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# Priming ideology I: Why do presidential elections affect U. S. judges

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D7 K0 Z1 *Keywords:* Judicial decision making Salience Identity Politicians' behavioral changes as an election nears have typically been attributed to the incentive effects of an election. I document that behavioral changes can occur even for unelected judges, using data from 1925 to 2002 on U.S. appellate judges, who are appointed for life. Exploiting monthly campaign ads in judges' states of residence, dissents increase with campaign advertisements in states where judges reside. Elections can explain 23 % of all dissents. I rule out a number of incentive-based explanations. Topic of dissents, replication in concurrences (disagreement about reasoning), and placebo checks using milestones of case development support a transient priming mechanism. If elite U.S. judges are in fact susceptible to priming via the partisan nature of electoral cycles, then highly trained individuals may be susceptible to other forms of priming regardless of their professional commitments to be unbiased.

#### 1. Introduction

This study examines the effects of electoral priming on judicial decision-making, set within the broader context of declining trust in nonpolitical institutions. In political economy, the influence of non-elected, non-legislative entities is often overshadowed by the focus on voters and politicians. Yet, these nonpolitical institutions play a crucial role in shaping political outcomes and public policy. This paper specifically investigates how external factors such as elections can prime judges, thereby influencing their decisions. This phenomenon raises questions about the procedural fairness of judicial processes. The concern is not just academic: when judges are ideologically biased, even intermittently, it may have significant legal, social, and economic repercussions. Trust in the judiciary is not merely a legal prerequisite but a foundation of societal order and economic stability (Acemoglu et al., 2020).

Recent experimental work has highlighted the influence of group identity on various aspects of behavior, from economic decisions to ethical judgments (Fong and Luttmer, 2009; Benjamin et al., 2010; Benjamin et al., 2013; Cohn et al., 2015; Gerber et al., 2010). This paper extends this inquiry to explore how group identity, specifically political identity, impacts judicial decision-making in the United States. Judicial impartiality is often taken for granted (Edwards and Livermore, 2008), yet there is evidence suggesting that judges' decisions can reflect their demographic backgrounds and political leanings (Peresie, 2005; Sunstein et al., 2006). This raises critical questions about the extent to which personal biases, conscious or unconscious, influence legal judgments (Sunstein and Thaler, 2008). I explore this issue by examining the decisions of U.S. federal appellate judges, who are theoretically insulated from electoral pressures due to their lifetime appointments (they do not run for election).

The core of this study is an analysis of over 18,686 randomly selected cases, a 5% sample, from 1925 to 2002, focusing on the patterns of dissent and partisan alignment in judicial decisions. Judges display a marked increase in both dissent rates and partisan

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voting in the periods leading up to presidential elections. This trend challenges the traditional view of judges as detached arbiters, suggesting that even life-tenured judges are not immune to the political climate.

This paper also uncovers—and explains—a notable anomaly: a significant rise in monthly judicial dissents peaking three months prior to elections. This pattern appears counterintuitive, as one might expect the influence of election priming to persist until the election itself. The explanation for this pre-election dissent spike is linked to the primary season, a period focused on selecting party representatives for the election. Notably, primaries conclude approximately three months before the election, marking the point at which parties finalize their candidates for the general election (Goldberg, 2016; Brady et al., 2007). My findings show that dissents start to decline in states where the electoral outcome is less pivotal, but continue to be elevated in key battleground states. Furthermore, I directly link the spatial and temporal variations in electoral intensity to the frequency of campaign advertisements in the states where the dissenting judges reside, observing a correlation between increased monthly ad campaigns and dissent rates.

Another intriguing aspect is the average duration of legal cases, typically extending over eight months. This duration highlights the peculiarity of the observed election cycle pattern based on the date of opinion publication. Intriguingly, when replacing the publication date with "placebo" dates (such as the date of oral argument or other earlier case stages), the electoral cycle in judicial behavior disappears. This suggests that the decision to dissent—as a result of priming—is being made closer to the opinion publication date rather than at the oral argument stage, which is traditionally when dissent decisions are believed to be made (Hart et al., 2006; Epstein et al., 2013).

This tendency for last-minute judgment is further evidenced by a similar pattern in judicial concurrences, which see a 50% increase prior to presidential elections. Unlike dissents, concurrences express disagreement with the majority opinion's reasoning rather than its verdict. They typically involve writing a separate opinion and are decided after the majority opinion's initial draft circulation, significantly post-oral arguments. Lastly, an increase in dissents without a separate written opinion also points towards this phenomenon of late-stage judgment.

I then employ a comprehensive dataset characterized by high-frequency and spatial diversity across multiple elections to examine the intensification of polarization under conditions where identity factors are prominently activated. This phenomenon is primarily driven by the judge issuing the dissent, rather than the other panel members. Specifically, the likelihood of a dissent correlates significantly with the electoral dynamics specific to the state of the dissenting judge. In summary, this research presents novel insights into the subtle yet significant ways in which group identity and political climates can shape judicial decision-making. It contributes to the broader conversation about bias and impartiality in the legal system, offering evidence that even highly trained, professional judges are susceptible to the subconscious influences of their social and political environments. The remainder of the article is organized as follows. Section 2 presents background, Section 3 data and specification, Section 4 the electoral cycles, Section 5 evidence for priming, Section 6 the role of identity, and Section 7 concluding remarks.

#### 2. Literature review and background

#### 2.1. Literature review

This article contributes to three key literatures, the first of which focuses on political identity and judicial decision-making (Harris and Sen, 2019). By and large, U.S. judges contend there is no evidence for ideological bias. Some say that only a small fraction of cases are legally indeterminate and that as experienced members of the legal community, they recognize which arguments have greater plausibility within the legal community, even in difficult cases (Edwards and Livermore, 2008). Edwards and Livermore (2008) estimate that 5 to 15 % of cases in their Circuit, and therefore thousands of cases over all courts of appeals, are indeterminate from a legalistic standpoint. Yet the view of judges as impartial and unbiased decision-making over a range of legal issues and, in particular, that judges' voting behavior reflects partisan preferences (see e.g., Peresie, 2005; Sunstein et al., 2006). Furthermore, laboratory studies document that even when parties have the same information, they will come to different conclusions about what a fair judicial decision should be (Babcock et al., 1995).

The interpretation of correlations between judges' decisions and their demographic characteristics, however, remains an open question. Even if judges vote along partisan lines, are judges simply following legal philosophy (e.g., different formal rules) rather than demonstrating bias? Among the three main theories of judicial behavior—legal, attitudinal, and selfinterested—the first posits that judges follow formal rules or legal philosophy (Kornhauser, 1999). The latter two assume some form of bias: e.g., the attitudinal model posits that judges follow political preferences (Cameron, 1993) and the self-interested model posits that judges maximize their utility (Posner, 1973). The distinction between legal and attitudinal is subtle: for instance, a judge can adhere to a strict interpretation of the Constitution while not necessarily simply hewing to the preferences of a political party. Legal philosophy, the preferred interpretation by jurists regarding the correlations between background characteristics and judicial decision making, is difficult to test (Posner, 1998). For example, that Republican judges prefer an originalist interpretation of the U.S. Constitution while Democratic judges prefer a living interpretation of the U.S. Constitution is somewhat tautological, or as Posner (1993) puts it, metaphysical.

I contribute to this vibrant literature by documenting electoral priming affects judicial behavior. The paper's central premise is investigating the effect of electoral cycles on U.S. federal appellate judges' decisions. It posits that the heightened political atmosphere around elections subtly influences judges' perceptions, likely through unconscious priming rather than deliberate bias. A literature documents the relationship between proximity of a judge's retention election and a judge's sentencing behavior (see e.g., Huber and Gordon, 2004; Gordon and Huber, 2007. Lim, 2013; Berdejó and Yuchtman, 2013; Abrams et al., 2023). Other studies include bias by sports referees (Garicano et al., 2005; Dohmen and Sauermann, 2015; Pope et al., 2013) and traffic court judges (Shayo and Zussman,

2011) and vignette-based literature suggesting that judicial decision-making is affected by heuristics, e.g., anchoring, status quo bias, and availability (Mussweiler and Strack, 2000; Englich et al., 2005; Guthrie et al., 2007). This paper is the first to document priming as a mechanism that affects judicial decision-making.

The second literature to which I contribute is an experimental literature on group identity effects (Zhang et al., 2022). Studies like Fong and Luttmer (2009), Benjamin et al. (2010), Benjamin et al. (2013), Cohn et al. (2015), and Gioia (2017) have experimentally demonstrated the impact of group identity on a range of decisions, from charitable choices to ethical judgments. These works primarily utilize laboratory settings to establish causal links, highlighting the potency of group identity in shaping behaviors and choices. In this paper, I examine the causal link between group identity and ideas. Social scientists have also long speculated whether different ideas cause individuals to select into different groups or whether group identity causally imparts a set of ideas. By documenting field evidence of group identity effects, I complement the laboratory literature and document causal evidence of group identity causally imparting a set of ideas.

The third literature is one on priming (Cohn and Maréchal, 2016; Alempaki et al., 2019). Many economic models have incorporated cognitive effects like priming and salience (Laibson, 2001; Bernheim and Rangel, 2004; Bordalo et al., 2013) and even applied to judicial decisions (Bordalo et al., 2015). Some economists have tried and failed to evidence of priming in the field.<sup>1</sup> To understand how priming operates in the context of judicial decision-making, let us examine key psychological studies that underpin the theory of priming. These studies provide foundational insights into how subtle cues and environmental factors, akin to those present during elections, can unconsciously influence decision-making processes: (i) cueing effects when a recovering drug addict walked by a subway station where he once bought drugs, the station functioned as a stimulus that triggered physical withdrawal symptoms (Laibson, 2001); (ii) stereotype threat when secondary school students taking a math exam were reminded of their gender in a word problem, it caused girls to perform worse than boys (Spencer et al., 1999); (iii) conceptual priming when participants identified as likely to be sexual harassers were primed with the concept of power in a pronunciation task, they were more attracted to a female confederate (Bargh et al., 1995). The literature also refers to these phenomena as passive or implicit priming. The key mechanism is that an activated concept becomes more likely than before to influence conscious judgments.

The ideal empirical strategy for detecting priming in the field follows individual behavior over time as well as individual demographic characteristics before a prime to see if individuals from different groups diverge after the prime. Several aspects of this setting overcome challenges that make the field detection of priming effects difficult—(1) priming is isolated from incentives or learning mechanisms<sup>2</sup>; and (2) high-frequency data helps pick up extremely short-lived priming effects—the longest laboratory study documents priming effects one week after the initial stimulus (Tulving et al., 1982; Ostergaard, 1994; Hassin et al., 2007). Campaign messages can activate chronic identities (Ansolabehere and Iyengar, 1997), so if judges have partisan identities, priming may influence judges' perception of cases brought before them. Such influence may be implicit and subconscious: in electroencephalogram studies of political priming, people do not recall the stimulus (Morris et al., 2003); neurocorrelates of behavioral change are activated by advertisements that affect population behavior, even when individuals do not believe these advertisements to be effective at changing behavior (Falk et al., 2012). When judges are explicitly primed, however, they control the influence of unconscious bias (Rachlinski et al., 2009). Given judges' strong professional commitment to be unbiased, the potential priming effect of electoral cycles may be due to implicit, subconscious, priming.

The policy implication and policy-making setting of the courts makes the contribution clear. While market pressures may drive identity effects in savings and risk preferences towards the rational model (List, 2003) and drive out other forms and sources of ideological bias, such as media slant (Gentzkow and Shapiro, 2010; DellaVigna and Kaplan, 2007), behavioral anomalies in a context such as judicial decision-making can have more indelible consequences on the development of law (Gennaioli and Shleifer, 2007). Furthermore, even if there is judicial bias, whether the bias is automatic (i.e., unconscious) or reflective (i.e., conscious) is another important question. A finding of unconscious rather than conscious bias would suggest different remedies for judicial partisanship (Sunstein and Thaler, 2008) that address Type I thinking such as self-reflection or cognitive behavioral interventions.

#### 2.2. Background on U.S. federal courts

The U.S. Courts of Appeals (also known as the Federal Appellate Courts or Circuit Courts) rest near the apex of the U.S. common law system, where judges apply – and make – the law. Decisions in current cases become precedent for future cases in the same court and in lower courts of the same jurisdiction. There are three layers of federal courts: U.S. District, Circuit, and Supreme Court. The 94 U.S. District Courts serve as the general trial courts, where a jury may be drawn to decide *issues of facts*. If a party appeals the decision, the case goes up to a Circuit Court, which decides *issues of law;* they have no juries and usually take facts as given from District Courts. Courts of Appeals judges affirm or reverse the District Court decision, and often remand (send the case back) for the lower court to decide in a manner consistent with the law set out in the Circuit Court decision.

Cases that reach the Courts of Appeal focus on new interpretations or distinctions of preceding cases and statutes, which expand or contract the space in which an actor is allowed to act. Courts of Appeals judges are appointed for life by the U.S. President and are

<sup>&</sup>lt;sup>1</sup> John List said, "I believe in priming. Psychologists have shown us the power of priming," and he tried "everything" to induce priming in field experiments, but could not. "Interview: John A. List," *Federal Reserve Bank of Richmond Region Focus*, Second/Third Quarter 2012.

<sup>&</sup>lt;sup>2</sup> In political science, priming refers to an increase in the prominence of an issue leading individuals to increase the weight given to it in regression analyses of self-reported voting preferences (Druckman 2004). However, the increase in issue weight could also be due to learning as individuals learn about parties' positions (Lenz 2009). The current article's research design is completely different in scope and context.

confirmed by the Senate. They preside in one of 12 U.S. Circuits and are appointed to particular geographic locations within the Circuit (called *duty stations*), where they do most of their writing. Three judges, out of a pool of roughly 8 to 40 judges in a Circuit, are randomly assigned by a staffing office to each case. A judge who disagrees with the verdict usually must write a dissent explaining why. A judge who agrees with the verdict (affirm or reverse) but disagrees with the reasoning is said to concur and also usually writes an opinion explaining why. Dissents and concurrences cannot be cited as binding precedent and are costly in terms of time and collegiality (Epstein et al., 2011). Less than 1 % of Courts of Appeals cases are heard again in the U.S. Supreme Court, so the roughly 170 elite Circuit Court judges decide the vast majority of cases that create legal precedent, constitute law school curricula, and impact economic outcomes.

