

# POLITICAL CONNECTIONS, CAREERS, AND PERFORMANCE IN THE CIVIL SERVICE: EVIDENCE FROM U.S. FEDERAL JUDGES\*

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**ABSTRACT.** This paper studies the role of political connections in the performance and career paths of civil servants. The focus is on U.S. federal judges, who are nominated by the president upon recommendation from senators of their home state. Leveraging individual-level data on judges and senators from 1789 to 2019, we use a difference-in-differences design to compare the performance of judges before and after their recommending senators leave office. Following their recommenders' exit from Congress, judges produce 12% fewer judicial opinions, with no improvement in the average quality of those opinions, as measured by length, backward citations, and inward citations. This reduction in effort is likely driven by an erosion of career incentives: after the exit of their recommenders, district court judges are 66% less likely to be promoted to upper-level courts. These findings highlight how political appointments can negatively impact civil servant performance, particularly when career advancements depend on the influence of their political patrons.

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## 1. INTRODUCTION

Political appointments are the primary method for selecting public-sector workers worldwide (Lim and Snyder Jr, 2021). These appointments play a crucial role in shaping public servants' qualifications (Colonnelli et al., 2020), the provision of public goods (Akhtari et al., 2022; Aneja and Xu, 2024; Toral, 2024), corruption levels (Gagliarducci and Manacorda, 2020), fiscal capacity and financial performance (Xu, 2018; Vannutelli, 2022), and crisis management (Chen et al., 2022). Judicial appointments follow a similar pattern: by 2021, 70% of the world's nations filled court positions through presidential appointment (CIA, 2021). Despite this, there is surprisingly little evidence on the consequences of politicians' influence in judicial nominations.

Recent studies have begun to address this gap by exploring how political appointments impact judicial performance. These studies compare the outcomes of elected versus appointed judges within the same country (Lim, 2013) or examine reforms that eliminated political appointments (Mehmood, 2022). However, judges typically serve under the same appointment system throughout their careers, and their dependence on politicians changes as a result of individual rather than country-level shocks.

In this paper, we leverage the appointment process of U.S. federal judges to provide the first within-judge estimates of how political connections influence judicial performance. Federal judges in the United States are nominated based on recommendations from home state senators who share the same party affiliation as the president. Using individual-level data on judges and senators from 1789 to 2019, we link each judge to their recommending senators. We then use a difference-in-differences design to analyze how the departure of these senators from Congress impacts judges' performance and career trajectories.

The main results indicate that district court judges produce 12% fewer judicial opinions after

their recommending senator exits office. This decline is specific to judges who had only one recommender at the time of their appointment, and thus heavily depended on that specific senatorial connection. In contrast, the reduction in output is smaller and not statistically significant for judges who were recommended by two senators, who experience a less severe impact when only one recommender leaves Congress.

A reduction in the number of opinions issued could indicate decreased effort — such as judges taking longer to work on a case, resulting in fewer cases closed per year — or increased care in crafting decisions. The analyses show no significant improvement in the quality of judicial opinions following recommenders' exit, as measured by opinions' length, number of citations included, and number of citations received. Event-study estimates confirm that judges' output begins to decline only after their recommenders leave the senate, supporting the parallel trends assumption underlying our identification strategy.

These negative effects are likely widespread. Heterogeneity analyses reveal that they hold across judges of different quality and partisan affiliations. Furthermore, the decline in effort and performance occurs regardless of whether a judge's recommender leaves the Senate due to retirement or an unexpected event, such as death or electoral defeat. This latter result confirms that the causality of our estimates is unlikely to be threatened by possible anticipation effects.

