reliable conservative more palatable to Senate Republicans.

More pragmatically, lower federal court appointments have been guided by the longstanding custom by which US Senators are closely consulted on nominees to federal courts located in their geographic area. Relying on this practice—known as "Senatorial Courtesy"—Giles, Hettinger, and Peppers (2001) assign to federal court of appeals judges either the estimated ideology of the appointing president (not

just party) or, in instances where the president or one of the senators from the state where the vacancy is located are of the same party, the ideology of the senator. In cases where both senators are of the same party as the appointing president, then the methodology assigns the average of the two senators' ideological scores.

The ideology of senators and presidents is estimated using the well-known DW-NOMINATE scores, a dynamic implementation of NOMINATE that permits legislator scores to change over their career (Poole and Rosenthal 1997; Poole 2005). The one-dimensional implementation of DW-NOMINATE assumes legislators decide between yea and nay outcomes on roll call votes as a function of their "spatial utility," which is determined by the distance between a legislator's ideal point and the location of the outcomes, allowing for a random, normally distributed error component. The legislators' "ideal points" and the yea and nay outcome components for bills are estimated simultaneously from roll call votes. This measure is conceptually similar to the Martin-Quinn scores in that it is based on vote patterns.

In further work, Epstein et al. (2007) rely on the intuition from Giles, Hettinger, and Peppers (2001) for their Judicial Common Space (JCS) scores, which map Martin-Quinn scores for the Supreme Court and scores for appeals court judges onto the same scale. They validate the approach by showing JCS scores predict Martin-Quinn scores for appeals judges who are later named to the Supreme Court. A separate dataset—Boyd (2015)—uses the same approach to generate scores for federal district court judges. Both datasets are used extensively by scholars of judicial politics.

Judicial Common Space scores and related appointment-based measures are not without drawbacks of their own. First, judges appointed within the same jurisdiction within the same rough two-year time frame by the same president will be assigned the identical score. This means that the scores are, by construction, measured with some error. Second, some courts—including the politically powerful US Court of Appeals for the District of Columbia—have no "home-state" senator. In these instances, the JCS scores simply assign judges the ideological score of the appointing President. For example, then-Judge Brett Kavanaugh, appointed to the DC Circuit Court of Appeals by George W. Bush in 2006, was assigned Bush's ideological score. It is also unclear whether the presumption of "Senatorial Courtesy" is applicable with the same force across judicial appointments (Nixon 2004), and norms have moved away from the practice in recent years. Lastly, JCS scores are available only for federal judges. We discuss one approach to estimating the ideology of state court judges that is similar—that of Brace, Langer, and Hall (2000)—below.

### **Estimating Judicial Ideology Using Campaign Contributions**

Yet another strategy for measuring judicial ideology is to use political contributions made by judges. For federal judges, the inputs are contributions they made to political candidates or other political entities (such as political action committees or PACs) before being confirmed to a federal court. Federal judges may not make political contributions once on the bench; thus for them, this estimation method is based entirely on pre-confirmation observed behavior. For state judges, restrictions on their political activity may vary.



Bonica (2014) uses a campaign finance-based methodology to estimate the ideology of politicians, PACs, and individual donors. The ideology scores for donors and politicians (and the underlying contribution data) are publicly available as part of the Database on Ideology, Money in Politics, and Elections (DIME) (Bonica 2016). The logic behind contribution-based measures is that campaign contributions provide a costly and therefore informative signal about a donor's ideology. Similar to vote-based measures of ideology, the DIME model assumes a spatial utility model (allowing for an error component) and jointly estimates scores for donors and candidates from a contingency matrix of donation amounts. On an intuitive level, the DIME methodology assumes donors tend to prefer candidates with whom they are ideologically aligned. Thus, someone who is more conservative will be more likely to make political donations to conservative candidates, while the opposite holds for someone who is more liberal.<sup>1</sup> When merged with survey data, the scores are reliable predictors of individual-level policy preferences on a wide range of policy issues (like taxes, abortion, gun control, health care, and others) (Bonica 2019).

The DIME scores provide a means to measure judicial ideology based on judges' revealed preferences. Bonica and Sen (2017a) apply this measurement approach to federal judges and validate the scores by comparing across ideological measurements. They also show how the scores can be used to compare judges and lawyers arguing cases.

This approach is appealing for several reasons. First, contribution-based scores are available for anyone who has made political contributions or has run for office. This includes not just federal judges but also state judges (discussed below), political actors in federal, state, and local government (legislators, presidents, governors, attorneys general, and so on), interest groups, and tens of millions of individual donors (including lawyers). In this way, the DIME measure enables a broad range of inter-institutional studies, because the scores are estimated in a consistent manner for all actors and thus are directly comparable. An example can be found in Bonica and Sen (2017a), which examines the correspondence between US Supreme Court justice voting patterns and the ideology of the attorneys representing clients before the Court. Second, judges appointed by the same president in the same jurisdiction can and frequently are assigned different ideological estimates, making these scores more fine-grained than Judicial Common Space scores. This enables more in-depth inquiry based on cross-judge differences in ideology—useful for scholars who are exploiting random case assignment within jurisdictions as a causal identification strategy (which we discuss below).

We note some drawbacks to this approach, as well. First, not all judges have engaged in preconfirmation political activity, and this lack of activity could correlate

<sup>1</sup>To illustrate in simplified terms, suppose a person donates \$500 to Hillary Clinton in 2016 and then \$500 to 2020 presidential candidate Elizabeth Warren. DIME would assign this donor a score halfway between Warren (left) and Clinton (center-left). However, a donor giving \$250 to Warren and \$500 to Clinton would be assigned a score closer to Clinton than Warren, reflecting that they are likely to be closer to Clinton ideologically.

with ideology—in turn, suggesting non-random missingness. According to Bonica and Sen (2017b), some 81 percent of federal appeals judges appointed since 2001 have made campaign contributions—a large share compared to the general population but still short of perfect coverage. In Bonica and Sen (2017a), we impute scores for these missing judges from observed characteristics. Second, the contribution-based scores are estimated (for federal judges) using pre-confirmation information. This means that contribution-based scores can be of limited use in studying dynamic patterns, such as intellectual drift or responsiveness to current events after judges have taken the bench.