A variety of professional norms and institutional mechanisms are designed to limit the influence of extrajudicial factors, such as bias. Federal judges are restricted from the appearance of impropriety. They are prohibited from receiving honoraria or compensation for speeches, appearances, articles, or service to a profit or non-profit organization.<sup>3</sup> They are also prohibited from making speeches for political organizations, publicly endorsing or opposing candidates, soliciting funds, making contributions, or attending or purchasing tickets for events sponsored by political organizations or candidates.<sup>4</sup> They are further prohibited from personally participating in any fundraising activities, soliciting funds for any organization, or using or permitting the use of the prestige of their judicial office for fundraising purposes.<sup>5</sup> There is no prior evidence that U.S. federal judges are part of presidential elections or any election, with the unusual exception of *Bush v. Gore.* By contrast, state judges<sup>6</sup>, many of whom are themselves elected and, if appointed, rarely have life tenure—have exhibited electoral cycles in their rulings, and the natural interpretation of these results is the incentives facing elected judges (Huber and Gordon, 2004; Gordon and Huber, 2007; Berdejó and Yuchtman, 2013).

#### 2.3. Randomization

Random assignment in Courts of Appeals has been examined in other work. Surveys of the Courts of Appeals find that case assignment procedures fall into two categories. In some courts, two to three weeks before oral arguments, a computer program randomly assigns available judges (occasionally including any visiting judges from other Circuits or District Courts and, in rare instances, other Federal judges) to panels that will hear cases. In other courts, the random assignment of panels occurs before the random assignment of cases: panels of judges are set up to hear cases on a yearly basis, randomly assigned together by a computer program and given dates for hearings. There are "holes" left in some of the panels by the program into which visiting judges are inserted. Occasionally, if a panel of judges has previously looked at a case, it will be sent back to them (for example, if it was remanded by the Supreme Court to resolve a particular issue). If a judge must recuse himself or herself, the case is taken off the calendar and placed back in the pool for reassignment. Chen and Sethi (2016) use data from Boyd et al. (2010) and Sunstein et al. (2006), who code 19 case characteristics as determined by the lower court for 415 gender-discrimination Circuit Court cases, and find that case characteristics are uncorrelated with judicial panel composition. More specific to this context, Berdejo and Chen (2017) run omnibus tests in the form of permutation inference, presenting the t-statistics for changes in the quarter before presidential elections for over 100 characteristics of cases and litigants. No increase or decrease before presidential elections is found along these dimensions. The appendix of the current paper reports similar tests for court caseloads and characteristics of judges authoring or sitting on the panel.

The Circuit Courts have no juries. Instead, every judicial case gets assigned three judges from the court's pool. We refer to these three judges as the **panel**. The panel decides on a binary verdict (affirming or overturning the lower court's verdict), where a majority of two judges is needed to set the verdict (formerly called "disposition"). The panel also composes an **opinion** (i.e., a text) motivating the verdict. The opinion serves as precedent for future cases and as such has a large impact on society and policy. A judge has to write a separate (minority) opinion if she either **dissents** (votes against the binary verdict) or **concurs** (votes for the verdict but for a different reason, as manifested in her minority opinion). Both dissents and concurrences are costly in terms of time and collegiality and they cannot be cited as binding precedent. Note that, for a judge, dissenting and concurring are two mutually exclusive actions that both imply expressing dissatisfaction with the court's decision—a form of confrontation.

#### 3. Data and specification

In my research, I have integrated various datasets to analyze judges' identity, characteristics, ideology, and the ideological leaning of their verdicts, alongside the dynamics within the U.S.

Circuit Courts. This comprehensive approach allows for an investigation of judicial behavior in relation to political and ideological contexts.

The core of my data on judges' decision-making processes comes from the U.S. Courts of Appeals Database Project. This resource provides a random sample of approximately 5 % of appeals-court decisions from 1925 to 2002, including hand-coded information on the ideological content of each verdict. The coding aligns with the conventional notions of "liberal" and "conservative" within the public law literature.

A key aspect of my study is the use judges' biographies. The Appeals Court Attribute Data and the Federal Judicial Center provide

<sup>&</sup>lt;sup>3</sup> Guide to Judiciary Policy Canon 4H. http://www.uscourts.gov/uscourts/rulesandpolicies/conduct/vol02a- ch02.pdf

<sup>&</sup>lt;sup>4</sup> Guide to Judiciary Policy Canon 5.

<sup>&</sup>lt;sup>5</sup> Guide to Judiciary Policy Canon 4C.

<sup>&</sup>lt;sup>6</sup> State judges handle issues of state rather than federal law.

detailed information on judges' identity, characteristics, and their service in which Circuit Courts. In my analysis, I focus on whether there was a dissenting or concurring opinion, and then merge each judge with their specific characteristics, such as their party of appointment.

To investigate the ideology of a judge's actions in court, I use two features of the available data to construct ex ante and ex post measures of ideology. First, I construct ex ante measures of ideology by using Judges' ideology score from the Judicial Common Space (JCS) database, which assigns judges the ideology of their appointing politicians. This score is based on the idea that appointing politicians leverage their opportunities to assign ideologically aligned judges, given the rarity of vacancies and the significant policy impact of Circuit Courts. The score, ranging approximately between -0.7 and +0.7, represents a spectrum from "very liberal" to "very conservative." The JCS ideology score has two main advantages. First, it is predetermined, since it assigns the ideology of the judge before her behavior at the court is observed. The second main advantage of this score is its high ability to predict judges' voting patterns in court, as shown in Chen et al. (2016).

The second feature of the data to investigate the ideology of a judge's actions is the judge's vote ideology on the court at any given date. This measure reflects the ideology of verdicts a judge signs, calculated based on whether the judge dissented or not. On the definition of vote ideology (or valence, a terminology used in the Courts of Appeals Database Project), the documentation states that for most, but not all issue categories, these will correspond to notions of "liberal" and "conservative" that are commonly used in the public law literature. The directionality used in the data source parallels closely the directionality codes in the Spaeth Supreme Court database. For example, decisions supporting the position of the defendant in a criminal procedure case, the plaintiff who asserts a violation of her First Amendment rights, and the Secretary of Labor who sues a corporation for violation of child labor regulations are all coded as "liberal." The decision valence thus captures the court's decision directionality (liberal = 1, conservative = -1, and mixed or unable to code = 0). A vote for the majority would be assigned the decision ideology as its valence. A vote that is a dissent would be assigned the opposite value as its valence.

In terms of methodology, my analysis primarily focuses on three-judge panels, encompassing a substantial number of decisions across multiple decades. The study includes 18,686 decisions (56,058 votes) for 1925–2002, with about 8 % of opinions from 1925 to 2002 featuring dissents. Appendix Table A displays summary statistics. I encountered some limitations due to missing biographical data on judges, which necessitated a reduction in sample size for certain analyses.<sup>7</sup> Using these datasets, I construct the variable for divided panel, defined as panels having at least one Democrat and one Republican. The database assigns each judge to one of the following parties: republican, democrat, liberal, conservatives and independents. I group liberal judges with Democratic judges, conservative judges with Republican judges and independent judges with the party of the appointing President. I also construct fixed effects for the legal issue to address the potential for the electoral cycles to be driven by differences in the filing of certain case types; I use the following classification provided in the database: criminal, civil rights, constitutional (i.e., First Amendment, due process and privacy cases), labor relations, economic activity and regulation, and miscellaneous.

To capture the political climate, besides using the date of the case, which allows me to construct electoral proximity for each quarter to the upcoming presidential election, I also sourced election information from the CQ Voting and Elections Collection.<sup>8</sup> These data include, for example, winning margin in the Electoral College and the political environment such as the party of the incumbent President. The influence of political campaigns is examined using data from the Wisconsin Ads project. This includes the aggregate number of presidential campaign advertisements in major media markets for the 1996, 2004, and 2008 elections. The data allows me to verify which states undergo increasing politicization due to the primary season. Primary season in the United States is the period when political parties hold primary elections and caucuses to select their nominees for the presidency. This season, which typically spans several months in an election year, unfolds state by state and is crucial for candidates to accumulate delegates and gain momentum. The outcomes of these primaries and caucuses determine the party nominees for the general election, setting the stage for the national political contest. For a broader public perspective, this data is complemented with an analysis of 230,709 New York Times articles from 1900 to 2007 that mentioned both "Republican" and "Democrat," sourced from ProQuest. Additionally, all newspaper articles mentioning Courts of Appeals decisions or their dissents for 1981–2013 were collected from NewsBank.

The final data source is The Administrative Office of the U.S. Courts (AOC), which provides critical data on all significant dates for cases filed in Federal Courts, allowing for precise tracking of case progressions for 1971–2006. I achieve a match of 75 % by successively attempting to match using different docket numbers, where the two-digit portions of the docket number are successively assigned to years preceding the publication date. This data allows me to examine whether the mental decision to dissent occurs near the publication date or during the oral arguments, as conventionally assumed.

By combining these diverse datasets, I constructed variables to capture dissent, electoral proximity, panel composition, legal issues, judicial backgrounds, political environment, and decision valence. Decision valence, in particular, captures the ideological direction of a court's decision, providing a standardized measure of a decision's ideological lean. My approach offers a comprehensive view of the judicial process, shedding light on how judges' backgrounds, ideologies, and the political environment shape their decisions and

<sup>&</sup>lt;sup>7</sup> Missing data include elevation to the Supreme Court and previous service as Assistant U.S. Attorney or U.S. Attorney. The regressions that use this data have a reduction in sample size of 10%. In addition, I exclude the votes by judges sitting on cases when they have less than 0 years of experience or greater than 35 years of experience, as these experience data are likely with error. These regressions have a 13% reduction in sample size.

<sup>&</sup>lt;sup>8</sup> Table 30-1 Divided government, 1860–2006. (2008). In Guide to Congress, 6th ed. (Vol. 2). Washington: CQ Press. Retrieved May 12, 2010, from CQ Press Electronic Library, CQ Voting and Elections Collection, http://library.cqpress.com/elections/g2c6e2-973-36489-1842592. Document ID: g2c6e2-973-36489-1842592.

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actions within the U.S. legal system.

The theoretical framework underpinning this study is detailed in Chen (2024). Central to this model is the concept of ideology, which is inherently latent. As ideological extremity intensifies, the likelihood of observing dissent correspondingly increases. This relationship forms the core of the empirical approach.

#### 4. Electoral cycles in judicial behavior

#### 4.1. Dissents

H1. Priming increases the probability of dissent, as agents put greater weight on the group identity norm.

$$Y_{cit} = \beta_1 \operatorname{Proximity}_t + \beta'_2 \mathbf{Z}_{cit} + \eta_{cit}$$
(1)

My outcome of interest  $Y_{cit}$  is an indicator variable equal to 1 if a dissent was filed on case *c* in Circuit *i* and time *t*. **Proximity**<sub>t</sub> is the set of quarter-to-election fixed effects and  $Z_{cit}$  contains dummy indicators that potentially control for fixed effects that represent Circuit, year, seasonality, legal topic, etc. Fixed effects for Circuit are to ensure we compare judicial behavior within a Circuit before and after an election rather than having the electoral cycle be attributed to a different caseload composition. Fixed effects for year are to address potential trends in dissents over time. Fixed effects for seasonality are to account for potential mood affects related to the calendar season. I compare to quarter 16, i.e., the quarter immediately following an election, which is the omitted quarter, so the interpretation is akin to a regression discontinuity design. I cluster standard errors at the quarter-by-year level.<sup>9</sup>

In the basic results, dissents increase and are most frequent in the quarters preceding a presidential election. Berdejo and Chen (2017) presents group means indicating a low of 6 % to a high of 11 % in the quarter before the election. Table 1 shows that the increase before an election is robust and sharpens with the inclusion of fixed effects for panel composition, year, and Circuit (Column 1) as well as fixed effects for legal issue and season (Column 2). The rate of dissent is highest in the quarter immediately preceding an election and is elevated in each of the three quarters before an election (and thus will be bundled in some of the interaction models that follow). The effect size in the final quarter is equivalent to roughly a 100 % increase over the baseline average dissent rate in Columns 1–2. For comparison, panels with Republicans and Democrats are 1.5 % points more likely to have a dissent, but panels in the quarter before an election are 6.4 % points more likely to have a dissent.

The same pattern appears in a regression discontinuity plot, where I run:

$$Y_{ce} = \gamma_e + 1[\mathbf{x}_c < 0]f_l(\mathbf{x}_c + \pi) + 1[\mathbf{x}_c \ge 0]f_r(\mathbf{x}_c) + u_{ce}$$
<sup>(2)</sup>

where  $x_c$  is the publication date minus the date of the election,  $\gamma_e$  are election fixed effects, and  $f_l$  and  $f_r$  are separate polynomial functions to the left and the right of the cutoff. The running variable is defined in days. Fig. 1A shows the results.

The result is also robust to higher-frequency analysis, which also reveal an interesting anomaly. Dissents are elevated for ten months leading up to a presidential election. Fig. 1B shows that the electoral cycle appears to begin 9 months before the presidential election (the dotted lines are confidence intervals). This and subsequent figures are visualizations of regression coefficients with standard errors. The lower bound of the confidence intervals of the point estimates at the monthly level throughout the primary season are consistently hovering around the 0, then sharply excluding the 0 once the general election commences. Consistent with this elevation, before elections, the news cycle is amplified along partisan lines (Fig. 2 shows that the number of *New York Times* articles mentioning both "Republican" and "Democrat" in the same article increases in the quarter before presidential and—to a lesser extent—midterm elections—in particular, it shows that the number of articles is elevated up to ten months leading up to a presidential election). Ten months before the presidential election is roughly when the presidential primaries begin in earnest, when each party chooses the candidate to compete in the general election and when candidates begin to target the median voter within their party.

The main result is robust to different specification models and controls. Controlling for season does not change the results, and no seasonal pattern appears in the monthly figures. Accordingly, Appendix Table B (Column 3) reports that the results are robust to shifting seasonality controls by one month (January through March, etc.). The results are also robust to including dummy indicators for each type of panel composition (DDD, DDR, RRD, RRR) (Column 4) and using a probit specification (Column 5), where notably, the ordinary least squares coefficients are similar in magnitude to the marginal effects of the probit specification. The results are robust to clustering standard errors at the Circuit level (Column 6) and controlling for the presence of a concurrence (Column 7). Concurrences also display electoral cycles (Column 8); the effect size is equivalent to 50 % of the baseline in the two quarters preceding the election. Appendix Table C shows that my results are robust to using a linear measure of the number of quarters to an election and to dropping one Circuit at a time. To ensure that the documented effects are not spurious, Berdejo and Chen (2017) conducts randomization inference. The basic specification is re-run with each quarter randomly assigned to a different "quarter-to-election" (a natural bootstrap with 200 draws); the 95 % interval for t-statistics is between -2.62 and +2.62. The true t-statistic of 4.01 lies far to the right of all the other simulated t-statistics. Fig. 4A and B conduct a randomization check for over 50 characteristics coded for the opinion writer and for the two other panelists. In these tests, the t-statistic of the dissent is far to the right of the other t-statistics. These results are consistent with related work finding that judges are randomly assigned to cases in each Circuit Court and suggests that the authors of

<sup>&</sup>lt;sup>9</sup> Analyses of data collapsed to the quarter-year level do not cluster standard errors.