The findings are robust to several identification and sensitivity checks. First, we address concerns related to heterogeneous treatment timing and negative weights in two-way fixed effects settings ([Callaway and Sant'Anna, 2021](#); [Sun and Abraham, 2021](#); [De Chaisemartin and d'Haultfoeuille, 2020](#)), showing that the results hold when using the alternative estimator proposed by [De Chaisemartin and d'Haultfoeuille \(2020\)](#). Second, we verify the robustness of our estimates to an alternative definition of political connections. To this end, we gather and read all the available minutes from the confirmation hearings of district court judges during our study period — 1,202

hearings, covering 56% of the connected judges in our sample. We then consider a judge and a senator as “connected” only if the senator publicly endorses the judge during the hearing. The results are robust – and 25% larger in magnitude – when using this more fine-grained definition of connections.

To ensure that the negative effect on judicial productivity is driven by the loss of connections with home-state senators, we present two additional results. First, we document that the treatment effect remains negative and significant when a judge’s recommender is replaced by a co-partisan. This implies that ties to specific senators – rather than parties – are what shapes judicial output. Second, we conduct a falsification test on judges who – at the time of their nomination – had no home-state senators from the president’s party, and were thus appointed without senatorial recommendations. For these judges, there is no change in output once the senators in office at the time of their nomination leave Congress. In other words, senatorial turnovers only matter for judges’ productivity if they sever connections between judges and senators.

Next, we explore the mechanisms linking the loss of senatorial connections to the observed decline in judges’ productivity. Since senators are also actively involved in nominating upper-level judges (Domnarski, 2009), we posit that losing connections to senators may impair the career prospects of district court judges. Given that district court appointments are for life, longstanding economic theory (Rosen, 1986; Gibbons and Murphy, 1992) suggests that judges may have reduced incentives to maintain high effort once their recommenders leave office.

In line with this hypothesis, the difference-in-differences estimates reveal a strong negative impact of recommenders’ exit on judges’ career advancement. Specifically, judges experience a 1.49 percentage-point drop in their yearly probability of promotion to the U.S. courts of appeals after the exit of their recommenders. Considering a baseline probability of promotion of 1.94% during vacancy years when the president is from the same political party, the departure of recommenders

essentially shuts the door to a judge’s advancement within the U.S. federal judiciary.

Consistent with lower chances of promotion being the key mechanism driving the reduction in judicial output, we again find that the effect is only significant for judges who rely on a single senatorial connection. In other words, the judges who reduce their productivity are the same whose chances of promotion decline after their recommender exits Congress.

In accordance to the rules for federal judicial nominations, this impact emerges in years when judges share partisanship with the sitting president, and thus can benefit from the support of their senatorial connections. Like those on output, these effects apply irrespective of the reason for recommenders’ departure, are homogeneous across judges of different quality, and do not significantly vary by partisan affiliation. This suggests that senatorial connections likely influence the career advancement of a large number of district court judges.

As with the findings on judicial output, we perform a battery of robustness tests on the results regarding promotions. The treatment effect holds when using the estimator proposed by [De Chaisemartin and d’Haultfoeuille \(2020\)](#) and with the alternative definition of connections based on confirmation hearings. Additionally, the results are stable across different subsamples and approaches for clustering standard errors. Given that promotions of district court judges are rare, we also confirm that our difference-in-differences estimates are not driven by any single state or administration.

This paper makes several contributions. First, it expands the growing literature on patronage, by studying the effects of this appointment scheme in the context of the federal civil service of a major developed economy. Recent studies (e.g., [Gallo and Lewis, 2012](#); [Xu, 2018](#); [Colonnelli et al., 2020](#); [Spenkuch et al., 2023](#)) document how patronage appointments can be detrimental for the overall quality and performance of a wide range of organizations. While our findings align with this body of work, they go a step further by showing that patrons making entry-level appointments can

be crucial for determining upper-level nominations as well. Our analyses reveal that U.S. senators play a pivotal role in the appointment of Court of Appeals judges, despite the Constitution granting them no formal authority in the nomination process. This connects the literature on patronage with studies on how promotion schemes affect incentives and performance (Ke et al., 2018; Voth and Xu, 2019; Bertrand et al., 2020).