In this vein, Bonica et al. (2017) use the contribution-based scores from Bonica (2014) and impute scores for federal judges based on the ideology of their law clerks, as revealed by the clerks' political contributions. Each year federal judges hire several clerks to assist them in drafting opinions, doing legal research, and evaluating the arguments presented at oral arguments. (Each federal appeals judge is entitled to hire four clerks yearly, and each federal district judge is entitled to hire two.) The substantive literature on hiring—and statements made by law professors and other anecdotal evidence—strongly suggests that clerks are hired partly on the basis of shared ideology with the hiring judge. (Some judges are known to hire contrarian-leaning clerks—a phenomenon known as a hiring a “counter clerk.”) Thus, averaging the scores for clerks provides an informative signal about a judge's ideology.

Because judges hire new cohorts of law clerks every year, the clerk-based ideology scores are dynamic. If a judge hires mostly conservative clerks early on in her career but later on begins to hire mostly liberal clerks, this is indicative of ideological drift. The clerk-based ideology scores reasonably predict other measures of judicial ideology. One advantage of the clerk-based ideology scores is that they provide estimates for both Supreme Court justices and federal lower court judges.

### **Random Assignment of Judges**

A long-standing norm within the federal courts is that litigants should not be able to choose their judge. Of course, this does not prevent litigants from “forum-shopping”—that is, trying to choose a jurisdiction where they believe that the judges will give their case a more favorable hearing. But while litigants may have some discretion over jurisdiction, they have little control over which of the judges in that jurisdiction will hear their case. In the federal courts of appeals, where most cases are heard by three-judge panels, panels are formed on the basis of judges' schedules or other factors, and then (in many jurisdictions) cases are assigned “randomly” via a computer program or another unpredictable mechanism to a panel. In federal district courts, where judges individually hear cases, cases are typically randomly assigned to judges within a district, conditional on availability, vacation days, and workload balance.

Randomization in the selection of federal judges is extremely useful for scholars, because it can be used to estimate the causal effect of judge characteristics (including partisanship or ideology) on case outcomes. One of the most comprehensive studies in this vein is Sunstein et al. (2006), which relies on the random

assignment of cases to three-judge panels to estimate the causal impact of panel composition—specifically, how a case will fare with more or fewer Republican versus Democratic appointed judges. “Dampening” refers to the common pattern whereby a judge on a panel with two judges appointed by the other party is more likely to go along with a ruling at odds with their ideology. Conversely, “amplification” means that three judges appointed by the same party are more likely to reach a decision consistent with their ideology. In the Sunstein et al. evidence, judges appointed by Democrats are more susceptible to these effects than those appointed by Republicans. Another example is Epstein, Landes, and Posner (2013), which examines similar issues but looks more broadly at the entirety of the federal courts.

The strategy of using the random assignment of cases to judges can be leveraged to explore the role of ideology and partisanship across issue areas. For example, Cox and Miles (2008) examine federal court cases involving Section 2 of the Voting Rights Act. They find a substantial and growing gap in how judges appointed by Democrats and Republicans rule on voting rights cases. As another example, Cohen and Yang (2019) find that 65 percent of the unadjusted gap in sentence length between blacks and whites in federal district courts can be attributed to Republican-appointed judges giving black defendants longer sentences (of three months, on average) than similar nonblacks, as compared to Democratic-appointed judges. Thus, people being sentenced for a crime will randomly get a higher or lower sentence, depending on which judge they draw. Several other studies have used the random assignment of cases to judges as an instrument, investigating the effect of judging tendencies on a wide variety of downstream outcomes (Kling 2006; Dobbie, Goldin, and Yang 2018).

These findings that rely on the random assignment of cases to judges do not measure judicial ideology *per se*. Still, they do help identify the effect of judicial characteristics, of which partisanship is one. On a larger scale, leveraging random assignment allows scholars to put the impact of partisanship front and center in their research designs. However, an important caveat is that the randomization of cases in federal courts is very far from perfect, and scholars should be careful in claiming randomization for purposes of causal identification. Judges might recuse themselves or have a scheduling conflict; court clerks might try to balance workload, try to rotate cases so that judges sit with more colleagues, or have other considerations that lead them to break from true random assignment. Several studies have shown that case assignments for the federal appeals courts deviate significantly from what would be expected under true randomization (Chilton and Levy 2015), while others have documented instances where courts claim randomization but actually use non-random rubrics in case assignment (for example, Hildabrand 2019). Presumably, similar breaks from randomization occur for other federal courts and state courts that claim to employ random assignment. In addition, because lower court federal judges are grouped in panels of three for a particular sitting (where they might hear dozens of cases together), and then cases are randomly assigned to panels, thinking carefully about randomization and the appropriate unit of analysis (appeals panels versus individual judges) is essential.

### **Text-based Analysis**

Automated text analysis is frequently used outside of the legal context to measure ideology. Scholars have, for example, analyzed floor speeches made on the US Congressional floor (for example, Diermeier et al. 2012) to estimate legislative ideology. The general idea is that the greater use of certain words is likely to be associated with certain ideologies—for example, “death tax” or “Obamacare” would be more likely to be associated with a conservative ideology. Most of these methods use machine learning methods for text classification, with some portion of text documents classified by hand as “conservative” or “liberal” as a training set. Examples of approaches that focus specifically on ideologically oriented text include Wordscores (Laver, Benoit, and Garry 2003); Wordfish (Slapin and Proksch 2008); and Wordshoal (Lauderdale and Herzog 2016).