Electoral cycles in dissents (2-1 Decision).

(3)

	(1) 5 % Sample (1925–2002)	(2)	(3)	(4)
Mean of dep. var.	0.079			
Divided (DRR or RDD)	0.0157***	0.0154***	0.0180***	0.0179***
	(0.00452)	(0.00450)	(0.00499)	(0.00498)
Quartertoelect = 1	0.0637*** (0.0123)	0.0680*** (0.0135)	0.0697*** (0.0120)	0.0736***
Quartertoelect $= 2$	0.0347*** (0.0121)	0.0341** (0.0145)	0.0367*** (0.0122)	(0.0129) 0.0356**
Quartertoelect $= 3$	0.0325***	0.0343** (0.0133)	0.0340***	(0.0144) 0.0357**
-	(0.0123)		(0.0129)	(0.0139)
Quartertoelect = 4	0.00581	0.00582	0.00627	0.00598
	(0.0111)	(0.0111)	(0.0109)	(0.0109)
Quartertoelect = 5	0.0209	0.0251	0.0170	0.0204
	(0.0152)	(0.0159)	(0.0153)	(0.0158)
Quartertoelect = 6	0.0120	0.0115	0.00681	0.00543
	(0.0141)	(0.0153)	(0.0145)	(0.0155)
Quartertoelect = 7	0.0226	0.0238	0.0179	0.0188
	(0.0141)	(0.0153)	(0.0143)	(0.0156)
Quartertoelect = 8	0.00772	0.00870	0.00411	0.00494
	(0.0141)	(0.0142)	(0.0148)	(0.0148)
Quartertoelect = 9	-0.0115	-0.00718	-0.0170	-0.0134
	(0.0155)	(0.0157)	(0.0165)	(0.0165)
Quarterto elect = 10	-0.0114	-0.0110	-0.0160	-0.0162
	(0.0160)	(0.0168)	(0.0168)	(0.0172)
Quarterto elect = 11	0.000311	0.00269	-0.00657	-0.00445
	(0.0162)	(0.0167)	(0.0169)	(0.0172)
Quarterto elect = 12	-0.0102	-0.00929	-0.0166	-0.0158
	(0.0128)	(0.0129)	(0.0140)	(0.0140)
Quarterto elect = 13	0.00115	0.00451	-0.00107	0.00164
	(0.0148)	(0.0151)	(0.0160)	(0.0160)
Quarterto elect = 14	-0.0157	-0.0159	-0.0195	-0.0203
	(0.0134)	(0.0147)	(0.0143)	(0.0155)
Quarterto elect = 15	-0.0176	-0.0154	-0.0209	-0.0188
	(0.0117)	(0.0121)	(0.0133)	(0.0136)
Year FE	Yes	Yes	Yes	Yes
Circuit FE	Yes	Yes	Yes	Yes
Season FE	No	Yes	No	Yes
Legal Issue FE	No	Yes	No	Yes
Year-by-Circuit FE	No	No	Yes	Yes
Observations	18,686	18,686	18,686	18,686
R-squared	0.019	0.021	0.068	0.070

Notes: Robust OLS standard errors clustered at the quarter-year level in parentheses (\* p < 0.10; \*\* p < 0.05; \*\*\* p < 0.01). The omitted dummy variable indicating the number of quarters remaining before the presidential election is 16 quarters. Data is organized at the case level.

opinions do not systematically change before an election.<sup>10</sup>

The electoral cycles in dissent for these unelected judges with life tenure are larger and more statistically significant than electoral cycles for judges running for re-election. Another study documents that within a sample of 276,119 decisions by Washington state judges, criminal sentencing lengths increase by 10 % and deviations from criminal sentencing guidelines increase by 50 % in the two quarters before a judicial election (Berdejó and Yuchtman, 2013). Among my sample of 18,686 cases, the ratio of coefficients to standard errors is twice as large as in the Washington state sample. While these effects among unelected judges may seem large compared to the effects for elected judges, partisanship may be heightened in a group decisionmaking setting. A sizable share of dissents also appears attributable to electoral proximity, and this share is larger than the share of prison sentence lengths that has been attributed to electoral proximity. Using a linear measure of proximity to election, an estimated 5.9 % of total prison time for sentenced criminals is attributed to electoral proximity (Huber and Gordon, 2004; Gordon and Huber, 2007). Using the same specification,

$$Y_{cit} = \beta_1$$
 LinearProximity  $_t + \beta'_2 \mathbf{Z}_{cit} + \eta_{cit}$ 

I estimate a specification that replaces **Proximity**<sub>t</sub> with a linear measure of time to election (Appendix Table C). In this model, an estimated 23 % of all dissents is attributed to electoral proximity. Each additional quarter-to-an-election reduces the dissent rate by 0.24 % (Appendix Table C, Column 1). Since the average case is 7.5 quarters before the next election, multiplying 7.5 by 0.24 % and dividing by the average dissent rate of 8 % results in 23 %.

<sup>&</sup>lt;sup>10</sup> The decision of who authors an opinion is typically made several months before publication around the time of oral argument if there is an oral argument.



Fig. 1. Notes: Fig. 1A presents a regression discontinuity of the dissent rate where the running variable is the date relative to the Presidential election. Fig. 1B displays the regression coefficients for the monthly dissent rate. The dissent rate is calculated as the number of dissents divided by the total number of cases. The omitted category is 48 months before an election (i.e., the November of the election). Dotted lines are confidence intervals.

#### 4.2. Voting valence

While the analysis of dissents in Section 4.1 provides crucial insights into the influence of electoral proximity on judicial behavior, this perspective only captures part of the picture. To gain a more comprehensive understanding of how electoral cycles affect judicial decision-making, it is imperative to examine the subtler but equally important aspect of vote valence or vote ideology. This approach allows us to explore not just the instances of overt disagreement, as manifested in dissents, but also how judges' underlying ideological leanings subtly shift in alignment with their political affiliations, particularly as elections approach. Therefore, Section 4.2 investigates the nuances of voting valence, scrutinizing how legal precedents and judges' political appointments intertwine and evolve in the context of approaching presidential elections.

Vote ideology measures a behavior that is different from dissents. For example, if legal precedent dictates a liberal decision, a unified Republican panel should make a liberal vote. In the months leading up to a presidential election, however, such a panel may instead cast a conservative vote. While there would be no dissent, an alignment between the decision and the judges' party of appointment could occur. However, the ideological difference between Democratic and Republican appointees doubles in magnitude in the quarter before an election (Berdejo and Chen, 2017). Fig. 3 summarizes the role of ideology in a different manner. The flatter line represents the average voting valence by judges' ideology score quintile when it is not the last quarter before a nelection. Judges to the left



Fig. 2. Notes: Fig. 2 displays the coefficients of a month-to-election regression, where the omitted category is 48 months before the election. Data is the number of New York Times articles mentioning both Republican and Democrat in the same article.



Fig. 3. Notes: Figure displays the average vote ideology for five categories of judges. The judges are sorted by their ideology score. The blue line is the average vote ideology outside of the last quarter before an election. The red line is the average vote ideology during the last quarter before an election.

of the median score vote more liberally, while judges to the right of the median vote more conservatively. The most conservative quintile may be libertarian, which makes coding voting valence difficult (difficult-to-code votes are coded as 0). These judges also become more conservative in the last quarter before a presidential election. The vertical shift for judges in quintiles 2 and 3 represents a one-decile shift in more extreme ideology score while judges in quintiles 1, 4, and 5 shift by one-quintile in more extreme ideology score.<sup>11</sup> The one-decile shift is similar to that found by Hollibaugh Jr. (2011), who observes that the extent to which state supreme court judges in competitive partisan elections exhibit polarizing behavior in election years is equivalent to a shift of 8 %–10 % in ideology score. My magnitudes are similar and slightly larger, on average.

<sup>&</sup>lt;sup>11</sup> To obtain the horizontal shift, I compare the vertical shift against the slope represented in quintiles 1-4.



#### Fig. 4. Randomization checks.

Notes: Fig. 4A displays the t-statistics from the treatment regression and over 50 regressions where the dissent is replaced with all biographical characteristics of the authoring judge and Fig. 4B does the same for the other two judges on the panel.

#### 4.3. Type of case

After exploring the nuances of dissents, vote valence, and their relationship with electoral cycles, Section 4.3 turns our attention to a more specific facet of judicial behavior: the types of cases most affected by these electoral influences. By examining the nature of cases that undergo significant changes in judicial approach during election periods, this section aims to provide a more granular understanding of how electoral proximity may heterogeneously impact different legal domains.

H2. Cases on topics associated with the prime should experience greater changes (e.g., economic policy constitutes 70 % of campaign ads during elections).

Table 2 shows that dissents increase in a variety of legal categories.<sup>12</sup> Criminal cases and economic activity cases show more accentuated electoral cycles. When I break the sample into finer case categories, electoral cycles are greatest for federal criminal cases, commercial cases (e.g., contract breach), and property cases (e.g., eminent domain).<sup>13</sup> Notably, legal areas—such as civil rights and due process—that are typically politically divisive (i.e., dissents are 4–10 % more likely in politically divided panels) do not increase in dissents before elections, whereas legal areas—like economic activity—which typically do not divide along political lines, do display electoral cycles.<sup>14</sup> Seventy percent of campaign ads mention economic policy, while only 0.26 % of ads mention civil rights or civil liberties. Appendix Table H runs the same regressions without fixed effects. Criminal cases and economic activity cases again show

<sup>&</sup>lt;sup>12</sup> The listed groupings are the 1-digit case category provided in the database.

<sup>&</sup>lt;sup>13</sup> The database provides 2-digit legal case categories. I consider each 2-digit sub-category within the 1-digit category of criminal cases and economic activity.

<sup>&</sup>lt;sup>14</sup> Criminal cases are 2.5 percentage points more likely to dissent with divided panels and also increase in dissents before elections.

Electoral cycles in dissents by case type.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Criminal	Civil rights	First Amendment	1-Digit Case Category Due process	Labor Relations	Economic Activity	Misc.	Criminal Federal	2-Digit Case Category Economic Commercial	Economic Property
Mean of dep. var.	0.077	0.100	0.185	0.100	0.093	0.071	0.073	0.071	0.071	0.061
Divided (DRR or RDD)	0.0253***	0.0378**	-0.00112	0.0980*	0.00702	0.00676	0.0201	0.0281***	0.00650	0.0235
	(0.00868)	(0.0157)	(0.0614)	(0.0574)	(0.0183)	(0.00560)	(0.0297)	(0.00950)	(0.0103)	(0.0227)
Quartertoelect = 1	0.0799***	0.0466	0.308	-0.0985	0.0687	0.0649***	-0.0786	0.0699***	0.0959***	0.181***
c	(0.0222)	(0.0483)	(0.257)	(0.177)	(0.0658)	(0.0169)	(0.132)	(0.0246)	(0.0339)	(0.0694)
Quartertoelect = 2	0.0547**	0.0113	0.157	-0.255*	-0.0434	0.0455**	-0.171	0.0551**	0.0238	0.0947
c	(0.0247)	(0.0399)	(0.180)	(0.150)	(0.0591)	(0.0177)	(0.119)	(0.0261)	(0.0291)	(0.0665)
Quartertoelect = 3	0.0445*	0.125**	-0.0678	-0.141	-0.0221	0.0334**	-0.214*	0.0398	0.0241	0.111*
c	(0.0239)	(0.0495)	(0.165)	(0.165)	(0.0528)	(0.0142)	(0.113)	(0.0264)	(0.0249)	(0.0638)
Quartertoelect = 4	0.0327	0.0252	-0.00685	0.149	-0.0114	-0.00504	-0.173*	0.0360	0.00952	0.0302
c	(0.0245)	(0.0544)	(0.130)	(0.141)	(0.0525)	(0.0140)	(0.0980)	(0.0275)	(0.0243)	(0.0459)
Quartertoelect = 5	0.0447	-0.00442	0.125	0.0127	0.00285	0.0170	-0.0308	0.0727**	0.0320	0.000696
-	(0.0343)	(0.0665)	(0.185)	(0.255)	(0.0738)	(0.0205)	(0.116)	(0.0365)	(0.0373)	(0.0537)
Quartertoelect = 6	0.00287	0.0165	-0.224	-0.186	-0.0617	0.0410*	-0.158	0.0228	0.0732*	0.0566
-	(0.0323)	(0.0689)	(0.189)	(0.208)	(0.0695)	(0.0211)	(0.115)	(0.0336)	(0.0388)	(0.0700)
Quarterto elect = 7	0.0382	0.0783	-0.0322	-0.0685	-0.0647	0.0253	-0.202*	0.0650*	0.0583*	0.133*
	(0.0324)	(0.0675)	(0.216)	(0.221)	(0.0677)	(0.0184)	(0.119)	(0.0339)	(0.0334)	(0.0784)
Quarterto elect = 8	0.0178	-0.0180	-0.288	0.270	-0.0295	0.0174	-0.144	0.0248	0.0772**	0.0691
	(0.0259)	(0.0715)	(0.191)	(0.196)	(0.0645)	(0.0163)	(0.111)	(0.0264)	(0.0340)	(0.0619)
Quarterto elect = 9	0.0227	-0.101	-0.395*	-0.124	0.0187	0.00197	-0.210*	0.0446	0.0413	-0.0309
	(0.0289)	(0.0792)	(0.231)	(0.253)	(0.0787)	(0.0214)	(0.121)	(0.0295)	(0.0422)	(0.0728)
Quarterto elect = 10	0.0214	-0.0507	-0.480**	-0.0498	0.00653	-0.00110	-0.286**	0.0329	-0.0145	0.0942
	(0.0314)	(0.0861)	(0.228)	(0.221)	(0.0813)	(0.0203)	(0.117)	(0.0317)	(0.0426)	(0.0767)
Quarterto elect = 11	0.0344	-0.0654	-0.564***	-0.171	-0.0108	0.0106	-0.173	0.0506	0.0341	0.0133
	(0.0319)	(0.0823)	(0.214)	(0.238)	(0.0824)	(0.0215)	(0.124)	(0.0352)	(0.0381)	(0.0701)
Quarterto elect = 12	-0.0104	-0.0739	-0.438***	0.0372	0.0445	0.00352	-0.188	-0.0198	0.00169	0.0453
	(0.0216)	(0.0779)	(0.156)	(0.129)	(0.0543)	(0.0157)	(0.117)	(0.0212)	(0.0323)	(0.0525)
Quarterto elect = 13	0.0443*	-0.145*	-0.230	0.117	0.0434	0.00396	-0.170	0.0365	0.0354	-0.0327
	(0.0265)	(0.0794)	(0.200)	(0.188)	(0.0554)	(0.0191)	(0.121)	(0.0261)	(0.0386)	(0.0690)
Quarterto elect = 14	-0.000254	$-0.216^{***}$	-0.538***	-0.0769	-0.0159	0.0292	-0.164	0.00874	0.0432	0.130
	(0.0264)	(0.0792)	(0.182)	(0.179)	(0.0522)	(0.0205)	(0.129)	(0.0265)	(0.0450)	(0.0826)
Quarterto elect = 15	0.000225	-0.138	-0.216	-0.116	-0.0404	0.0129	-0.176	0.00467	0.0313	0.120*
	(0.0226)	(0.0889)	(0.244)	(0.135)	(0.0576)	(0.0192)	(0.138)	(0.0235)	(0.0412)	(0.0663)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Circuit FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Season FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5023	1605	275	209	1351	9509	518	4224	2543	610
R-squared	0.036	0.068	0.310	0.399	0.086	0.024	0.187	0.037	0.059	0.210

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Notes: Robust OLS standard errors clustered at the quarter-year level in parentheses (\* p < 0.10; \*\* p < 0.05; \*\*\* p < 0.01). Data comes from 5 % Sample (1925–2002). Data is organized at the case level. See Table 1 for additional notes.