Within the extensive patronage literature, our paper complements an emerging strand of work that includes judges among the public-sector employees influenced by their political patrons (Lim, 2013; Mehmood, 2022). In particular, our approach is closest in spirit to Mehmood (2022) — the first to provide within-judge estimates of the effect of patronage appointments — but with two major differences. While Mehmood (2022) exploits a Pakistani reform that permanently dismantled presidential appointments, our setting enables us to study how judges change their behavior while the institutional framework remains unchanged. Additionally, rather than focusing on the incidence of pro-government rulings, we concentrate on the quantity and quality of judicial output.

Since promotions are the key causal mechanism behind our main results, we also add to a vast scholarship at the intersection of political economy and organizational economics. This work has consistently shown how the lack of career incentives undermines the performance of public employees (Finan et al., 2017; Karachiwalla and Park, 2017; Bertrand et al., 2020; Kim, 2022; Nieddu and Pandolfi, 2022; Deserranno et al., 2024). However, this literature has only tangentially studied promotion incentives in the judiciary, typically focusing on small and selected subsamples of judges (Schneider, 2005; Black and Owens, 2016). By leveraging our comprehensive data and empirical setting, we contribute to this research by providing causal estimates for the universe of district court judges, over a period of more than two centuries, in one of the largest judiciaries in the world.

Third, our findings speak to the debate on the merits of alternative appointment procedures for

high-level public officials. A host of studies has shown how the decisions of elected public officials may be driven by electoral concerns, and that judges are not immune from this source of bias (Huber and Gordon, 2004; Gordon and Huber, 2007; Berdejó and Yuchtman, 2013; Besley and Payne, 2013; Canes-Wrone et al., 2014; Lim et al., 2015). By documenting that political considerations also influence the behavior of appointed judges, our study raises questions about whether lifetime nominations effectively address the challenges posed by electoral cycles. This suggests that competitive examinations — which are widespread in civil law systems — may overcome issues common to both nomination- and election-based systems, as demonstrated by recent work (Dahis et al., 2023).

Finally, this article augments our knowledge of the overall functioning of the U.S. Federal Judiciary, and the factors that shape judicial performance. Previous studies have largely focused on how federal judicial bias stems from judges’ partisan affiliation (Sunstein et al., 2007; Cohen and Yang, 2019) or personal ideology (Schanzenbach and Tiller, 2008). Our study offers a different perspective by examining how personal connections to specific politicians affect judicial performance through their effects on career incentives. This approach advances our understanding of judicial behavior, highlighting how incentives may evolve dynamically over the course of a judge’s career.

The remainder of the paper is organized as follows. Section 2 provides background information on the U.S. federal court system, with particular regard to the role of home state senators in the nomination process for district court judges. Section 3 details the sources and features of our data on federal judges and U.S. senators, as well as the procedure to match them. Section 4 presents the empirical strategy. Section 5 illustrates the main results on judicial performance, and Section 6 the ones on promotions — our hypothesized causal mechanism. Finally, Section 7 concludes.

## 2. BACKGROUND

US Federal courts are in charge of dealing with both civil and criminal cases referred to the potential violation of one or more federal laws. The federal court system consists of three layers: 94 district courts, 13 courts of appeals (also referred to as circuit courts), and the US Supreme Court. Different from state-level judges, who are elected by citizens, federal judges are appointed for life by the President of the United States. However – while formally making the nominations – the president is far from being the only one involved in the process. This is particularly true for the entry-level position in the US federal judiciary, the one of district court judge.

In fact, by a well-established custom, candidates for district court judgeships are put forward by home state senators who are from the same party as the president. Should there be no such senators, the president consults with other high-level officials from the state with whom he shares partisanship, such as House representatives (Rutkus, 2016). After vetting the candidate(s) identified by home state senators, the President refers one nominee to the Senate Judiciary Committee, which holds a confirmation hearing involving a question and answer session with the candidate.

Following the hearing, the committee reports the candidate to the Senate floor in one of three ways: favorably, unfavorably, or without recommendation. In the overwhelming majority of cases, candidates are reported favorably, and in a relatively quick way.<sup>1</sup> The Senate is then in charge of the final confirmation, which is usually voted by unanimous consent. On top of the US Senate, the only other institution having a say over proposed candidates is the *American Bar Association* (ABA, henceforth), which issues a non-binding evaluation before the nomination is passed on to the Judiciary committee.