The courts present a special challenge, however. Unlike elected officials, whose public statements are made with non-specialist members of the public in mind, lawyers communicate in a specific legal language, which creates challenges for mapping legal concepts and language directly onto ideology. Nonetheless, we note several recent attempts to scale case-level ideology, which could be extended to estimate judicial ideology. A notable example is Lauderdale and Clark (2016), which uses a conditional autoregressive preference measurement model to examine case-level voting at the US Supreme Court. Instead of trying to estimate a general measure of judicial ideology, this approach estimates the justices’ latent preferences on every vote, looking closely at cut-points in each case. The authors use this model to generate case-specific preference estimates for US Supreme Court justices from 1946 to 2005, revealing substantively meaningful variation in the relative ideological ordering across cases.

Another recent attempt has been Hausladen, Schubert, and Ash (2020), which attempts to estimate the ideology of written opinions from the federal courts of appeals using supervised machine learning methods. The authors hand-coded around 5 percent of cases in their sample and then used this as a training set; the algorithm then accurately predicts federal appeals decisions hand-coded by Landes and Posner (2009) from the Songer et al. Court of Appeals dataset.

### **Judicial Ideology in State Courts**

Most of the discussion so far has focused on the US federal courts. However, whereas the federal courts combined hear approximately several hundred thousand cases per year, state courts hear vastly more—an estimated 84 million per year (<http://www.courtstatistics.org>). In addition, while federal courts are limited in their jurisdiction to only those cases having a federal component or to those cases involving cross-state litigants, state courts hear the vast majority of within-state legal matters—including most matters pertaining to criminal punishment, family matters (including child custody and divorces), and trusts and estates processing. Thus, decisions by state courts are of vital importance to bread-and-butter economic and social issues and therefore studying them is of high value in economics, sociology, and political science.

However, the challenges for studying the behavior and backgrounds of state judges are formidable. The federal courts are a contained group of some 1,000

individuals whose identities and prior partisan and employment histories are easily tracked via extant resources. For state judges—spread across all 50 states and the District of Columbia—the task is vastly more difficult. A good starting point for researching the identities and backgrounds of state judges are new, open-source initiatives such as Courtlistener ([https:// www.courtlistener.com/person/](https://www.courtlistener.com/person/)) or Ballotpedia ([https://ballotpedia.org/Courts\\_and\\_judges\\_by\\_state](https://ballotpedia.org/Courts_and_judges_by_state)).

In terms of estimating judicial ideology, the difficulty extends beyond numbers. Federal judges are selected via the same procedure—nomination by the president with the “advice and consent” of the US Senate. This makes it straightforward to impute executive (or senatorial) ideology for the judges’ ideologies (although as we note above, doing so by necessity introduces measurement error). In contrast, state judges are chosen via an amalgam of selection methods including, but not limited to, merit commissions, partisan elections, nonpartisan elections, legislative appointments, and executive (gubernatorial) appointments. The larger number of actors makes it intractable to use the same methodology for state judges as, for example, is followed by Judicial Common Space scores for federal judges.

Nonetheless, scholars have made strong inroads in the estimation of judicial ideology at the state level. The most prominent of these are Party-Adjusted surrogate Judge Ideology (PAJID) scores developed by Brace, Langer, and Hall (2000), which are focused on ideology for justices on state supreme courts. These scores build off of the intuition of Judicial Common Space scores and others by looking to the relevant political actors to be “surrogates” for judicial ideology; that is, these scores borrow the political ideology of pertinent political actors to impute the likely ideology scores of the judges in question. In states with appointments systems, this would be the ideologies of political elites; in states with elections, this would be the electorate. Thus, the authors use “elite ideologies for appointed judges and citizen ideologies for elected judges” (Brace, Langer, and Hall 2000, p. 397), further adjusting by the expressed partisanship of the judge. The result is scores that capture the variegated nature of judicial selection at the state level; however, as with other approaches that use ideological surrogates (like Judicial Common Space scores), the PAJID scores are not based on the judges’ own revealed behavior.

Another approach to estimating the ideology of state judges is provided by Bonica and Woodruff (2015) and Bonica and Sen (2017a), which rely on the campaign contribution scores methodology presented in Bonica (2014). Similarly to the DIME scores for federal judges, these scores take judges’ political activity as expressed through campaign contributions and assume that this political activity is reflective of their true ideological preferences. Again like federal judges, the coverage is reasonably strong, reflecting the politicized nature of judicial offices: of state high court judges, 71 percent are included in the contributions database. Moreover, because the methodology scales judges from across federal and state courts in the same fashion, the ideology estimates are comparable across different areas of the judiciary, legislative bodies, and other political actors. This facilitates comparisons across presidents, members of Congress, state legislators, state executives, legal elites, and even litigating parties.

### **Judicial Ideology on Other National Courts or International Courts**

The literature on estimating the ideology of judges on national or subnational courts in other countries is too widespread for a brief synthesis. However, those interested in learning more might begin with estimates of the ideology of judges in Argentina (Bertomeu, Dalla Pellegrina, and Garoupa 2017), Canada (Songer et al. 2012), the United Kingdom (Hanretty 2013; Arvind and Stirton 2016), Spain and Portugal (Hanretty 2012); Taiwan (Dalla Pellegrina, Garoupa, and Lin 2012), and Philippines (Dalla Pellegrina, Escresa, and Garoupa 2014).

The estimation of judicial ideology has so far made little progress in the increasingly substantively important arena of international courts. The challenges here are numerous—these courts tend to have less regular terms and more idiosyncratic caseloads, making bridging across panels difficult. One notable effort here is the work of Frankenreiter (2018) on the EU Court of Justice.