(4)

more accentuated electoral cycles. To be sure, this proportion can change across elections, yet research indicates that US presidential campaigns and debates do focus significantly on economic policy (Vavreck, 2009). Nevertheless, these patterns should be interpreted as identifying which types of cases, on average, display statistically significant changes in the quarter before the election.

In summary, Section 4 presents a comprehensive analysis of the multifaceted impacts of electoral cycles on judicial behavior within the U.S. legal system. Beginning with an exploration of dissent rates in Section 4.1, it establishes a clear pattern of increased dissents as elections approach, suggesting heightened judicial responsiveness to group identity norms. This trend is further corroborated by the examination of voting valence in Section 4.2, which reveals notable shifts in judges' ideological leanings in line with their political affiliations during election periods. In Section 4.3, the focus narrows to the types of cases most susceptible to electoral cycle effects, indicating a more pronounced impact in certain legal categories such as federal criminal and economic cases. The findings across these sections paint a picture of how the proximity to elections impact the very fabric of legal decision-making and precedent-setting in the U.S.

#### 5. Priming

#### 5.1. Political debate across states

As we transition from the examination of judicial behavior and electoral influences within the courts in Section 4, Section 5.1 shifts the lens to the broader political environment, specifically examining the impact of political debate across states on judicial decision-making. The intensity of political priming, as reflected in heightened campaign activities, can correlate with stronger influences on group identity norms among judges. The rationale behind this hypothesis is rooted in the observation that regions inundated with political discourse, particularly those pivotal in presidential elections, may exert a more pronounced influence on judicial behaviors. This section commences by contrasting patterns of campaign advertising in different states and then explores the varying degrees of electoral cycles across states, elections, and even within individual elections, offering a comprehensive analysis of how the local political climate potentially shapes judicial decisions.

H3. The greater the number of primes, the stronger the overall priming effect (the weight on group identity increases).

Some regions of the country are more likely to be saturated with political debate before presidential elections. This can be seen in heightened levels of campaign ads in electorally pivotal states (contrast Fig. 5A and B). These states' media markets are an attractive target for campaigns because swing states count heavily in the presidential election, in which the winner of a plurality of a state's votes wins all of that state's electoral votes. I begin this analysis by presenting simple splits of the data (in subsequent sub-sections, I use more granular variation across states, across elections, and within elections). More formally, I begin with the following regression:

$$Y_{cijt} = \beta_1 \text{ Proximity } _t + \beta_2 \mathbf{Z}_{cit} + \eta_{cijt}$$

My outcome of interest  $Y_{cijt}$  is dissent by judge *j* on case *c* in Circuit *i* and time *t*. **Proximity**<sub>*t*</sub> is the set of quarter-to-election fixed effects or simply the last quarter before the election.

Investigating the possibility that a judge's local environment drives electoral cycles is motivated by the observation that electoral cycles are larger in Circuits with electorally pivotal states and in Washington, D.C. For example, electoral cycles are more pronounced in the Sixth Circuit, which includes the historically electorally pivotal states of Ohio and Michigan–large states that have a heavy influence on the election outcome (Appendix Table C, Column 4). In fact, the average increase in dissents before a presidential election is three times larger when a judge resides in the eight states ranked highest in electoral vote count (California, Texas, New York, Florida, Illinois, Pennsylvania, Ohio, and Michigan)<sup>15</sup> and the District of Columbia (Table 3). Judges' increase in dissents in the quarter before a presidential election is 2.9 % points compared to 0.8 % points for judges residing in other regions of the country. In another split of the data, the average increase in dissents before a presidential election is 3–4 times larger when they reside in states likely to be electorally pivotal<sup>16</sup> and the District of Columbia; in the 1996 election, these states had almost 2000 more campaign advertisements and 900 more negative campaign advertisements per media market.<sup>17</sup> States in the top quartile of campaign ads display electoral cycles twice as large as other states.

#### 5.2. Political debate within elections over time

As we move from the examination of political debates across states in Section 5.1, Section 5.2 shifts the focus to the evolution of political debate within the timeframe of elections, specifically during the primary season. This section studies how the primary election process, with its distinct ideological and strategic nuances, influences judicial dissent over time. The primary elections, characterized by intra-party competitions and shifting voter dynamics, present a unique political environment where candidates often target the more extreme wings of their parties. This section and the next section explore the hypothesis that the heightened ideological fervor and strategic jockeying during primaries have a tangible impact on judicial behavior. By examining the pattern of dissents during the

<sup>&</sup>lt;sup>15</sup> I rank states according to electoral vote counts during the recent time period when polarization has been greatest.

<sup>&</sup>lt;sup>16</sup> These states are Michigan, Ohio, Pennsylvania, Florida, and California, which since the 1970s have voted for different parties and been more political before elections.

<sup>&</sup>lt;sup>17</sup> This difference is statistically significant at the 1% level.



Fig. 5. Campaign advertisements across political cycle (Weekly).

Notes: Fig. 5A displays the coefficients from a regression of the number of campaign advertisements on a set of weekly dummies before the election, for the set of electorally pivotal states (California, Texas, New York, Florida, Illinois, Pennsylvania, Ohio, and Michigan) and the District of Columbia. Fig. 5B does the same for the rest of the states. Fig. 5C displays a map of the U.S. Circuits and the states that fall within the circuit boundaries.

primary season, compared to the general election period, this section aims to uncover how the temporal progression of political debates within an election cycle, including the shift from proportional to plurality systems in delegate allocation, affects the nature and intensity of judicial dissent.

Elevated dissents appear for many months prior to an election in Fig. 1B throughout the primary season. Primaries have always played an important role in presidential elections. Before the modern era, party leaders would select candidates for the presidential election. The alternative would have been a general election with many candidates, which could result in unintentionally electing someone who would not otherwise win. Primaries ameliorated this problem by narrowing the field to a few candidates. During the primaries, candidates compete against other candidates from the same party to be the nominee. Since the primary season involves choosing a candidate to represent a particular party, candidates target more extreme wings of their parties. The median voter within a party is more extreme than the median voter in the general election. Accordingly, candidates are more extreme during the primaries but often move towards the middle after winning the primary (Brady et al., 2007). The presidential primaries thus entail salient

Electoral cycles in dissents by state of judge's duty location.

	(1) Dissent vote (5 % Samp	(2) ble, 1925–2002)	(3)	(4)	(5)	(6)	
	Top 8 STates in electoral votes count and DC	States with fewer electoral votes	States likely to be electorally pivotal and DC	States not likely to be electorally pivotal	States in top quintile of campaign ads	States below top quintile of campaign ads	
Mean of dep. var.	0.027	0.021	0.030	0.021	0.026	0.023	
Divided (RDD or DRR)	0.0114***	0.00463**	0.0137***	0.00508***	0.0100***	0.00615***	
	(0.00253)	(0.00190)	(0.00335)	(0.00168)	(0.00317)	(0.00166)	
Last Quarter	0.0286***	0.00845	0.0355***	0.0101**	0.0272***	0.0114**	
	(0.00712)	(0.00544)	(0.0103)	(0.00496)	(0.00824)	(0.00525)	
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	
Circuit FE	Yes	Yes	Yes	Yes	Yes	Yes	
Season FE	Yes	Yes	Yes	Yes	Yes	Yes	
Legal Issue FE	Yes	Yes	Yes	Yes	Yes	Yes	
Judge FE	Yes	Yes	Yes	Yes	Yes	Yes	
Quarter-to-	Yes	Yes	Yes	Yes	Yes	Yes	
Election FE							
Observations	20,145	31,315	12,642	38,818	13,116	38,344	
R-squared	0.028	0.027	0.032	0.025	0.033	0.025	

Notes: Robust OLSstandard errors clustered at the quarter-year level in parentheses (\* p < 0.10; \*\* p < 0.05; \*\*\* p < 0.01). The top 8 states in electoral vote count are California, Florida, Illinois, Michigan, New York, Ohio, Pennsylvania, and Texas. States likely to be electorally pivotal are: Michigan, Ohio, Pennsylvania, Florida, and California. States in the top quintile of campaign ads for 1996 were California, Ohio, Florida, Michigan, Tennessee, Pennsylvania, Kentucky, Colorado, Missouri, and New Mexico. Data is organized at the vote level.

ideological differences even between voters for the same party (Goldberg, 2016).<sup>18</sup> Moreover, different states hold primary elections at different times in the season, and momentum is very important. The primary season ends around the third month before the election, and parties generally coalesce around the candidate who will represent them in the general election. The nominating conventions can be viewed as a rally and call for party unity.

Many states also use a proportional system to allocate delegates during the primaries, whereas all states use a plurality system to allocate delegates for the general election. The plurality system in the general election is well known to make swing states more important. The shift in how delegates are allocated, along with the importance of momentum during the primaries and the elevated focus on activists within the party, can heighten the relative importance of electorally non-pivotal states, which decreases precipitously after the nominating conventions.<sup>19</sup> I can verify this change in states' relative importance by observing that campaign advertisements only double from their pre-nominating convention peak for non-pivotal states; they increase fivefold in pivotal states (Fig. 5A and B). Corresponding to these differences in local levels of political debate, dissents begin declining three months before presidential elections in electorally non-pivotal states but remain elevated in pivotal states (Fig. 6A and B display the original results from Fig. 1B in two separate samples).<sup>20</sup> Another interesting feature of Fig. 6A and B is that the dissent elevation is higher in the electorally pivotal states. In the next section, I test for significant differences using exact timing of campaign ads.<sup>21</sup>

#### 5.3. Political debate across states within elections over time

Section 5.3 extends the previous analysis of Section 5.2 by formally testing the relationship between the temporal dynamics of political campaigning and judicial dissent. This section leverages data on campaign advertisement fluctuations to examine their correlation with shifts in judicial behavior. I expect changes in judicial behavior to coincide closely to changes in the political environment. Priming effects have only been documented one week after the stimulus (Tulving et al., 1982; Ostergaard, 1994; Hassin et al., 2007). Yet few studies evaluate many experimental stimuli over a long period, so the exact timing of the response and decay is not known from laboratory studies. The regression is:

<sup>&</sup>lt;sup>18</sup> The primaries may bring out ideological perfectionists who perceive concave costs to voting for candidates they disagree with politically or morally (Osborne 1995; Chen et al. 2015).

<sup>&</sup>lt;sup>19</sup> This means that, for example, a candidate who wins 51% of California's popular vote receives 51% of its delegates during the primaries (proportional rule) but 100% during the general election (plurality rule). One explanation for why Barack Obama won the Democratic nomination over Hillary Clinton in 2008 is that he focused more on the smaller states while she focused only on the big states during the primary season. She won states like New York, California, Texas, Pennsylvania, and Florida, while he won many of the small states in the Mountain West and South. In particular, his efforts rendered large vote margins in small caucuses. Democrats allocate their delegates proportionally in every state during the primaries. Republicans also allocate their delegates proportionally in many states during the primaries.

<sup>&</sup>lt;sup>20</sup> Since there are more judges in non-pivotal states than in pivotal states, Fig. 1B shows an overall decline.

<sup>&</sup>lt;sup>21</sup> The number of campaign ads can be correlated with other priming factors, e.g., partisan newspaper articles or television news, which increase with the importance of different states during different parts of the election cycle.



**Fig. 6.** Notes: Fig. 6A presents the regression coefficients for the monthly dissent rate for the set of electorally pivotal states (California, Texas, New York, Florida, Illinois, Pennsylvania, Ohio, and Michigan) and the District of Columbia. The omitted category is 48 months before an election (i.e., the November of the election). Fig. 6B does the same for the rest of the states.

$$Y_{csjt} = +\beta'_2 \mathbf{Z}_{cst} + \eta_{csjt}$$

$$\beta_1 \Delta \text{ CampaignAds }_{st}$$
(5)

My outcome of interest  $Y_{csjt}$  is dissent by judge *j* on case *c* in state *s* and time *t*.  $\Delta$  CampaignAds <sub>st</sub> is the increase in campaign advertisements in a state over the previous month. Table 4 thus exploits variation in the timing and magnitude of campaign advertisements in judges' states of residence. It shows that judges' dissent rates coincide with increases in campaign advertisements in the state of their duty station. The importance of different states at different points in time during the 2008 election cycle predicts the monthly stimulus in different states for prior elections. Note that I only have daily campaign advertisement data for the 2008 election, so I assign the monthly increase in campaign advertisements for some month before November 2008 to the same month before the November in other elections. The identification assumption is similar to the assumption used in a large economics literature that employs historical instrumental variables to cross-sectionally identify the causal effects of institutional conditions over many years. In my case, the identification assumption is that the timing of different states' primaries in a particular month in the 2008 season is uncorrelated with non-election factors that influence the dissent rate of a judge in that state and month in previous elections. I am effectively estimating the reduced form of a two-stage least squares specification, where the first stage is whether the timing and degree to which different states' primaries elevate that state's importance in different months before the election are similar across elections (the calendar months in which states vote over the primary season is fairly stable across elections). To interpret the magnitudes, an

Dissents and monthly	y campaign	advertisements l	ov state of	judge's duty	v location.