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<sup>1</sup>However, longer confirmation times – and occasional rejections of candidates – have been taking place in more recent decades (see Binder and Maltzman, 2009).



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Although not enshrined in the Constitution, the practice of accepting names for district judge-ships from home state senators has been consistently applied throughout the years, by presidents from all parties. This led to the association of district court judges with their senatorial recom-menders rather than with their nominating president. As effectively summarized by US Attorney General Robert F. Kennedy, “Basically it’s senatorial appointment with the advice and consent of the president” (O’Brien, 1986, p. 40).

Such a practice has not been immune from criticisms, on the grounds that it may favor politi-cally connected candidates over more competent ones. As acknowledged by a US Senator himself, it constitutes an “important source of political patronage” for US senators (Tydings, 1977). Not surprisingly, factors concurring to the identification of candidates by senators include friendship, acquaintance, and family ties, among others (Domnarski, 2009). Furthermore, district judges are often chosen based on their political orientation, and a large majority of them were politically active before being appointed (Carp et al., 2019).

While home state senators are commonly regarded as determining only district court nomi-nations, anecdotal evidence points to their active role in the appointment process of circuit court judges, as well (Domnarski, 2009). Notably, this qualitative evidence is largely corroborated by the official records of Congressional Hearings, which report strong written and oral endorsements of court of appeals nominees on behalf of one or more home state senator. This may imply that they suggest names for direct appointment to the circuit bench from outside the federal court system, or that they favor the promotion of judges that they first recommended for a district court position.

### 3. DATA AND MEASUREMENT

To study the impact of senators' tenure on the careers and performance of federal judges, we build a novel dataset combining information on both US federal judges and senators throughout the period 1789-2019.

**3.1. US Federal Judges Data.** Data on judges' careers come from the Biographical Directory of Article III Federal Judges compiled by the *Federal Judicial Center* (FJC), the research and education agency of the judicial branch of the United States Government. The directory includes the biographies of judges appointed since 1789 on the US district courts, US courts of appeals, Supreme Court of the United States, and US Court of International Trade, as well as the former US circuit courts, Court of Claims, US Customs Court, and US Court of Customs and Patent Appeals. The FJC data contain information on the full career of federal judges, with the specific dates of each appointment obtained.

Data on judicial opinions come from CourtListener, a free legal research website containing millions of legal opinions from federal and state courts, operated by the non-profit Free Law Project. At the moment we write, CourtListener contains information on 9,032,122 legal opinions from federal, state, and specialty courts, from the 1920s until today. Opinions — written comments that must be issued after deciding on each case — are the main output of judges' work, and have been consistently used by researchers as a tool to measure their performance ([Posner, 2008](#); [Ash and MacLeod, 2015, 2024](#)).

For each judge-year observation, we compute four outcomes. The first gauges the *quantity* of output: the total number of judicial opinions written by a judge in a given year. Since an opinion must be issued after closing a case, the number of opinions that a judge produces corresponds to

the number of cases they decided upon. As a new case is randomly assigned to a judge only once they finish working on their previous one, the number of opinions exclusively depends on a judge's speed, not on whether they receive more cases in the first place.

The other three outcomes proxy for the *quality* of output: the average number of words contained in the opinions, the average number of forward citations and the average number of backward citations. Importantly, citations are not a measure of whether the decision is correct or not. But, on average, more forward citations signal a harder work by the judge to ground their decisions on previous cases, while more backward citations suggest that a judge's work proved more useful to her colleagues in the future.

**3.2. US Senators Data.** Data on senators are from three sources: the Biographical Directory of the United States Congress,<sup>2</sup> the website [voteview.com](http://voteview.com),<sup>3</sup> and the Roster of Members of the United States Congress compiled by ICPSR.<sup>4</sup> Combining these sources provides us with complete information on the political careers of all US senators, from 1789 to 2019.