### **How Judicial Ideology Has Polarized over Time**

As the salience of judicial ideology has grown in recent years, so has judicial polarization. Judges appointed to the federal courts, from both parties, are increasingly being selected based on their partisan bona fides and being drawn from the ideological extremes. While polarization is on full public display in recent Supreme Court nomination battles, this trend is also playing out in the federal courts more generally. In this section, we consider some of the evidence, using Martin-Quinn scores for Supreme Court justices and campaign contribution-based measures of judicial ideology for lower court judges.

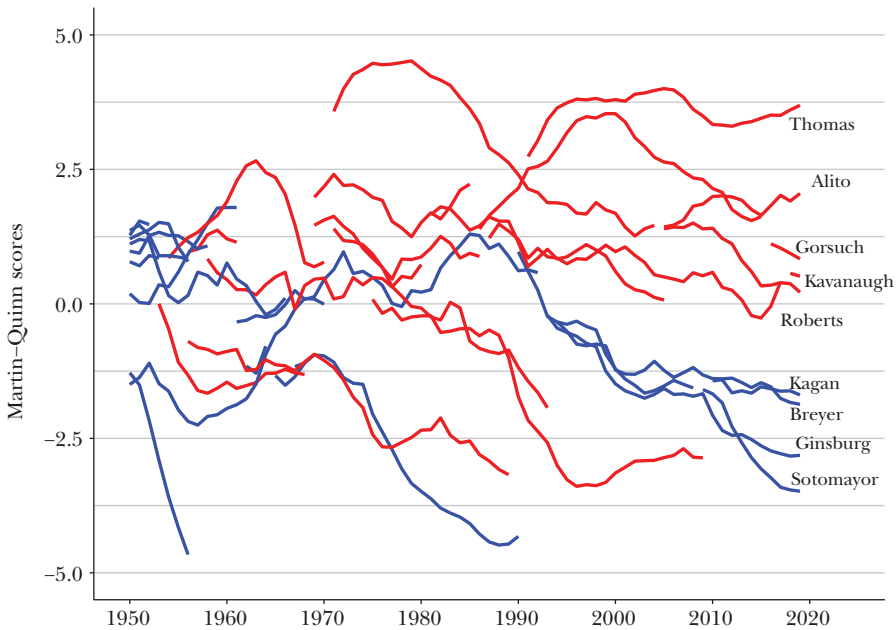
One sign of polarization is that Supreme Court justices have sorted into distinct ideological voting blocks along party lines. The notion that a president would nominate a justice who would align with the opposing ideological camp, something that had been relatively common in the past, is now unthinkable. The lower courts have polarized alongside the Supreme Court, to the extent that federal district and circuit court judges are now nearly as polarized as the parties in Congress. These trends look poised to continue for the foreseeable future, which has important implications for judicial decision-making on politicized areas of law. It also threatens to diminish the legitimacy of the courts in the eyes of the public.

### **Polarization on the Supreme Court**

Tracking polarization in the US Supreme Court is an important contribution of the literature on measuring judicial ideology. As the nation's highest court, many issues of economic, societal, and political importance are decided each term. The ideological composition of the court has become a major battleground for partisan conflict. Supreme Court nomination battles were front and center in the 2016, 2018, and 2020 elections, with both parties emphasizing to their respective bases the vital importance of Supreme Court appointments to their policy agendas.



Figure 1

**Martin-Quinn Estimates of Supreme Court Justice Ideology**

Source: <https://mqscores.lsa.umich.edu>

The Martin-Quinn dynamic ideal point trends show a growing partisan divide on the Supreme Court in recent decades, as seen in Figure 1. Prior to the 1990s, voting patterns reveal substantial ideological overlap of justices appointed by Republicans and Democrats. Following the retirement of John Paul Stevens in 2009, justices separated into two distinct ideological voting blocks along party lines.

While nomination battles and the ideological preferences of justices have become polarized, the business of the Court has not necessarily done so to the same extent. Even as justices appointed by Republicans and Democrats have sorted into distinct voting blocks, the percentage of unanimous decisions issued by the Court has increased in recent decades. Straight party-line voting, where justices vote as opposing partisan blocks, remains relatively infrequent, accounting for about 10 percent of cases decided during the 2018 and 2019 terms. This is a stark contrast with voting patterns in Congress, where party line votes account for more than 70 percent of floor votes. This pattern likely reflects that the Supreme Court continues to perform its institutional role of resolving circuit splits and providing uniformity on legal issues (Bartels 2015).

At the same time, some of the most controversial and politically consequential Supreme Court rulings over the past decade have been decided by close votes

along ideological lines. When the Supreme Court considers cases that have major implications for setting public policy, it tends to behave more like their partisan counterparts in Congress. Some examples of the landmark cases during the 2010s that were generally decided along ideological lines include *Citizens United v. FEC* (558 U.S. 310 [2010]) concerning campaign finance, *Shelby County v. Holder* (570 U.S. 529 [2013]) concerning voting rights, *Obergefell v. Hodges* (576 U.S. 644 [2015]) concerning same-sex marriage, *Arizona v. United States* (567 U.S. 387 [2012]) addressing conflicts between federal and state-level immigration law, *Janus v. AFSCME* (585 U.S. [2018]) on whether labor unions could collect fees from non-union members, *Burwell v. Hobby Lobby* (573 U.S. 682 [2014]) on the circumstances in which a closely held corporation could be exempt from federal regulation on religious grounds, and *Schuette v. Coalition to Defend Affirmative Action* (572 U.S. 291 [2014]) on whether states could ban affirmative action in education.