Mean of dep. var.	(1) Dissent vote (5 0.023	(2) 5 % Sample, 1925	(3) 5–2002, Quarterto	(4) elect = 0 to 8)	(5)	(6)	(7)	(8)
$\Delta$ Campaign Ads (t0)	0.00531**	0.00660**	0.00770***	0.00709**	0.00678**	0.00416	0.00555	0.00874**
$\Delta$ Campaign Ads (t1)	(0.00214)	0.00412	0.00538	0.00432	0.00345	0.00210	(0.00391)	(0.00407)
$\Delta$ Campaign Ads (t2)		(0.00330)	0.00508	0.00416	(0.00427) 0.00277 (0.00461)	0.000433		
$\Delta$ Campaign Ads (f1)			(0.00172)	(0.00103)	(0.00 101)	(0.00 107)	0.000651	0.00125 (0.00492)
$\Delta$ Campaign Ads (f2)							(0.00003)	0.00190
Year FE	No	No	No	Yes	Yes	Yes	No	No
Circuit FE	No	No	No	Yes	Yes	Yes	No	No
Season FE	No	No	No	Yes	Yes	Yes	No	No
Legal Issue FE	No	No	No	Yes	Yes	Yes	No	No
Divided (RDD or DRR) FE	No	No	No	Yes	Yes	Yes	No	No
Judge FE	No	No	No	No	Yes	Yes	No	No
Quarter-to-Election FE	No	No	No	No	No	Yes	No	No
Ν	22,906	21,954	20,750	20,750	20,750	20,750	21,967	21,106
R-sq	0.000	0.000	0.000	0.007	0.067	0.068	0.000	0.000

Notes: Robust OLSstandard errors clustered at the quarter-year level in parentheses (\* p < 0.10; \*\* p < 0.05; \*\*\* p < 0.01). Campaign ads come from the Wisconsin Ads project for the 2008 election. Cases are limited to judgments in the year of presidential elections and the year previous to presidential elections. Wisconsin Ads data are only available for quarters to election from 0 to 8. The explanatory variable of interest is the change in number of campaign advertisements (10,000 s) in the state of the judge's duty station in the month the decision was published. Data is organized at the vote level.

increase of 10,000 campaign advertisements in the prior month increases the dissent rate by 0.5 % points by the judge in that state (Column 1). The effect is significant at the 5 % level; it is robust, and increases, when adding lags and leads. Similar effects are found with the inclusion of fixed effects for Circuit, year, and judge (Columns 4–5). Note that to the extent that there is measurement error and treatment and control are mis-assigned, the estimates reported here would be smaller than the true effect.

#### 5.4. Placebo dates

In order for the local temporal environment of the dissenting judge to explain the timing of elevated dissents before an election, it must be the case that dissents are issued around the same time as the "treatment event." Administrative data on every important milestone of a Federal Court case's development suggests that the exact time at which a judge makes the mental decision to dissent may be shortly before publishing an opinion. I merge the Administrative Office of the U.S. Courts database to obtain docketing date, the date of filing in District Courts, the date the notice of appeal was filed, the date the original notice of the brief was issued, the date of the last brief filing, the date the appeal was submitted on the merits, and the date the appeal was orally argued (this occurs, on average, two or three months before the publication date). The judges confer immediately after the oral argument and determine how the case should be decided (Hart et al., 2006; Epstein et al., 2013). When the judges disagree, the greater number becomes the majority of the court on that case. In cases without oral arguments, these opinions are most often decided unanimously (Skotnicki, 2012). We should expect electoral cycles in dissents using the date of oral arguments, if the decision to dissent occurs at that time.

Accordingly, I substitute the publication date with dates for any of seven earlier milestones of the case. If electoral cycles correspond to these "placebo" dates, such as the date of filing, this could suggest that the effect of elections occurs on the filing date (e.g., litigants file more controversial cases before elections). If electoral cycles appear for the date of the oral argument, this could suggest that the effect of elections occurs when the case is heard rather than when it is published. I find no electoral cycles for those alternative dates (Table 5). Columns 1 through 8 use alternative dates in the AOC data.

This null finding using date of oral argument suggests that judges make the mental decision to dissent very near the publication date rather than at oral arguments. Thus, the conventional view that judges convene right after a hearing to decide how they will vote, and whether someone will write a dissent, seems incomplete. In at least some cases, judges may decide at the last minute to dissent (or not), and this last-minute decision could be less likely to occur before an election. I take this as suggestive evidence that the decision about whether to dissent may occur quite late in the opinion-writing process. The fact that concurrences also display electoral cycles corroborates the view that these decisions are made very late, since they occur after the first draft of the majority opinion has been circulated. To be sure, the judges could also be primed to stick to their dissent when they might otherwise drop the dissent.

#### 6. Identity

Section 6 explores the role of identity, examining how latent partisan identity and political contexts shape judicial behavior.