**3.3. Matching of the Datasets.** In the empirical analyses that follow we focus on the sample of federal judges who, over the 230 years of our sample period, were ever appointed as district court judges.<sup>5</sup> We follow their career in the district courts until their promotion, retirement, resignation, or death — whichever occurs first. In doing so, we also record if and when the senator(s) who recommended their nomination left office. To this end, we transform the FJC data into an unbalanced panel at the judge-year level.

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<sup>2</sup><https://bioguideretro.congress.gov>.

<sup>3</sup><https://voteview.com/data>.

<sup>4</sup><https://www.icpsr.umich.edu/web/ICPSR/studies/7803>.

<sup>5</sup>The following categories are not included in our sample: (i) judges appointed in years in which that State did not have any representative in the Senate yet; (ii) judges in the district courts of DC and Puerto Rico.

In order to identify the senator(s) who recommended the nomination of each federal judge, we match this panel with the data on US senators. In particular, we link each judge to the senator — or pair of senators — who, at the time of her nomination as district court judge, were representing the state where she was appointed, and who were of the same party as the nominating president.<sup>6</sup> Finally, given that our treatment of interest is the end of the connection between the judge and her recommending senator, we exclude from our analysis judges who are appointed in states where there is no senator of the same party as the incumbent president at the time of nomination.

The final sample consists of 42,715 judge-year observations, covering 2,155 judges for the period 1789-2019.<sup>7</sup> Table A1 reports summary statistics for a set of judges' characteristics. The average judge writes 4.91 opinions per year. These opinions have a mean length of 3,357 words and — on average — contain 11.95 citations of other judge's work and receive 3.78 citations by other judges. Approximately 11% of the judges in the sample get promoted from a district to an appellate court, after an average of 10 years from the first appointment. Figure A6 displays the number of promotions in each year, which ranges from a minimum of 0 to a maximum of 7. About half of the judges are appointed by a Democratic president, and half by a Republican one.

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<sup>6</sup>The rationale for this matching procedure comes from the process through which senatorial recommendation of federal judges works, as detailed in Section 2 above.

<sup>7</sup>Due to data limitations, the productivity outcomes are measured starting in 1924.

## 4. EMPIRICAL STRATEGY

**4.1. Effect of Connections on Performance.** To analyze the effect of political connections on the performance of district court judges, we start by estimating the following regression model:

$$y_{it} = \theta_i + \tau_{ts} + \sum_{j=1}^2 \beta^j \cdot \text{ConnectionLost}_{it}^j + T_{it}'\theta + \varepsilon_{it} \quad (1)$$

where  $i$  denotes the judge,  $t$  the year, and  $s$  the state. As mentioned in Subsection 3.1, the dependent variable  $y_{it}$  will alternatively be one of the following four outcomes: (i) Number of opinions; (ii) Average number of words per opinion; (iii) Average citations contained in the opinions, and (iv) Average citations received by the opinions.

On the right-hand side, the key explanatory variable of interest is  $\text{ConnectionLost}_{it}^j$ , an indicator taking value 0 if the recommending senator  $j \in \{1, 2\}$  is still in office at year  $t$ , and 1 otherwise.<sup>8</sup> For judges who have one connection at the time of appointment, the equation will only include the term  $\text{ConnectionLost}_{it}^1$ : This event will henceforth be referred to as “unique exit”. For judges who have two connections at the time of appointment, the equation will include both  $\text{ConnectionLost}_{it}^1$  (“first exit”) and  $\text{ConnectionLost}_{it}^2$  (“second exit”). As, by definition, recommenders must be in office to sponsor a judge, each  $\text{ConnectionLost}_{it}^j$  indicator is equal to 0 when a judge enters the sample, and then switches to 1 on the year when the recommending senator leaves office.