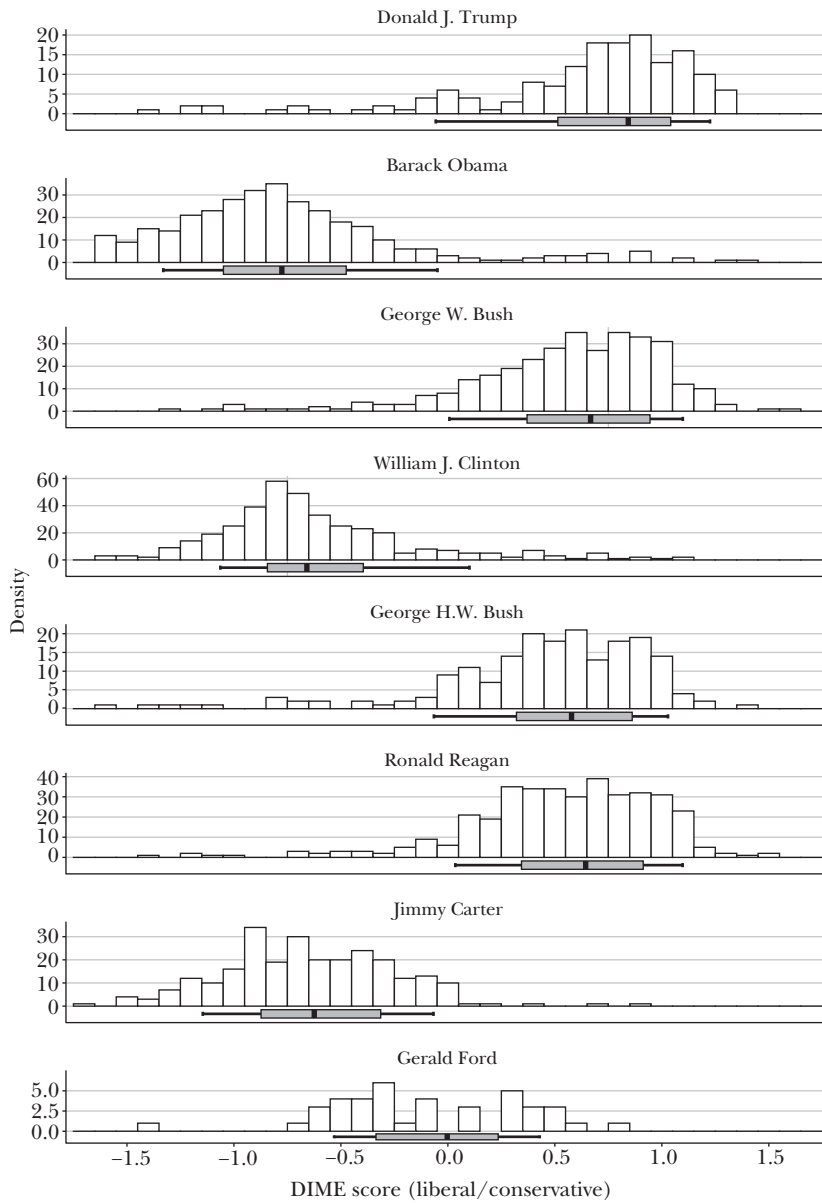
### **Republican and Democratic Federal Appointments over Time**

While selecting judges to serve on the federal bench has never been entirely free from partisan considerations, the choices have historically been mediated to varying extents by concerns about judicial qualifications, norms of impartiality, and institutional arrangements designed to promote bipartisan compromise in the Senate. Figure 2 provides a sense of the extent to which the countervailing considerations have given way to a more purely partisan selection process. It plots the ideological distribution of federal judges appointed during recent presidential administrations based on the contribution-based DIME scores of judicial ideology discussed earlier. Box-and-whisker plots are included to show the median and relative dispersion of ideology scores for judges appointed by each president. Comparing the distributions of more recent administrations and earlier administrations reveals a general trend towards ideologically driven selection of judges.

This trend towards appointing ideologically aligned judges has exacerbated judicial polarization. Figure 3 plots the polarization trends for the US District and Circuit courts. To measure polarization, we draw from the standard approach in the literature on congressional polarization. We first group judges appointed by Democratic and Republican presidents and calculate each group's average ideology by year. We then calculate the distance between the party means as the measure of polarization in each year. A unit value on this scale is equivalent to a standard deviation in the scores for congressional candidates, or in practical terms, about the ideological distance between Senators Joe Biden (D-DE) and Susan Collins (R-ME). The polarization of circuit court judges has outpaced that of district court judges, increasing from 1.04 to 1.50 compared with an increase from 0.98 to 1.26, reflecting the appellate courts' higher political value. For reference, the federal appellate courts in 2018 were about as polarized as Congress was in the mid-2000s. This suggests that supposing federal court judges were instead serving in Congress, few would be considered moderates, with most behaving as partisans.

Figure 2

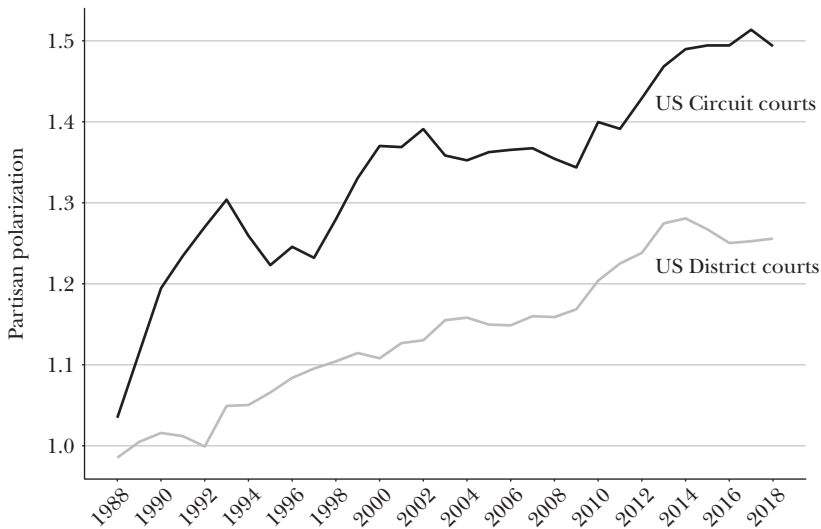
**Ideological Distributions of Judges Appointed by Presidential Administrations**



Source: Federal Judicial Center Biographical Directory, DIME.