D.L.	
Chen	

## Table 5 Electoral cycles in dissents with placebo dates (other key milestones of cases).

Placebo         Date filed in Decket date         Date filed in Decket date         Notice of Appeal field in Appeal field i		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Placeb date         Docket date         District court         Appeal field         Notice issued         Brief filing         Merits         Argument         Date         Publication date           Quartertoelect = 1         -0.02339         0.00477         0.004357         0.000370         0.000730         0.00170         0.000730         0.000730         0.00170         0.000717         0.000730         0.00170         0.000779         0.000750         0.000730         0.000730         0.000730         0.000730         0.000730         0.000730         0.000730         0.000730         0.000730         0.000730         0.000730         0.000730         0.000730         0.000730         0.000730         0.000730         0.000730         0.000730         0.000730			Date filed in	Notice of	Date brief	Date of last	Submitted on	Date of oral	Final judgment	
Operatorelect = 1         -0.00239         0.00457         0.004357         0.000357	Placebo date	Docket date	District court	Appeal filed	Notice issued	Brief filing	Merits	Argument	Date	Publication date
0.00357         0.00355         0.00342         0.006489         0.00911         0.011         0.00330         0.003280           0_marcrobect = 2         0.00469         0.00357         0.00652         0.00672         0.00672         0.00474         0.00330         0.00330         0.00328           0_marcrobect = 3         0.00131         0.00232         0.00165         0.00735         0.00455         0.00134         0.00363         0.00350         0.00350         0.00173         0.00455         0.0013         0.00363         0.00350         0.00573         0.00773         0.007790         0.0116         0.00111         0.00363         0.00363         0.00612         0.01014         0.0177         0.00773         0.00793         0.0116         0.00114         0.00443           0_marcrobect = 5         -0.00131         0.00363         0.00572         0.00077         0.00773         0.00783         0.00314         0.00340         0.00433           0_marcrobect = 5         -0.00133         0.00363         0.00383         0.00383         0.00383         0.00383         0.00383         0.00383         0.00383         0.00383         0.00383         0.00383         0.00383         0.00383         0.00383         0.00383         0.00383         0.00383	Quarterto elect = 1	-0.00239	0.00467	0.00436	-0.00503	0.00695	0.0102	0.00323	0.00721**	0.00908***
Quarterolect = 2         -0.00469         0.0037         -0.00284         0.00577         0.00662         0.00474         0.00390         0.00571           Quarterolect = 3         -0.00131         0.00357         0.00357         0.00388         0.00388         0.00388         0.00388         0.00388         0.00388         0.00388         0.00388         0.00388         0.00388         0.00388         0.00388         0.00388         0.00388         0.00388         0.00388         0.00388         0.00178         0.00478         0.00188         0.00188         0.00388         0.00178         0.00779         0.0129         0.0124         0.0144         0.00384         0.00079         0.00779         0.0126         0.00141         0.00374         0.00059           Quarterolect = 6         -0.000619         0.000619         0.00079         0.00797         0.00780         0.00388         0.000593         -0.000548           Quarterolect = 6         -0.0000519         0.000620         0.00179         0.00384         0.00174         0.000574         0.00575         0.00388         0.00183         0.00174         0.00574         0.00585         0.00198         0.00181         0.00181         0.00181         0.00181         0.00181         0.00181         0.00181		(0.00357)	(0.00335)	(0.00342)	(0.00688)	(0.00429)	(0.00911)	(0.0101)	(0.00330)	(0.00328)
(0.00445) $(0.0045)$ $(0.00716)$ $(0.0057)$ $(0.0085)$ $(0.0138)$ $(0.0138)$ $(0.0031)$ $(0.0031)$ $(0.0057)$ $(0.0057)$ $(0.0045)$ $(0.0045)$ $(0.0045)$ $(0.0012)$ $(0.0035)$ $(0.0028)$ $(0.0053)$ $(0.00253)$ $(0.0055)$ $(0.0053)$ $(0.0073)$ $(0.0073)$ $(0.0040)$ $(0.012)$ $(0.0035)$ $(0.0071)$ $(0.0053)$ $(0.0053)$ $(0.0053)$ $(0.0053)$ $(0.0053)$ $(0.0077)$ $(0.0077)$ $(0.0070)$ $(0.012)$ $(0.0041)$ $(0.0072)$ $(0.0053)$ $(0.0053)$ $(0.0053)$ $(0.0057)$ $(0.0077)$ $(0.077)$ $(0.0763)$ $(0.013)$ $(0.0041)$ $(0.0073)$ $(0.0055)$ $(0.0053)$ $(0.0057)$ $(0.0077)$ $(0.077)$ $(0.0763)$ $(0.013)$ $(0.0143)$ $(0.0043)$ $(0.0043)$ $(0.0055)$ $(0.0053)$ $(0.0057)$ $(0.0077)$ $(0.077)$ $(0.0938)$ $(0.013)$ $(0.0043)$ $(0.0043)$ $(0.0053)$ <td>Quartertoelect = 2</td> <td>-0.00469</td> <td>0.00387</td> <td>-0.00208</td> <td>-0.00664</td> <td>0.00557</td> <td>0.00662</td> <td>0.00474</td> <td>0.00390</td> <td>0.00504</td>	Quartertoelect = 2	-0.00469	0.00387	-0.00208	-0.00664	0.00557	0.00662	0.00474	0.00390	0.00504
Quartertoclect $= 3$ (0.00557)0.002920.00166 $-0.00295$ 0.007360.00485 $-0.0134$ 0.004180.00256Quartertoclect $= 4$ (0.00583)0.00558)0.001820.001720.0007300.00799)0.012500.001500.000750Quartertoclect $= 5$ (0.00583)0.00170 $-0.000972$ 0.0002700.00797)0.012600.012600.0011400.000715Quartertoclect $= 5$ (0.00585)0.001300.00170 $-0.000972$ 0.002190.012400.01300.001430.004420Quartertoclect $= 6$ (0.00586)0.0003600.002770.008770.005800.001300.0044200.00561Quartertoclect $= 6$ (0.006707)0.0007170.0003650.001310.007700.009860.01350.0044910.005621Quartertoclect $= 7$ (0.006717)0.0037600.003560.001710.003650.001740.001810.00770Quartertoclect $= 9$ (0.006717)0.0036500.0152*0.001310.007300.007700.00979*Quartertoclect $= 9$ (0.006517)0.003610.012810.0086700.014140.004510.00451Quartertoclect $= 10$ (0.006421)0.003490.008510.012810.0086400.001310.005710.00571Quartertoclect $= 10$ (0.006521)0.004510.008510.008410.0086400.008570.0056710.0056710.005671Quartertoclect $= 10$ (0.00551)0.001110.007730.0057510.01630.005671 </td <td></td> <td>(0.00446)</td> <td>(0.00345)</td> <td>(0.00442)</td> <td>(0.00716)</td> <td>(0.00571)</td> <td>(0.00888)</td> <td>(0.0138)</td> <td>(0.00341)</td> <td>(0.00351)</td>		(0.00446)	(0.00345)	(0.00442)	(0.00716)	(0.00571)	(0.00888)	(0.0138)	(0.00341)	(0.00351)
$ \begin{array}{llllllllllllllllllllllllllllllllllll$	Quartertoelect = 3	-0.00131	0.00292	0.00166	-0.00295	0.00736	0.00485	-0.00134	0.00418	0.00282
Quartertoelect = 4-0.002580.0006580.001820.00140.00170.00160.001610.000715Quartertoelect = 5-0.0001430.003630.0005290.0002190.002790.007790.007990.007900.001600.001600.003140.00368Quartertoelect = 6-0.0006190.0005680.0005790.009790.0097690.009860.003880.000938-0.000591Quartertoelect = 70.0006100.003760.006120.00170.0097690.01530.0104-0.000730-0.000704Quartertoelect = 70.0006170.0004910.006220.01110.0097690.01530.01440.004530.00523Quartertoelect = 8-0.000674-0.002330.002390.01530.01250.01130.01440.004530.00974Quartertoelect = 90.00541-0.0003640.005300.01570.015840.01530.005740.00574Quartertoelect = 100.00617-0.0003530.005300.01520.015840.01530.01570.01540.005670.00574Quartertoelect = 110.00541-0.0003530.005310.01220.008110.009260.003530.005740.005740.00574Quartertoelect = 120.005160.004630.005310.01740.008600.00140.005670.005640.005670.00564Quartertoelect = 120.00617-0.001740.0086170.016940.00952-0.005740.005740.00574<		(0.00557)	(0.00359)	(0.00556)	(0.00914)	(0.00773)	(0.00780)	(0.0129)	(0.00356)	(0.00386)
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Quartertoelect = 4	-0.00238	0.000658	0.00182	0.00412	0.0108	0.0104	0.0105	0.00116	0.000715
Quarterodect = 5 Quarterodect = 6 (0.00585)-0.0001430.00170-0.0005790.002400.01460.01600.001340.003430.00343Quarterodect = 6 Quarterodect = 7 (0.00617)0.0003760.0008700.0005700.005700.005700.005700.005800.003680.0049300.000500Quarterodect = 7 (0.00617)0.0003760.001290.001700.0007700.01100.0114-0.00730-0.00730Quarterodect = 8 (0.00625)0.0034610.002390.001700.0081700.001100.01340.005130.00491Quarterodect = 9 (0.00625)0.0034610.001530.01290.0081700.012500.01340.001110.004951Quarterodect = 9 (0.00625)0.0034610.001530.011900.0085700.012500.01340.007300.00491Quarterodect = 10 (0.00625)0.0034610.006310.01220.0081100.01250.01330.005740.00574Quarterodect = 11 (0.00642)0.0063490.008710.01250.01630.01340.005740.00574Quarterodect = 12 (0.00631)0.004040.008710.01250.01630.01340.005740.00574Quarterodect = 12 (0.00631)0.004040.007530.005740.005740.005740.005740.005740.00574Quarterodect = 12 (0.00631)0.004630.007540.005740.005740.005740.005740.005740.005740.005740.005740		(0.00583)	(0.00363)	(0.00612)	(0.0104)	(0.00727)	(0.00799)	(0.0126)	(0.00411)	(0.00428)
-(0.0058)(0.00368)(0.0079)(0.00763)(0.00918)(0.0130)(0.00482)(0.0043) $Quartertoelect = 6$ -0.000619(0.0047)(0.00633)(0.0041)(0.0087)(0.0086)(0.0130)(0.00482)-0.00504 $Quartertoelect = 7$ (0.00610)(0.0017)(0.00610)(0.0111)(0.0077)(0.0086)(0.0153)(0.00494)(0.0052) $Quartertoelect = 8$ -0.00674-0.00253(0.00615)(0.017)(0.0087)(0.017)(0.0141)(0.0073)-0.00470 $Quartertoelect = 8$ -0.00674-0.00253(0.00615)(0.0119)(0.00896)(0.00970)(0.114)(0.00465)(0.00481) $Quartertoelect = 9$ (0.0051)-0.000849(0.00615)(0.115)(0.0125)(0.113)(0.073)(0.0074)(0.0074) $Quartertoelect = 10$ (0.00612)(0.00633)(0.0128)(0.00840)(0.00936)(0.0139)(0.0054)(0.0074) $Quartertoelect = 10$ (0.00612)(0.0040)(0.00831)(0.00871)(0.00864)(0.00836)(0.0129)(0.00864)(0.00836)(0.0074) $Quartertoelect = 12$ (0.00612)(0.0040)(0.00633)(0.0129)(0.00811)(0.00864)(0.00876)(0.00876)(0.00876) $Quartertoelect = 13$ (0.00511)(0.00531)(0.0129)(0.00811)(0.00865)(0.0145)(0.00657)(0.00574)(0.00730)(0.00754)(0.00730)(0.00754)(0.00730)(0.00754)(0.00857)(0.00754) <td>Quartertoelect = 5</td> <td>-0.000143</td> <td>0.00170</td> <td>-0.000972</td> <td>0.000219</td> <td>0.0124</td> <td>0.0146</td> <td>0.0106</td> <td>0.00314</td> <td>0.00340</td>	Quartertoelect = 5	-0.000143	0.00170	-0.000972	0.000219	0.0124	0.0146	0.0106	0.00314	0.00340
Quartertoelect = 6         -0.000619         0.00402         0.00383         0.00311         0.00877         0.00580         0.00388         0.000930         -0.00504           Quartertoelect = 7         0.000717         0.000956         0.00129         0.00366         0.00979         0.0115         0.0114         -0.000730         -0.000730           Quartertoelect = 8         -0.000674         -0.002530         0.00239         0.00613         0.0157         0.0011         0.0147         0.00051         0.00181         0.00057         0.0114         0.00073         0.000531           Quartertoelect = 8         -0.000674         -0.0000849         0.00630         0.0157         0.0017         0.0113         0.00730         0.00181           Quartertoelect = 0         0.00591         -0.0000849         0.00630         0.0157         0.0167*         0.0123         0.0017*         0.0113         0.00730         0.00730           Quartertoelect = 10         0.00416         0.00439         0.00931         0.0128         0.0017*         0.0168*         0.0133         0.0057         0.0056           Quartertoelect = 11         0.00571         -0.00111         0.00433         0.0129         0.00820         0.0111         0.0147         0.00567 <th< td=""><td></td><td>(0.00585)</td><td>(0.00368)</td><td>(0.00579)</td><td>(0.00979)</td><td>(0.00763)</td><td>(0.00918)</td><td>(0.0130)</td><td>(0.00482)</td><td>(0.00483)</td></th<>		(0.00585)	(0.00368)	(0.00579)	(0.00979)	(0.00763)	(0.00918)	(0.0130)	(0.00482)	(0.00483)
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Quartertoelect = 6	-0.0000619	0.00402	0.00383	0.00431	0.00877	0.00580	0.00368	0.000993	-0.000504
Quartertoelect = 7 $0.000717$ $0.000956$ $0.00129$ $0.00366$ $0.00979$ $0.0155$ $0.0104$ $-0.000730$ $-0.00470$ Quartertoelect = 8 $-0.000674$ $-0.00054$ $0.00602$ $0.0107$ $0.00870$ $0.0111$ $0.0141$ $0.00154$ $0.00054$ Quartertoelect = 8 $0.00253$ $0.00250$ $0.00250$ $0.0050$ $0.0152^*$ $0.00979$ $0.0144$ $0.00465$ $0.00481$ Quartertoelect = 10 $0.00591$ $-0.0000849$ $0.00630$ $0.0150$ $0.015^{**}$ $0.0125$ $0.0133$ $0.00730$ $0.00794$ Quartertoelect = 10 $0.00416$ $0.00439$ $0.00630$ $(0.128)$ $0.00840$ $(0.00936)$ $(0.0139)$ $(0.00574)$ $(0.00574)$ Quartertoelect = 11 $0.00416$ $0.00439$ $0.00931$ $0.00871$ $0.0152^*$ $0.0169^*$ $0.00350$ $0.00284$ $0.00313$ Quartertoelect = 11 $0.00511$ $0.00400$ $0.00633$ $0.0122$ $0.00810$ $0.00640$ $0.00857$ $0.00570$ $0.00564$ Quartertoelect = 12 $0.00160$ $0.000268$ $0.00460$ $-0.000817$ $0.0161$ $0.00570^*$ $0.00529$ $0.00972$ $-0.0075^*$ Quartertoelect = 13 $0.0016^*$ $0.00460$ $0.00460^*$ $-0.000817$ $0.0140$ $0.00764$ $-0.00322$ $-0.00228$ Quartertoelect = 14 $0.00455$ $0.00460^*$ $-0.00679$ $0.00650$ $0.00857$ $0.00764$ $-0.00324$ $-0.00248^*$ Quartertoelect = 14 $0.00457$		(0.00600)	(0.00376)	(0.00610)	(0.0111)	(0.00769)	(0.00986)	(0.0153)	(0.00494)	(0.00502)
$\mathbf{C}$ (0.00617)(0.00349)(0.00602)(0.017)(0.00817)(0.011)(0.0147)(0.0054)(0.00523) $\mathbf{Q}$ uartertoelect = 8 $-0.00674$ $-0.00253$ 0.002390.006130.0152*0.009500.01340.001810.0049) $\mathbf{Q}$ uartertoelect = 90.00591 $-0.0000849$ 0.006300.01500.0167**0.01250.01130.007300.00970* $\mathbf{Q}$ uartertoelect = 100.00642(0.00633)0.006300.0128(0.00840)(0.00936)(0.0139)(0.00540)(0.00574) $\mathbf{Q}$ uartertoelect = 100.00642(0.00433)0.009310.008710.01250.0169*0.00330(0.00574)(0.00564) $\mathbf{Q}$ uartertoelect = 110.00571 $-0.00111$ 0.00935(0.0129)(0.00821)(0.0044)(0.0059)(0.0059) $\mathbf{Q}$ uartertoelect = 120.01600.002680.00460(0.00833)(0.0129)(0.00821)(0.0044)(0.0059)(0.0059) $\mathbf{Q}$ uartertoelect = 130.001100.00177 $-0.00113$ 0.00585(0.0141)(0.00826)(0.0145)(0.0041)(0.0046) $\mathbf{Q}$ uartertoelect = 130.00417 $-0.00498$ 0.00459 $-0.000579$ 0.006570.00754 $-0.00754$	Quartertoelect = 7	0.000717	0.000956	0.00129	0.00366	0.00979	0.0155	0.0104	-0.000730	-0.00470
Quartertoelect = 8 (0.00625) $-0.00253$ $0.00239$ $0.00613$ $0.0152^*$ $0.00950$ $0.0134$ $0.00181$ $0.00409$ Quartertoelect = 9 (0.00642) $(0.00625)$ $(0.00634)$ $(0.00615)$ $(0.00119)$ $(0.00896)$ $(0.00979)$ $(0.0144)$ $(0.00465)$ $(0.00481)$ Quartertoelect = 9 (0.00642) $(0.00633)$ $(0.0150)$ $0.0157^*$ $0.0125$ $0.01133$ $(0.00730)$ $0.00970^*$ Quartertoelect = 10 (0.00632) $(0.00363)$ $(0.0128)$ $(0.00840)$ $(0.00936)$ $(0.0139)$ $(0.00540)$ $(0.00574)$ Quartertoelect = 11 (0.00632) $(0.0040)$ $(0.00633)$ $(0.0122)$ $(0.00811)$ $(0.00986)$ $(0.0145)$ $(0.00587)$ $(0.00564)$ Quartertoelect = 12 (0.00610) $(0.00353)$ $(0.00588)$ $(0.0129)$ $(0.00820)$ $(0.0111)$ $(0.0147)$ $(0.00599)$ $(0.00529)$ Quartertoelect = 12 (0.00631) $(0.00353)$ $(0.00585)$ $(0.0114)$ $(0.00820)$ $(0.0111)$ $(0.0147)$ $(0.00599)$ $(0.00529)$ Quartertoelect = 13 (0.00631) $(0.00350)$ $(0.00585)$ $(0.0114)$ $(0.00861)$ $(0.00826)$ $(0.0145)$ $(0.0041)$ $(0.0046)$ Quartertoelect = 14 (0.00599) $(0.00305)$ $(0.00545)$ $(0.00752)$ $(0.00752)$ $(0.00764)$ $-0.00322$ $-0.00222$ Quartertoelect = 14 (0.00513) $(0.00320)$ $(0.00515)$ $(0.00752)$ $(0.00732)$ $(0.00940)$ $(0.00462)$ $(0.0046)$ Quartertoelect = 14 <td>-</td> <td>(0.00617)</td> <td>(0.00349)</td> <td>(0.00602)</td> <td>(0.0107)</td> <td>(0.00817)</td> <td>(0.0101)</td> <td>(0.0147)</td> <td>(0.00554)</td> <td>(0.00523)</td>	-	(0.00617)	(0.00349)	(0.00602)	(0.0107)	(0.00817)	(0.0101)	(0.0147)	(0.00554)	(0.00523)
c(0.00625)(0.00346)(0.00615)(0.0119)(0.00896)(0.00979)(0.0144)(0.00465)(0.00481)Quartertoelect = 9(0.0051)-0.000008490.00630(0.0128)(0.00840)(0.0036)(0.0139)(0.00540)(0.00574)Quartertoelect = 100.004160.004390.009310.008710.01250.0165*(0.0145)(0.00567)(0.00574)Quartertoelect = 110.00571-0.001110.009350.007540.01150.006640.00886(0.0145)(0.00567)(0.00564)Quartertoelect = 120.00160(0.00353)(0.00588)(0.0129)(0.00820)(0.0111)(0.0147)(0.00599)(0.0059)Quartertoelect = 120.001600.0002680.00460-0.008170.01400.00826(0.0145)(0.00411)(0.00599)Quartertoelect = 130.00417-0.00188(0.00553)(0.0114)(0.00826)(0.0145)(0.00411)(0.00466)Quartertoelect = 140.00457-0.002680.0046790.006500.008570.00744-0.00392-0.00222Quartertoelect = 140.004550.00616*0.00996*-0.005950.00914-0.00736-0.00389-0.0112**-0.0124**Quartertoelect = 140.004550.00616*0.00996*-0.005770.006110.00462)(0.00462)(0.00462)Quartertoelect = 140.004550.00616*0.00996*-0.005770.00611-0.00732-0.00124*-0.0112**Quarte	Quartertoelect = 8	-0.000674	-0.00253	0.00239	0.00613	0.0152*	0.00950	0.0134	0.00181	0.00409
Quartertoelect = 9 (0.00642)0.00591-0.00008490.006300.01500.0167**0.01250.01130.007300.00970*Quartertoelect = 100.004160.00333(0.00630)(0.0128)(0.00840)(0.00936)(0.0139)(0.00574)Quartertoelect = 110.00632)(0.00400)(0.00633)(0.0122)(0.00811)(0.00986)(0.0145)(0.00577)(0.00564)Quartertoelect = 110.00571-0.001110.009350.007540.01150.006040.008360.005870.00322Quartertoelect = 120.001600.002680.00460-0.008170.01400.006920.00992-0.00753*-0.00750*Quartertoelect = 120.001600.00346)(0.00585)(0.0114)(0.00881)(0.00826)(0.0145)(0.00411)(0.00466)Quartertoelect = 130.0047-0.004980.00948(0.00752)(0.00633)(0.0111)(0.00422)-0.00022Quartertoelect = 140.004550.00616*0.00996*-0.005950.00914-0.000736-0.00389-0.0112**-0.0124**Quartertoelect = 15-0.000321(0.00330)(0.00513)(0.00513)(0.0058)(0.00681)(0.00732)(0.00748)-0.0112**Quartertoelect = 15-0.0002710.0016*0.00289-0.005770.006610.00752)(0.00732)(0.00462)(0.0011)**Quartertoelect = 15-0.0002710.0016*0.00289-0.005770.006810.00153-0.00389-0.0	C	(0.00625)	(0.00346)	(0.00615)	(0.0119)	(0.00896)	(0.00979)	(0.0144)	(0.00465)	(0.00481)
c(0.00642)(0.00363)(0.00630)(0.0128)(0.00840)(0.00936)(0.0139)(0.00540)(0.00574)Quartertoelect = 100.004160.004390.009310.008710.01250.0169*0.003500.002840.00313Quartertoelect = 110.00571-0.001110.00935(0.0122)(0.00811)(0.00640)(0.00577)(0.00564)Quartertoelect = 120.00610(0.00353)(0.00588)(0.0129)(0.00820)(0.0111)(0.0147)(0.00599)(0.00599)Quartertoelect = 130.001600.002680.00460-0.008170.01400.006920.00992-0.00753*-0.00750*Quartertoelect = 130.00417-0.00486(0.00585)(0.0114)(0.00881)(0.00857)(0.0041)(0.00466)Quartertoelect = 140.004550.00616*0.00995-0.005950.00914-0.00736-0.00389-0.0124**Quartertoelect = 140.004550.00320(0.00515)(0.00577)0.006810.00133(0.00462)(0.00511)Quartertoelect = 140.00333(0.00347)(0.00289)-0.005770.006810.00153-0.00944-0.0104**Quartertoelect = 15-0.002710.00330(0.00422)(0.00577)0.006810.00153-0.00944(0.00452)Quartertoelect = 14(0.0033)(0.00347)(0.00422)(0.005770.006810.00153-0.00944(0.00462)(0.00511)Quartertoelect = 15-0.002710.00139 <td>Quartertoelect = 9</td> <td>0.00591</td> <td>-0.0000849</td> <td>0.00630</td> <td>0.0150</td> <td>0.0167**</td> <td>0.0125</td> <td>0.0113</td> <td>0.00730</td> <td>0.00970*</td>	Quartertoelect = 9	0.00591	-0.0000849	0.00630	0.0150	0.0167**	0.0125	0.0113	0.00730	0.00970*
Quartertoelect = 100.004160.004390.009310.008710.01250.0169*0.003500.002840.00313Quartertoelect = 110.00652)(0.00400)(0.00633)(0.0122)(0.00811)(0.00986)(0.0145)(0.00567)(0.00564)Quartertoelect = 110.00571-0.001110.00353(0.00588)(0.0129)(0.00820)(0.0101)(0.0147)(0.00509)(0.00529)Quartertoelect = 120.01600.0002680.00460-0.0008170.010400.006920.00992-0.00753*-0.00750*(0.00631)(0.00346)(0.00585)(0.0114)(0.00881)(0.00826)(0.0145)(0.00411)(0.00406)Quartertoelect = 130.00417-0.004980.00425-0.006790.006500.008570.00764-0.00392-0.00222Quartertoelect = 140.004550.00616*0.00996*-0.005950.00914-0.00736*-0.00389-0.0112**-0.0124**(0.00513)(0.00320)(0.00515)(0.0105)(0.00625)(0.00732)(0.00904)(0.00462)(0.0046)Quartertoelect = 15-0.002710.001390.00289-0.005770.006810.00153-0.00914-0.00936(0.0046)Quartertoelect = 15-0.002710.001390.00289-0.005770.006810.00548)(0.00608)(0.0046)(0.00452)Quartertoelect = 15-0.002710.001390.00289-0.005770.006810.00548)(0.00608)(0.0046)(0.004	C	(0.00642)	(0.00363)	(0.00630)	(0.0128)	(0.00840)	(0.00936)	(0.0139)	(0.00540)	(0.00574)
c(0.00632)(0.00400)(0.00633)(0.0122)(0.00811)(0.00986)(0.0145)(0.00567)(0.00564)Quartertoelect = 110.00571-0.001110.009350.007540.01150.006040.008360.005870.00332Quartertoelect = 120.001600.0002880.00400-0.008170.01400.006920.00920-0.00753*-0.00750*Quartertoelect = 130.00417-0.004980.00425-0.0006790.006500.008260.00141(0.00826)(0.0145)(0.00411)(0.00466)Quartertoelect = 130.00417-0.004980.00425-0.0006790.006500.008570.00764-0.00392-0.00222Quartertoelect = 140.004550.00616*0.009543(0.00948)(0.00752)(0.00631)(0.0042)(0.00462)Quartertoelect = 15-0.002710.001390.00289-0.005770.006810.00153-0.00914-0.009014-0.009014-0.00748*-0.011**Quartertoelect = 15-0.002710.001390.00289-0.005770.006810.00548(0.0046)(0.00452)Year FEYesYesYesYesYesYesYesYesYesYesYear FEYesYesYesYesYesYesYesYesYesYesSeason FEYesYesYesYesYesYesYesYesYesYesYesObservations164,545150,2931	Quartertoelect = 10	0.00416	0.00439	0.00931	0.00871	0.0125	0.0169*	0.00350	0.00284	0.00313
Quartertoelect = 110.00571-0.001110.009350.007540.01150.006040.008360.005870.003570.00332Quartertoelect = 120.001600.0002680.00460-0.0008170.01400.006920.00992-0.00753*-0.00750*Quartertoelect = 130.00417-0.004980.00425-0.006790.0068100.008570.00164-0.00392-0.00750*Quartertoelect = 130.00417-0.004980.00425-0.006790.006590.008570.00764-0.00392-0.00222(0.00599)(0.00305)(0.00543)(0.00948)(0.00752)(0.00633)(0.0111)(0.00442)(0.00466)Quartertoelect = 140.004550.00616*0.00996*-0.005770.006810.00732(0.00904)(0.00462)(0.00511)Quartertoelect = 15-0.002710.001390.00289-0.005770.006810.00153-0.00901-0.00748*-0.0114**Quartertoelect = 15(0.00333)(0.00347)(0.00422)(0.00558)(0.00487)(0.00588)(0.00608)(0.00460)(0.00452)Year FEYesYesYesYesYesYesYesYesYesYesYesYesYear FEYesYesYesYesYesYesYesYesYesYesYesYesYesSeason FEYesYesYesYesYesYesYesYesYesYesYesYesYesYe	c	(0.00632)	(0.00400)	(0.00633)	(0.0122)	(0.00811)	(0.00986)	(0.0145)	(0.00567)	(0.00564)
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Ouartertoelect = 11	0.00571	-0.00111	0.00935	0.00754	0.0115	0.00604	0.00836	0.00587	0.00332
Quartertoelect = 120.001600.0002680.00460-0.0008170.01400.006920.00992-0.00753*-0.00750*Quartertoelect = 130.00417-0.00498(0.00585)(0.0114)(0.00881)(0.00826)(0.0145)(0.00411)(0.00406)Quartertoelect = 130.00417-0.004980.00425-0.0005790.006500.008570.00764-0.00392-0.00222(0.00599)(0.00305)(0.00543)(0.00948)(0.00752)(0.00633)(0.0111)(0.00442)(0.00466)Quartertoelect = 140.004550.00616*0.00996*-0.005950.00914-0.000736-0.00389-0.0112**-0.0124**(0.00513)(0.00320)(0.00515)(0.0105)(0.00625)(0.00732)(0.00904)(0.00462)(0.00511)Quartertoelect = 15-0.002710.001390.00289-0.005770.006810.00153-0.00901-0.0074*-0.012**Quartertoelect = 15(0.00333)(0.00347)(0.00422)(0.0058)(0.00487)(0.00481)(0.00608)(0.00462)(0.00452)Year FEYesYesYesYesYesYesYesYesYesYesCircuit FEYesYesYesYesYesYesYesYesYesYesSeason FEYes	2	(0.00610)	(0.00353)	(0.00588)	(0.0129)	(0.00820)	(0.0101)	(0.0147)	(0.00509)	(0.00529)
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Ouartertoelect = 12	0.00160	0.000268	0.00460	-0.000817	0.0140	0.00692	0.00992	-0.00753*	-0.00750*
Quartertoelect = 13 $0.00417$ $-0.00498$ $0.00425$ $-0.000679$ $0.00650$ $0.00857$ $0.00764$ $-0.00392$ $-0.00222$ $(0.00599)$ $(0.00305)$ $(0.00543)$ $(0.00948)$ $(0.00752)$ $(0.00633)$ $(0.0111)$ $(0.00442)$ $(0.00466)$ Quartertoelect = 14 $0.00455$ $0.00616^{*}$ $0.00996^{*}$ $-0.00595$ $0.00914$ $-0.000736$ $-0.00389$ $-0.0112^{**}$ $-0.0124^{**}$ $(0.00513)$ $(0.00320)$ $(0.00515)$ $(0.0105)$ $(0.00625)$ $(0.00732)$ $(0.00904)$ $(0.00462)$ $(0.00511)$ Quartertoelect = 15 $-0.00221$ $0.00330$ $(0.00347)$ $(0.00422)$ $(0.00558)$ $(0.00487)$ $(0.00548)$ $(0.00904)$ $(0.00462)$ $(0.00452)$ Quartertoelect = 15 $-0.00333$ $(0.00347)$ $(0.00422)$ $(0.00558)$ $(0.00487)$ $(0.00548)$ $(0.00608)$ $(0.00446)$ $(0.00452)$ Quartertoelect = 15 $-0.00333$ $(0.00347)$ $(0.00422)$ $(0.00558)$ $(0.00487)$ $(0.00548)$ $(0.00608)$ $(0.00446)$ $(0.00452)$ Quartertoelect = 15 $-0.00333$ $(0.00347)$ $(0.00422)$ $(0.00558)$ $(0.00487)$ $(0.00548)$ $(0.00608)$ $(0.00446)$ $(0.00452)$ Year FEYesYesYesYesYesYesYesYesCircuit FEYesYesYesYesYesYesYesYesSeason FEYesYesYesYesYesYesYes <td< td=""><td>2</td><td>(0.00631)</td><td>(0.00346)</td><td>(0.00585)</td><td>(0.0114)</td><td>(0.00881)</td><td>(0.00826)</td><td>(0.0145)</td><td>(0.00411)</td><td>(0.00406)</td></td<>	2	(0.00631)	(0.00346)	(0.00585)	(0.0114)	(0.00881)	(0.00826)	(0.0145)	(0.00411)	(0.00406)
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Ouartertoelect = 13	0.00417	-0.00498	0.00425	-0.000679	0.00650	0.00857	0.00764	-0.00392	-0.00222
Quartertoelect = 14 $0.00455$ $0.00616^*$ $0.00996^*$ $-0.00595$ $0.00914$ $-0.000736$ $-0.00389$ $-0.0112^{**}$ $-0.0124^{**}$ $(0.00513)$ $(0.00320)$ $(0.00515)$ $(0.0105)$ $(0.00625)$ $(0.00732)$ $(0.00904)$ $(0.00462)$ $(0.00511)$ Quartertoelect = 15 $-0.00271$ $0.00139$ $0.00289$ $-0.00577$ $0.00681$ $0.00153$ $-0.00901$ $-0.00748^*$ $-0.0112^{**}$ $(0.00333)$ $(0.00347)$ $(0.00422)$ $(0.00558)$ $(0.00487)$ $(0.00548)$ $(0.00608)$ $(0.00446)$ $(0.00452)$ Year FEYesYesYesYesYesYesYesYesCircuit FEYesYesYesYesYesYesYesSeason FEYesYesYesYesYesYesYesObservations164,545150,293151,24658,773155,69527,231134,116164,545164,545Descurater0.0100.0100.0100.0260.0100.0100.0100.010	2	(0.00599)	(0.00305)	(0.00543)	(0.00948)	(0.00752)	(0.00633)	(0.0111)	(0.00442)	(0.00466)
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Ouartertoelect = 14	0.00455	0.00616*	0.00996*	-0.00595	0.00914	-0.000736	-0.00389	-0.0112**	-0.0124**
Quartertoelect = 15 $-0.00271$ $0.00139$ $0.00289$ $-0.00577$ $0.00681$ $0.00153$ $-0.00901$ $-0.00748^{*}$ $-0.0101^{**}$ $(0.00333)$ $(0.00347)$ $(0.00422)$ $(0.00558)$ $(0.00487)$ $(0.00548)$ $(0.00608)$ $(0.00446)$ $(0.00452)$ Year FEYesYesYesYesYesYesYesYesYesYesCircuit FEYesYesYesYesYesYesYesYesYesYesSeason FEYesYesYesYesYesYesYesYesYesYesObservations164,545150,293151,24658,773155,69527,231134,116164,545164,545Descrutered0.0100.0100.00660.0100.0180.0100.0100.010		(0.00513)	(0.00320)	(0.00515)	(0.0105)	(0.00625)	(0.00732)	(0.00904)	(0.00462)	(0.00511)
Circuit FE         Yes	Ouartertoelect = 15	-0.00271	0.00139	0.00289	-0.00577	0.00681	0.00153	-0.00901	-0.00748*	-0.0101**
Year FEYesYesYesYesYesYesYesYesYesYesCircuit FEYesYesYesYesYesYesYesYesYesYesSeason FEYesYesYesYesYesYesYesYesYesYesObservations164,545150,293151,24658,773155,69527,231134,116164,545164,545Deservations0.0100.0100.0260.0100.0100.0100.0100.010	<b>e</b>	(0.00333)	(0.00347)	(0.00422)	(0.00558)	(0.00487)	(0.00548)	(0.00608)	(0.00446)	(0.00452)
Circuit FEYesYesYesYesYesYesYesSeason FEYesYesYesYesYesYesYesYesObservations164,545150,293151,24658,773155,69527,231134,116164,545164,545Deservations0.0100.0100.0260.0100.0180.0100.0100.010	Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Season FE         Yes         Y	Circuit FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations         164,545         150,293         151,246         58,773         155,695         27,231         134,116         164,545         164,545           Deservations         0.010         0.010         0.026         0.010         0.018         0.010         0.010	Season FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Observations	164.545	150.293	151.246	58 773	155 695	27.231	134 116	164 545	164.545
	R-squared	0.019	0.019	0.019	0.026	0.019	0.018	0.019	0.019	0.019