The terms  $\theta_i$  and  $\tau_{ts}$  are, respectively, judge and state-by-year fixed effects. Judge fixed effects take account of the fact that judges may be different in several important, time-invariant characteristics, which are likely correlated with both the tenure of their recommending senators and the

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<sup>8</sup>In the rare cases in which a senator exits Congress temporarily and then enters it again, we consider the judge connected until the year of definitive exit. Results excluding the judges connected to such senators are almost identical, and are available upon request.

judges' output — for example, through some unobserved component of their ability. State-by-year fixed effects absorb any potential event affecting all the judges of a given state equally on a given year, which may be correlated with both the exit of the recommending senators and the judges' careers and performance. Hence, their inclusion ensures that identification is obtained conditional on shocks common to all judges of a given state in each year.

The vector  $T_{it}$  contains a full set of dummies for each year of tenure as a district court judge. These judge's experience fixed effects allow us to non-parametrically account for the time-varying role of experience, which is likely to be correlated positively with both the judge's probability of being promoted and their productivity, as well as the likelihood that they experience the exit of a recommending senator. Finally,  $\varepsilon_{it}$  is the error term, which is clustered at the recommending senator(s)-year level, corresponding to the level of the source of identifying variation.

In this empirical setting, the parameter of interest  $\beta^j$  captures the effect of losing the connection with recommending senator  $j$  on the output of judge  $i$ . A causal interpretation of  $\beta^j$  requires parallel trends: Absent the exit from Congress of the recommending senators, the performance of judges whose political connections are lost and of those still connected would have evolved on parallel paths. In other words, we assume that, conditional on the controls, there is no other variable correlated with both the outcome of interest and our main explanatory variables.

As for any difference-in-differences, this assumption is untestable. In fact, on a given year, one cannot observe the same judge under both connected and unconnected status. Yet, the plausibility of parallel trends can be evaluated by estimating an event-study equation around the year at which a judge loses their connection. In our context, such an equation takes the form:

$$y_{it} = \theta_i + \tau_{ts} + \sum_{j=1}^2 \sum_{l=-L}^L \beta_l^j \cdot Exit_{i(t+l)}^j + T_{it}'\theta + \varepsilon_{it} \quad (2)$$

where  $Exit_{it}^j$  takes values 1 if recommending senator  $j$  exits Congress at year  $t$ , and  $l$  flags the years either before or after this event, providing a set of time effects leading up to and following the exit. For the pre-trends assumption to be plausible, one would need the coefficients  $\widehat{\beta}_l^j$  to be statistically indistinguishable from 0 in the years leading up to the recommender's exit, i.e., for each  $l < 0$ . Furthermore, by including leads of the treatment ( $l > 0$ ), Equation (2) also allows us to assess the evolution of the effect in the years following the loss of connection(s).

**4.2. Effect of Connections on Promotions.** In Section 6, to evaluate our hypothesized causal mechanism, we assess whether losing connections to their recommenders reduces the likelihood that district court judges are promoted to a US court of appeals. To this end, we estimate a slight variant of Equation (1):

$$\begin{aligned} Promoted_{it} = & \theta_i + \tau_{ts} + \rho SamePartyPresident_{it} + \sum_{j=1}^2 \beta^j \cdot ConnectionLost_{it}^j + \\ & + \sum_{j=1}^2 \gamma^j \cdot (ConnectionLost^j \times SamePartyPresident)_{it} + T_{it}'\theta + \varepsilon_{it} \end{aligned} \quad (3)$$

That is, we add an indicator for whether the incumbent president at year  $t$  is of the same party as the one that nominated judge  $i$  ( $SamePartyPresident_{it}$ ) and the interaction of this indicator with the one for the judge having lost their senatorial connection ( $ConnectionLost_{it}^j$ ). We do so in light of the constitutional rules for nominating US federal judges, which mandate that the president hear recommendations only from senators of their own party (see Section 2). Therefore, the parameters  $\gamma^j$  measure the differential effect of losing the connection in years in which the president is of the same party, and the judge would thus be in the position to leverage their senatorial sponsor to be recommended for promotion to court of appeals.