Note: Box-and-whisker plots display the median, interquartile range, and the 9th to 91st percentiles for each distribution.

Figure 3

**Ideological Distance between Federal Judges Appointed by Democratic and Republican Presidents**

Source: Federal Judicial Center Biographical Directory, DIME

**Consequences of Increasing Judicial Polarization**

There is evidence that judicial polarization has influenced the judicial system in ways large and small. As ideology becomes more predictive of judicial disposition, it creates opportunities for “venue shopping,” a process whereby litigants filing in the federal courts can strategically exercise discretion about which federal circuit to bring their case.

The effects of judicial polarization are perhaps most clearly observed in the judicial selection process (Devins and Baum 2017). State and federal courts routinely issue decisions on questions of paramount political importance, from health care policy and abortion rights to voting rights and redistricting. As a result, support from the courts is a highly sought-after political prize in American politics. As partisans compete to secure seats for ideologically friendly judges, they have sought to manipulate the institutional rules and mechanisms used to select judges (Bonica and Sen 2017b).

Judicial polarization also has downstream effects on the labor market for legal elites. The courts have polarized alongside a generational shift within the legal profession, with upwards of 90 percent of recent graduates from elite law schools identifying as Democrats (Bonica et al. 2018; Fisman et al. 2015). As demand for conservative judges has outpaced the supply of potential jurists from elite law schools, conservative graduates of these programs have become far more likely to be chosen for coveted federal clerkships and are much more likely to be appointed to positions on the federal bench than their more numerous liberal counterparts.

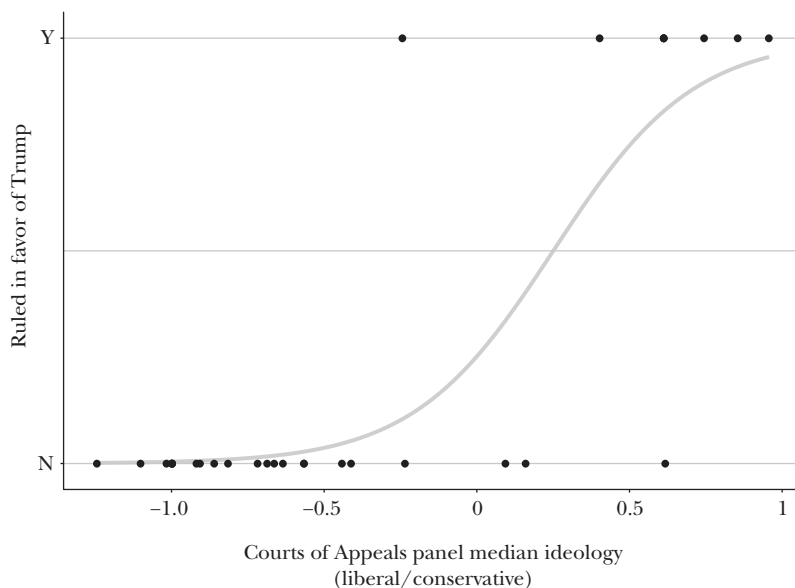
One especially fraught set of issues are cases concerning voting rights, campaign finance, and elections. The judicialization of politics, as Ferejohn (2002) has phrased it, refers to a long-term trend whereby courts have increasingly involved themselves in regulating political activity and adjudicating election disputes. The earlier discussion listed some high-profile Supreme Court cases which were decided largely along partisan lines, but for many people, perhaps the most notable example is *Bush v. Gore* (531 US 98 [2000]), which ended a set of disputes over the conduct of voting recounts in the state of Florida and had the proximate effect of Bush winning the presidential election. There is evidence that these patterns apply to the lower courts, as well. Cox and Miles (2008) find that partisanship predicts how federal judges decide cases related to Section 2 of the Voting Rights Act. Kang and Shepherd (2016) report a similar partisan pattern relating to election disputes in state courts.

Another symptom of judicial polarization that has presented itself in recent years relates to how the courts have ruled on lawsuits brought against President Donald Trump and his administration. Dozens of lawsuits have been filed against Trump regarding his personal and official actions. Many of these cases raise fundamental constitutional issues and extend beyond policy matters to questions of executive authority, congressional oversight, and President Trump's personal conduct and finances. Figure 4 plots the disposition of rulings (coded by rulings for or against the president) against the median ideology of three-judge US circuit court panels hearing the cases. Ideology emerges as a strong predictor of case outcomes. Right-of-center panels tend to rule in favor of the president, while left-of-center overwhelmingly rule against him. A similar analysis performed by the Institute for Policy Integrity (2019) tracked the outcomes of litigation regarding the Trump administration's use of federal agencies. It finds that 8 percent of lawsuits heard by Democratic judges were ruled favorably for the Trump administration compared with 44 percent of cases heard by Republican judges.

## Conclusion

Substantial scholarship has documented that the ideology of judges plays an important role in shaping their judicial behavior. The accumulated research goes back decades, to the 1940s and 1950s. Although most of the work has focused on the US Supreme Court, evidence of the important role of judicial ideology in predicting judicial rulings has been found at the other levels of state and federal courts. The effects of judicial ideology do not just involve topics of federal interest, such as civil rights or voting rights, but also cases that are less ostensibly political, such as the sentencing decisions of criminal defendants. This evidence has been built on a number of measures of judicial ideology: the party of the politician who appointed the judge, scores based on voting patterns, informed opinions like newspaper editorials before a Supreme Court justice is appointed, campaign contributions made by judges before they were appointed, analysis of text for clues about political ideology, and others. We also show that judges have become more polarized.

Figure 4

**Rulings on Cases Involving President Trump by Ideology of Circuit Court Panels**

Source: Author's calculations, DIME.

Note: Each observation is a case decided by the federal circuit courts in which the President Trump or his administration was a party. The trend line is estimated from logistic regression.