Notes: Robust OLS standard errors clustered at the quarter-year level in parentheses (\* p < 0.10; \*\* p < 0.05; \*\*\* p < 0.01). Data come from a merge with the Administrative Office of the U.S. Courts (1971–2006). Data is organized at the case level.

#### 6.1. Latent partisan identities

In 6.1, I explore 'Latent Partisan Identities' to understand how hidden political biases among judges might surface and influence their rulings during periods of heightened political activity.

H4. Politically divided panels should experience greater changes as priming moves judges further apart.

Campaign messages can activate latent partisan identities (Ansolabehere and Iyengar, 1997), so if judges have partisan identities, priming may influence their perception of cases brought before them. To investigate this hypothesis, I show that a judge's ideology score plays a role in behavioral changes before elections. Rows 1–4 of Fig. 6A report group means.<sup>22</sup> A large proportion of the increase in dissents comes from ideologically divided panels. For unified panels, the dissent vote rate is 1.9 % (increasing to 2.2 % before presidential elections), while for divided panels the dissent vote rate is 2.4 % (increasing to 3.9 % before presidential elections).

**H5**. Minority judges on divided panels will be particularly likely to increase their dissents. Among divided panels, a significant proportion of these increases come from minority judges (D on DRR panels or R on RDD panels), who almost double their rate of dissent (Rows 6 and 8), while majority judges increase their dissent rate by 50 % (Rows 5 and 7).<sup>23</sup>

The increase in dissent by one of the two majority judges may seem counter-intuitive. However, I observe that the increase in dissent is largely due to the majority judge with the more extreme ideology score (ranked first or third when the ideology scores are sorted from left to right) (Rows 1–4 of Fig. 6B). Finally, Rows 5 and 7 show that when the minority judges share the same ideology score as a judge in the political majority, this minority judge triples the dissent rate in the quarter before a presidential election from a non-election dissent rate that is lower than average. Notably, in the quarter before a presidential election, they dissent at the same rate as those with a different ideology score (Row 6). These results suggest that the increase in dissents does not only reflect a shift in mood, which would affect all judges.

#### 6.2. Landslide and wartime elections

Subsection 6.2 shifts to examine how the extremities of political climates, be it polarized elections or unifying wartime elections, impact judicial dissent.

**H6.** The more ideologically polarized the environment (during close elections), the greater the priming effect, holding judges' ideological baseline constant. The opposite is true during reduced ideological polarization, such as during landslide elections or wartime.

$$Y_{cit} = \beta_1 \operatorname{Proximity}_t * \operatorname{ElectionType}_t + \beta_2 \operatorname{Proximity}_t + \beta_3 \operatorname{ElectionType}_t + \beta_4' \mathbf{Z}_{cit} + \eta_{cit}$$
(6)

My outcome of interest  $Y_{cit}$  is dissent on case *c* in Circuit *i* and time *t*. **Proximity**<sub>*t*</sub> is a dummy indicator for three quarters before an election. *ElectionType*<sub>*t*</sub> is a dummy indicator for the election type, whether it is a close election, a landslide election, or a wartime election.

Partisan identities are more likely to be activated in close presidential elections. Table 6 shows that close elections—defined as the winning party achieving less than 55 % of the Electoral College vote—increase the rate of dissent during the contested period before an election by 200 % (Column 1). Landslide elections—when the winning party achieves more than 95 % of the Electoral College vote—reduce the increase in the rate of dissent before an election by 80 % (Column 2). Wartime elections are unifying; they reduce the dissent rate by 0.6 % points (Column 3).