Again, to evaluate the plausibility of the parallel-trends assumption, we also estimate the event-study equivalent of Equation (3), which takes the form:

$$\begin{aligned}
 Promoted_{it} = & \theta_i + \tau_{ts} + \rho SamePartyPresident_{it} + \sum_{j=1}^2 \sum_{l=-L}^L \beta_l^j \cdot Exit_{i(t+l)}^j + \\
 & + \sum_{j=1}^2 \sum_{l=-L}^L \gamma_l^j \cdot [Exit_{i(t+l)}^j \times SamePartyPresident_{it}] + T_{it}'\theta + \varepsilon_{it}
 \end{aligned} \tag{4}$$

Here, each coefficient  $\gamma_l^j$  gauges the effect of being  $l$  years before or after recommender's  $j$  exit at times in which the president is of the same party as the one who nominated judge  $i$ .

## 5. MAIN RESULTS: CONNECTIONS AND PERFORMANCE

**5.1. Effect of Connections on Performance.** Table 1 shows estimates of  $\beta_l^1$  from Equation (1) for each of our four measures of judges' performance, focusing on judges with a single recommender at the time of appointment. Column (1) shows a clear drop in judges' output once their recommender leaves Congress: The loss of the connection causes a 12% reduction in the number of judicial opinions written.

As mentioned above, the amount of opinions that a judge issues on a given year only depends on how many cases they close on that year. Hence, the negative and significant coefficient of column (1) may be the result of two different dynamics. On the one hand, judges may take longer to issue a verdict because they spend additional time and effort in crafting their decision, hence delivering a higher-quality work. Alternatively, it may simply be that they lower their efficiency, taking more time to complete cases while putting no additional quality into their work.

The coefficients in columns from (2) to (4) consistently support this latter hypothesis. In fact,



following the exit of the recommender, there are no significant changes in average opinions' length (column 2), average number of citations made (column 3), and average number of citations received (column 4). Overall, these results indicate that losing the connection to their recommender induces judges to work less, while not improving the average quality of their judicial output.

Focusing again on judges with a single recommender, Figure 1 plots estimates of the  $\beta_l^1$  parameters from Equation (2), for  $l \in -6; 5$ , using the last period prior to the loss of a judge's connection ( $l=-1$ ) as the reference period. Each panel refers to one of our four measures of judges' performance. For all the outcomes, there is no evidence of pre-trends. For the number of opinions (Panel A) the coefficients indicate a negative and statistically significant effect of connection loss on judges' performance. The drop starts immediately after the senator's exit from Congress and persists for at least six years. As to our three proxies for opinions' quality (panels B, C, and D), a look at the leads shows that their evolution essentially remains flat around zero for the whole length of our window of observation.

Next, we repeat the estimation of our difference-in-differences model on the subset of judges that had two senatorial recommenders at the time of appointment. To ease the comparison with judges who have a single recommender, we first show the coefficient for the effect of the last exit. In this exercise – of which we show the results in Table 2 – the control group is thus made of judge-year observations for the periods in which judges had either both or at least one of their connections still in office. We then decompose the effects of losing each recommender in Table A2, that reports estimates of the parameters  $\beta^1$  and  $\beta^2$  from Equation (1).

These analyses show that – unlike their colleagues with a unique recommender – judges with two recommenders do not significantly reduce their productivity after losing their connections. A possible interpretation of this result is that having two senatorial recommenders implies that each of them has less of a role, and their exit is thus not capable of significantly affecting a judge's

behavior. We will return to this conjecture in Section 6, when we test for the role of recommenders in determining judges' likelihood of being promoted. Alternatively, it may also be that judges from states that heavily lean either democratic or republican simply work in a different political environment, and thus respond to different incentives with respect to their colleagues.

**5.2. Heterogeneity Analyses.** The results summarized above show that losing senatorial connections can significantly reduce the judicial output of federal district court judges, and that this effect is specific to judges who have a single connection. But is this effect homogeneous across these judges? To answer this question, we introduce interaction terms into Equation (1) to test the heterogeneity of the results in Table 1 along three key dimensions.