However, this literature does not purport to suggest that ideology is the only or the primary predictor of judicial decision making. Judging operates in tandem with legal constraints and the institutional constraints that come along with the courts. Judges are also constrained by the need to justify their decisions, together with their desire to have not just the approval of their peers for reaching a certain result but also the respect of their peers for how that result was reached.

## References

- Arvind, T.T., and Lindsay Stirton. 2016. "Legal Ideology, Legal Doctrine and the UK's Top Judges." *Public Law* 2016 (July): 418–36.
- Bailey, Michael A. 2007. "Comparable Preference Estimates across Time and Institutions for the Court, Congress, and Presidency." *American Journal of Political Science* 51 (3):433–48.
- Bailey, Michael A. 2017. "Measuring Ideology on the Courts." In *Routledge Handbook of Judicial Behavior*, edited by Robert M. Howard and Kirk A. Randazzo, 62–83. New York: Routledge.



- Bartels, Brandon.** 2015. "The Sources and Consequences of Polarization in the US Supreme Court." In *American Gridlock: The Sources, Character, and Impact of Political Polarization*, edited by James A. Thurber and Antoine Yoshinaka, 171–200. Cambridge, UK: Cambridge University Press.
- Bertomeu, Juan González, Lucia Dalla Pellegrina, and Nuno Garoupa.** 2017. "Estimating Judicial Ideal Points in Latin America: The Case of Argentina." *Review of Law & Economics* 13 (1).
- Bonica, Adam.** 2014. "Mapping the Ideological Marketplace." *American Journal of Political Science* 58 (2): 367–86.
- Bonica, Adam.** 2016. "Database on Ideology, Money in Politics, and Elections: Public Version 2.0." <http://data.stanford.edu/dime> (accessed October 4, 2020).
- Bonica, Adam.** 2019. "Are Donation-Based Measures of Ideology Valid Predictors of Individual-Level Policy Preferences?" *The Journal of Politics* 81 (1): 327–33.
- Bonica, Adam, Adam S. Chilton, Jacob Goldin, Kyle Rozema and Maya Sen.** 2017. "Measuring Judicial Ideology Using Law Clerk Hiring." *American Law and Economics Review* 19 (1): 129–61.
- Bonica, Adam, Adam Chilton, Kyle Rozema and Maya Sen.** 2018. "The Legal Academy's Ideological Uniformity." *Journal of Legal Studies* 47 (1): 1–43.
- Bonica, Adam, and Maya Sen.** 2017a. "A Common-Space Scaling of the American Judiciary and Legal Profession." *Political Analysis* 25 (1): 114–21.
- Bonica, Adam, and Maya Sen.** 2017b. "The Politics of Selecting the Bench from the Bar: The Legal Profession and Partisan Incentives to Introduce Ideology into Judicial Selection." *The Journal of Law and Economics* 60 (4): 559–95.
- Bonica, Adam, and Michael J. Woodruff.** 2015. "A Common-Space Measure of State Supreme Court Ideology." *Journal of Law, Economics, & Organization* 31 (3): 472–98.
- Boyd, Christina L.** 2015. "Federal District Court Judge Ideology Data." <http://cLboyd.net/ideology.html>. (accessed November 4, 2020).
- Brace, Paul, Laura Langer, and Melinda Gann Hall.** 2000. "Measuring the Preferences of State Supreme Court Judges." *The Journal of Politics* 62 (2): 387–413.
- Chilton, Adam S., and Marin K. Levy.** 2015. "Challenging the Randomness of Panel Assignment in the Federal Courts of Appeals." *Cornell L. Rev.* 101 (1).
- Clinton, Joshua, Simon Jackman, and Douglas Rivers.** 2004. "The Statistical Analysis of Roll Call Data." *American Political Science Review* 98 (2): 355–70.
- Cohen, Alma, and Crystal S. Yang.** 2019. "Judicial Politics and Sentencing Decisions." *American Economic Journal: Economic Policy* 11 (1): 160–91.
- Cox, Adam B., and Thomas J. Miles.** 2008. "Judging the Voting Rights Act." *Columbia Law Review* 108 (1): 1–54.
- Dalla Pellegrina, Lucia, Laarni Escresa, and Nuno Garoupa.** 2014. "Measuring Judicial Ideal Points in New Democracies: The Case of the Philippines." *Asian Journal of Law and Society* 1 (1): 125–64.
- Dalla Pellegrina, Lucia, Nuno Garoupa, and Shirley Ching-ping Lin.** 2012. "Judicial Ideal Points in New Democracies: The Case of Taiwan." *NTU L. Rev.* 7 (123).
- Devins, Neal, and Lawrence Baum.** 2017. "Split Definitive: How Party Polarization Turned the Supreme Court into a Partisan Court." *The Supreme Court Review* 2016: 301–65.
- Diermeier, Daniel, Jean-François Godbout, Bei Yu, and Stefan Kaufmann.** 2012. "Language and Ideology in Congress." *British Journal of Political Science* 42 (1): 31–55.
- Dobbie, Will, Jacob Goldin, and Crystal S. Yang.** 2018. "The Effects of Pretrial Detention on Conviction, Future Crime, and Employment: Evidence from Randomly Assigned Judges." *American Economic Review* 108 (2): 201–40.
- Epstein, Lee, William M. Landes, and Richard A. Posner.** 2013. *The Behavior of Federal Judges: A Theoretical and Empirical Study of Rational Choice*. Cambridge, MA: Harvard University Press.
- Epstein, Lee, Andrew D. Martin, Jeffrey A. Segal, and Chad Westerland.** 2007. "The Judicial Common Space." *The Journal of Law, Economics, and Organization* 23 (2): 303–25.
- Ferejohn, John.** 2002. "Judicializing Politics, Politicizing Law." *Law and Contemporary Problems* 65 (3): 41–68.
- Fischman, Joshua B., and David S. Law.** 2009. "What Is Judicial Ideology, and How Should We Measure It?" *Washington University Journal of Law & Policy* 29 (133).
- Fisman, Raymond, Pamela Jakiela, Shachar Kariv, and Daniel Markovits.** 2015. "The Distributional Preferences of an Elite." *Science* 349 (6254).
- Frankenreiter, Jens.** 2018. "Are Advocates General Political? Policy Preferences of EU Member State Governments and the Voting Behavior of Members of the European Court of Justice." *Review of*

*Law & Economics* 14 (1).