#### 7. Conclusion

In conclusion, my findings indicate that judges, like other professionals, can be influenced by external priming such as elections. This susceptibility has far-reaching implications for the perceived fairness and legitimacy of the judicial system. In an era where trust in various insti- tutions is in decline, the potential for ideologically biased decisions by judges poses a threat to the foundational principles of democratic societies. A compromised judiciary can lead to decreased compliance with the law, increased law enforcement costs, potential civil unrest, and hampered economic development. My study interrogates the integrity and impartiality of the judiciary. While this paper does not quantify the effects on public trust and effective functioning of democratic institutions, it highlights the need for ongoing scrutiny and reinforcement of the judicial system as a cornerstone of democratic governance.

In the United States, the Courts of Appeals play a pivotal role in shaping the law under the common law system, handling the majority of influential cases. This study reveals how presidential elections significantly influence the behavior of these courts. The findings elucidate that the rate of dissents is particularly pronounced among judges in electorally critical states, where exposure to campaign advertisements is higher. Notably, polarization around elections shows larger behavioral shifts observed in close elections, a

<sup>&</sup>lt;sup>22</sup> The first four rows are presented as case-level dissents in Berdejo and Chen (2017) and as judge-level dissents here.

<sup>&</sup>lt;sup>23</sup> Analyses of the vote valence also confirm that when judges dissent, their vote is politically liberal if appointed by Democrat and conservative if appointed by Republican.

Electoral cycles in dissents by type of presidential election.

5 551 1				
Mean of dep. var.	(1) Dissent (2–1 Decision) <u>0.079</u>	(2)	(3)	(4)
Last Three Quarters	0.0389***	0.0505***	0.0548***	0.0521***
	(0.00835)	(0.00979)	(0.00911)	(0.00907)
Close Election (Electoral Count $< 55$ %)	0.0830***			0.0798***
	(0.0170)			(0.0157)
Close Election (Electoral Count $< 55$ %)	0.0851**			0.0718*
* Last Three Quarters	(0.0395)			(0.0396)
Landslide Election (Electoral Count $> 95$ %)		0.0218		0.00615
		(0.0173)		(0.0166)
Landslide Election (Electoral Count $> 95$ %)		-0.0399***		-0.0201*
* Last Three Quarters		(0.0145)		(0.0102)
War			0.0192	0.0192
			(0.0130)	(0.0130)
War			-0.0605***	-0.0500***
* Last Three Quarters			(0.0113)	(0.0110)
Year FE	Yes	Yes	Yes	Yes
Circuit FE	Yes	Yes	Yes	Yes
Season FE	Yes	Yes	Yes	Yes
Legal Issue FE	Yes	Yes	Yes	Yes
Divided (RDD or DRR) FE	Yes	Yes	Yes	Yes
Observations	18,686	18,686	18,686	18,686
R-squared	0.020	0.020	0.021	0.021

Notes: Robust OLS standard errors in parentheses (\* p < 0.10; \*\* p < 0.05; \*\*\* p < 0.01). Electoral Count is the percentage of the electoral college achieved by the winning political party, which ranges from 50 to 100. Standard errors clustered at the quarter-year level. The explanatory variables of interest are a dummy variable indicating whether a case was decided in the three quarters immediately preceding a presidential election and the interaction with a dummy variable indicating whether the margin of victory in the electoral count was less than 10 % (Column 1), a dummy variable indicating whether the decision was more than 90 % (Column 2), and a dummy variable indicating whether the decision was made during wartime (Column 3). Standard errors are clustered at the Election level. Data is organized at the case level.

diminished effect in landslide victories, and an inverse trend during wartime.

The analysis highlights that dissent rates peak in the ten months leading up to presidential elections, aligning with the heightened partisanship characteristic of the primary season. Administrative data on case progression indicates that these dissents typically materialize shortly before the publication of decisions. In swing states critical for the general election, dissents remain high, whereas they sharply decrease in non-swing states, more influential during the primaries. Economic cases, which form the bulk of campaign ad topics, witness the most significant increase in dissents. Additionally, the study observes electoral cycles in concurrences, usually decided after circulating the first opinion draft. Chen (2024) introduces a priming model that explains the increase in dissents. This priming effect establishes a causal relationship between group identity and ideological leanings in a high-stakes, real-world setting.

Despite Courts of Appeals judges being appointed for life and held to a standard of nonpartisanship and ethical conduct, the observed election-related behavioral shifts are substantial and mirror patterns seen in elected judges. These findings suggest that partisanship in judicial decisions extends beyond philosophical differences and raises questions about the susceptibility of highly trained professionals to bias in other contexts. The study also explores the relationship between group identity and ideological bias, proposing that while group affiliation may stem from shared beliefs, it can also significantly shape these beliefs. The priming framework isolates and highlights this latter aspect in a real-life setting, underscoring the impact of group identity on decision-making.

#### Data availability

Data will be made available on request.

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#### Supplementary materials

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#### References

#### Abrams, D., Galbiati, R., Henry, E., Philippe, A., 2023. Electoral sentencing cycles. J. Law Econ. Organ. 39, 350-370.

Acemoglu, D., Cheema, A., Khwaja, A.I., Robinson, J.A., 2020. Trust in state and nonstate actors: evidence from dispute resolution in Pakistan. J. Polit. Econ. 128, 3090-3147

Alempaki, D., Starmer, C., Tufano, F., 2019. On the priming of risk preferences: the role of fear and general affect. J. Econ. Psychol. 75, 102137. Ansolabehere, S., Iyengar, S., 1997. Going Negative. Simon & Schuster.

Babcock, L., Loewenstein, G., Issacharoff, S., Camerer, C., 1995. Biased judgments of fairness in bargaining. Am. Econ. Rev. 85, 1337-1343.

- Bargh, JA., Raymond, P., Pryor, JB., Strack, F., 1995. The attractiveness of the underling: an automatic power association and its consequences for sexual harassment and aggression. J. Person. Soc. Pyschol. 68, 768-781.
- Benjamin, DJ., Choi, JJ., Fisher, GW., 2013. Religious identity and economic behavior. Review of Economics and Statistics. Revised and Resubmitted.
- Benjamin, DJ., Choi, JJ., Strickland, JA., 2010. Social identity and preferences. Am. Econ. Rev. 100, 1913–1928.

Berdejo, C., Chen, D.L., 2017. Electoral cycles among US courts of appeals judges. J. Law Econ. 60, 479-496.

Berdejó, C., Yuchtman, NM., 2013. Crime, punishment and politics: an analysis of political cycles in criminal sentencing. Rev. Econ. Stat. 95, 741–756.

- Bernheim, B.D., Rangel, A., 2004. Addiction and cue-triggered decision processes. Am. Econ. Rev. 94, 1558-1590.
- Bordalo, P., Gennaioli, N., Shleifer, A., 2013. Salience and consumer choice. J. Polit. Econ. 121.
- Bordalo, P., Gennaioli, N., Shleifer, A., 2015. Salience theory of judicial decisions. J. Legal. Stud. 44, S7–S33.

Boyd, C., Epstein, L., Martin, AD., 2010. Untangling the causal effects of sex on judging. Am. J. Pol. Sci. 54, 389-411.

Brady, DW., Han, H., Pope, JC., 2007. Primary elections and candidate ideology: out of step with the primary electorate? Legisl. Stud. Q. 32, 79-105.

- Cameron, CM., 1993. New Avenues for Modeling Judicial Politics. In: Allen Wallis, W. (Ed.), Conference on the Political Economy of Public Law. Institute of Political Economy, University of Rochester, Rochester, NY,
- Chen, D.L., 2024, Priming ideology II: presidential elections increasingly affect U.S. judges.
- Chen, DL., M. Michaeli, and D. Spiro, 2015, Ideological perfectionism on judicial panels, Working paper, ETH Zurich.
- Chen, DL., M. Michaeli, and D. Spiro, 2016, Ideological perfectionism, TSE Working Paper No. 16-694.
- Chen, DL., and JK. Sethi, 2016, Insiders, outsiders, and involuntary unemployment: sexual harassment exacerbates gender inequality, invited to resubmit, TSE Working Paper No. 16-687.
- Cohn, A., Maréchal, M.A., 2016. Priming in economics. Curr. Opin. Psychol. 12, 17-21.
- Cohn, A., Maréchal, M.A., Noll, T., 2015. Bad boys: how criminal identity salience affects rule violation. Rev. Econ. Stud. 82, 1289–1308.
- DellaVigna, S., Kaplan, E., 2007. The fox news effect: media bias and voting. Q. J. Econ. 122, 1187-1234.
- Dohmen, T., Sauermann, J., 2015. Referee bias. J. Econ. Surv.
- Druckman, JN., 2004. Priming the vote: campaign effects in a U.S. senate election. Polit. Psychol. 25, 577–594.
- Edwards, HT., Livermore, MA., 2008. Pitfalls of empirical studies that attempt to understand the factors affecting appellate decisionmaking. Duke Law J. 58,
- 1895-1989.
- Englich, B., Mussweiler, T., Strack, F., 2005. The last word in court: a hidden disadvantage for the defense. Law Hum. Behav. 29, 705-722.
- Epstein, L., Landes, WM., Posner, RA., 2011. Why (and When) judges dissent: a theoretical and empirical analysis. J. Legal Anal. 3, 101-137.
- Epstein, L., Landes, W.M., Posner, R.A., 2013. The Behavior of Federal Judges: A Theoretical and Empirical Study of Rational Choice. Harvard University Press.
- Falk, EB., Berkman, ET., Lieberman, MD., 2012. From neural responses to population behavior: neural focus group predicts population-level media effects. Psychol. Sci. 23, 439-445.
- Fong, CM., Luttmer, EF.P., 2009. What determines giving to hurricane Katrina victims? Experimental evidence on racial group loyalty. Am. Econ. J. Appl. Econ. 1, 64-87
- Garicano, L., Palacios-Huerta, I., Prendergast, C., 2005. Favoritism under social pressure. Rev. Econ. Stat. 87, 208-216.
- Gennaioli, N., Shleifer, A., 2007. The evolution of common law. J. Polit. Econ. 115, 43-68.
- Gentzkow, M.A., Shapiro, JM., 2010. What drives media slant? Evidence from U.S. daily newspapers. Econometrica 78, 35-71.
- Gerber, AS., Huber, GA., Washington, E., 2010. Party affiliation, partisanship, and political beliefs: a field experiment. Am. Polit. Sci. Rev. 104, 720-744.
- Gioia, F., 2017. Peer effects on risk behaviour: the importance of group identity. Exp. Econ. 20, 100-129.
- Goldberg, M., 2016. The Democratic Primary Ruined My Friendship!, Slate, April 18, 2016.
- Gordon, SC., Huber, GA., 2007. The effect of electoral competitiveness on incumbent behavior. Quart. J. Polit. Sci. 2, 107-138.
- Guthrie, C., Rachlinski, JJ., Wistrich, AJ., 2007. Blinking on the bench: how judges decide cases. Cornell Law Rev. 93, 1-44.
- Harris, A.P., Sen, M., 2019. Bias and judging. Annual Review of Political Science 22, 241-259.
- Hart, W., Blanchard, R.D., Walter, J., 2006. Litigation and trial practice. Cengage Learning.

Hassin, RR., Ferguson, MJ., Shidlovski, D., Gross, T., 2007. Subliminal exposure to national flags affects political thought and behavior. Proc. Natl. Acad. Sci. U.S.A. 104, 19757–19761.

Hollibaugh Jr., GE., 2011. Selection, Election, and Retention: State Supreme Courts and the Electoral Connection, Working paper. University of Rochester.

Huber, GA., Gordon, SC., 2004. Accountability and coercion: is justice blind when it runs for office? Am. J. Pol. Sci. 48, 247-263.

Kornhauser, LA., 1999. Judicial organization and administration. In: Sanchirico, C W (Ed.), Judicial organization and administration. Encyclop. Law Econ. 5 (chapter 11), 27-44.

Laibson, D., 2001. A cue-theory of consumption. Q. J. Econ. 116, 81-119.

Lenz, GS., 2009. Learning and opinion change, not priming: reconsidering the priming hypothesis. Am. J. Pol. Sci. 53, 821-837.

- Lim, C.S.H., 2013. Preferences and incentives of appointed and elected public officials: evidence from state trial court judges. Am. Econ. Rev. 103, 1360–1397.
- List, JA., 2003. Does market experience eliminate market anomalies? Q. J. Econ. 118, 41-71.

Morris, JP., Squires, NK., Taber, CS., Lodge, M., 2003. Activation of political attitudes: a psychophysiological examination of the hot cognition hypothesis. Polit. Psychol. 24, 727-745.

Mussweiler, T., Strack, F., 2000. The use of category and exemplar knowledge in the solution of anchoring tasks. J. Pers. Soc. Psychol. 78, 1038–1052.

Osborne, MJ., 1995. Spatial models of political competition under plurality rule: a survey of some explanations of the number of candidates and the positions they take. Canad. J. Econ. 28, 261-301.

Ostergaard, AL., 1994. Dissociations between word priming effects in normal subjects and patients with memory disorders: multiple memory systems or retrieval? Q. J. Exp. Psychol. 47, 331-364.

Peresie, JL., 2005. Female judges matter: gender and collegial decisionmaking in the federal appellate courts. Yale Law J. 114, 1759–1790.

Pope, D.G., J. Price, and J. Wolfers, 2013, Awareness reduces racial bias, Technical report, National Bureau of Economic Research.

Posner, RA., 1973. An economic approach to legal procedure and judicial administration. J. Legal. Stud. 2, 399-458.

Posner, RA., 1993. The Problems of Jurisprudence. Harvard University Press.

Posner, RA., 1998. Against Constitutional Theory. New York University Law Review 73, 1-22.

- Rachlinski, JJ., Johnson, S.L., Wistrich, AJ., Guthrie, C., 2009. Does unconscious bias affect trial judges? Notre Dame Law Rev. 84, 1195–1246.
- Shayo, M., Zussman, A., 2011. Judicial ingroup bias in the shadow of terrorism. Q. J. Econ. 126, 1447-1484.

Skotnicki, M., 2012, A peek inside the chambers: how the eleventh circuit court of appeals decides cases, April 9, 2012.

Spencer, S., Steele, C., Quinn, DM., 1999. Stereotype threat and women's math performance. J. Exp. Soc. Psychol. 35, 4-28.

Sunstein, C., Thaler, R., 2008. Nudge: Improving Decisions about Health, Wealth, and Happiness. Yale University Press.

Sunstein, CR., Schkade, D., Ellman, LM., Sawicki, A., 2006. Are Judges Political?: An Empirical Analysis of the Federal Judiciary. Brookings Institution Press.

Tulving, E., Schacter, DL., Stark, HA., 1982. Priming effects in word-fragment completion are independent of recognition memory. J. Experim. Psychol. Learn. Memory Cogn. 8, 336–342.

Varreck, L., 2009. The message matters: The economy and presidential campaigns. Princeton University Press. Zhang, X., et al., 2022. Experimental studies on the influence of group identity on economic behavior. Acad. J. Bus. Manage. 4, 43–46.