- Giles, Micheal W., Virginia A. Hettinger, and Todd Peppers.** 2001. "Picking Federal Judges: A Note on Policy and Partisan Selection Agendas." *Political Research Quarterly* 54 (3): 623–41.
- Hanretty, Chris.** 2012. "Dissent in Iberia: The Ideal Points of Justices on the Spanish and Portuguese Constitutional Tribunals." *European Journal of Political Research* 51 (5): 671–92.
- Hanretty, Chris.** 2013. "The Decisions and Ideal Points of British Law Lords." *British Journal of Political Science* 43 (3): 703–16.
- Harvey, Anna, and Michael J. Woodruff.** 2013. "Confirmation Bias in the United States Supreme Court Judicial Database." *The Journal of Law, Economics, & Organization* 29 (2): 414–60.
- Hausladen, Carina I., Marcel H. Schubert, and Elliott Ash.** 2020. "Text Classification of Ideological Direction in Judicial Opinions." *International Review of Law and Economics* 62.
- Hildabrand, Clark L.** 2019. "The Curiously Nonrandom Assignment of Sixth Circuit Senior Judges." *Kentucky Law Journal* 108.
- Ho, Daniel E., and Kevin M. Quinn.** 2010. "How Not to Lie with Judicial Votes: Misconceptions, Measurement, and Models." *California Law Review* 98 (3): 813–76.
- Institute for Policy Integrity.** 2019. "Roundup: Trump-Era Agency Policy in the Courts." <https://policy-integrity.org/trump-court-roundup>.
- Kang, Michael S., and Joanna M. Shepherd.** 2016. "The Long Shadow of Bush v. Gore: Judicial Partisanship in Election Cases." *Stanford Law Review* 68 (1411).
- Kling, Jeffrey R.** 2006. "Incarceration Length, Employment, and Earnings." *American Economic Review* 96 (3): 863–76.
- Landes, William M., and Richard A. Posner.** 2009. *The Economic Structure of Intellectual Property Law*. Cambridge, MA: Harvard University Press.
- Lauderdale, Benjamin, and Tom S. Clark.** 2014. "Scaling Politically Meaningful Dimensions Using Texts and Votes." *American Journal of Political Science* 58 (3): 754–71.
- Lauderdale, Benjamin E., and Tom S. Clark.** 2016. "Estimating Vote-Specific Preferences from Roll-Call Data Using Conditional Autoregressive Priors." *The Journal of Politics* 78 (4): 1153–69.
- Lauderdale, Benjamin E., and Alexander Herzog.** 2016. "Measuring Political Positions from Legislative Speech." *Political Analysis* 24 (3): 374–94.
- Laver, Michael, Kenneth Benoit, and John Garry.** 2003. "Extracting Policy Positions from Political Texts Using Words as Data." *American Political Science Review* 97 (2): 311–31.
- Lissner, Michael.** 2019. "We've Integrated the FJC Integrated Database into CourtListener." The Integrated Database. <https://free.law/2019/02/14/weve-integrated-the-fjc-integrated-database-into-courtlistener/> (accessed November 4, 2020).
- Martin, Andrew D., and Kevin M. Quinn.** 2002. "Dynamic Ideal Point Estimation via Markov Chain Monte Carlo for the U.S. Supreme Court, 1953–1999." *Political Analysis* 10 (2): 134–53.
- Nixon, David.** 2004. "APPENDIX A: Ideology Scores for Judicial Appointees." <http://www2.hawaii.edu/~dnixon/PIMP/judicial.pdf>.
- Owens, Ryan J., and Justin Wedeking.** 2012. "Predicting Drift on Politically Insulated Institutions: A Study of Ideological Drift on the United States Supreme Court." *The Journal of Politics* 74 (2): 487–500.
- Poole, Keith T.** 2005. *Spatial Models of Parliamentary Voting: Analytical Methods for Social Research*. Cambridge, UK: Cambridge University Press.
- Poole, Keith T., and Howard Rosenthal.** 1997. *Congress: A Political-Economic History of Roll Call Voting*. Oxford: Oxford University Press.
- Segal, Jeffrey A., and Albert D. Cover.** 1989. "Ideological Values and the Votes of U.S. Supreme Court Justices." *American Political Science Review* 83 (2): 557–65.
- Segal, Jeffrey A., and Harold J. Spaeth.** 2002. *The Supreme Court and the Attitudinal Model Revisited*. Cambridge, UK: Cambridge University Press.
- Sherman, Mark.** 2018. "Roberts, Trump Spar in Extraordinary Scrap over Judges." *Associated Press*, November, 21. <https://apnews.com/article/c4b34f9639e141069c08cfl3e3deb6b84>.
- Slapin, Jonathan B., and Sven-Oliver Proksch.** 2008. "A Scaling Model for Estimating Time-Series Party Positions from Texts." *American Journal of Political Science* 52 (3): 705–22.
- Songer, Donald R., Susan W. Johnson, C.L. Ostberg, and Matthew E. Wetstein.** 2012. *Law, Ideology, and Collegiality: Judicial Behaviour in the Supreme Court of Canada*. Montreal: McGill-Queen's Press.
- Sunstein, Cass R., David Schkade, Lisa M. Ellman, and Andres Sawicki.** 2006. *Are Judges Political?: An Empirical Analysis of the Federal Judiciary*. Washington, DC: Brookings Institution Press.