We begin by testing the role of partisanship. Since the involvement of senators in the nomination process may differ widely across cases (Domnarski, 2009), it is possible that democratic and republican judges respond in different ways to the exit of their recommending senators. Yet, as shown in Figure A1, the drop in judicial productivity is essentially identical across judges nominated by democratic and republican presidents.

Second, we inquire the role of competence, to see whether the quality of a judge may mitigate the impact of political connections on their productivity. To do so, we match each judge to the evaluation they received by the American Bar Association (ABA) at the moment of their district court appointment, and divide judges into two groups. We consider as low-qualified judges those whose ABA rating is either "Not qualified" or "Qualified", and as high-qualified those who were rated as "Well qualified" or "Very well qualified". As displayed in Figure A2, the effect of losing connections on judicial output is negative and significant for both of these subsets, implying that competence cannot limit the detrimental effects of losing political connections.

Finally, we study whether the effects differ depending on the reason for which a judge's rec-

ommender left their seat. Specifically, we distinguish connections broken unexpectedly — i.e., because the senator died in office or lost an election — or due to the senator’s retirement. Figure A3 plots the results of this exercise. Even though the magnitude of the effect is larger when the connection is lost unexpectedly, the coefficient is negative also for cases in which a senator retired, and the two effects are not statistically different from each other. Overall, the upshots of these heterogeneity analyses document that the negative effect of losing connections on productivity apply broadly across our sample of district court judges.

**5.3. Robustness Checks.** We now present the results of a battery of additional analyses, aimed at ensuring the robustness of the results presented in Table 1. Given that our empirical setting features judges losing connections at different points in time, we re-estimate Equation (2) using the  $DID_M$  estimator proposed in De Chaisemartin and d’Haultfoeuille (2020). The event-study estimates from this exercise are reported in Figure A4. The joint effect of the lead coefficients remains negative and significant, and the lags confirm the absence of anticipation effects. However, the single coefficients for each period are less precisely estimated, and the pattern they depict is thus less stark than the one displayed in Panel A of Figure 1.

Next, we test whether the results hold under a different, more fine-grained way of defining connections between judges and senators. Rather than assuming that each judge was recommended by all the home-state senators who were co-partisans of the president at the time of nomination, we look for explicit endorsements by senators during a judge’s confirmation hearing. As not all the minutes of confirmation hearings are publicly available, can do so for 56% of the connected judges in our sample, while we keep the original definition of connection for the others. Re-estimating (1) using this different measures leaves the results unchanged, as shown in Table A3. If anything, the negative coefficient on judicial productivity becomes larger in magnitude, corresponding to a 15%

decrease in the amount of opinions issued.

Finally, we test a different inferential scheme. Rather than clustering standard errors at the recommending senators level — i.e., at the level of treatment assignment — we cluster them at the judge level, in order to more systematically account for possible serial correlation. Table A4 documents that this alternative clustering choice does not change the significance of our estimates.

**5.4. Alternative Explanations.** Before moving to the analysis of causal mechanisms, we test two alternative explanations for the observed drop in judicial productivity. First, we test whether — rather than the connection to a specific senator — what really shapes judicial output is the link between a judge and the party that nominated them. To this end, we estimate differential effects by party of the replacing senator, and we plot them in Figure A5. The coefficients confirm that ties to specific senators, not to their party, are what drives the observed change in productivity.

Second, we take advantage of the fact that a relevant portion of the judges in our sample (846, or 28.2%) are nominated at times in which neither of their home-state senators are of the same party as the president. By constitutional rules, these judges are thus nominated without senatorial recommendations. This allows us to run a falsification test, whereby we check for whether the exit of the senators in office when these judges were appointed — who had no role in their nomination — has any effects on their productivity. The upshots of our placebo test show that this is not the case, implying that senatorial turnovers only affect judicial output when they sever connections between judges and their recommenders.

## 6. MECHANISMS: CONNECTIONS AND PROMOTIONS

**6.1. Effect of Connections on Promotions.** In this section, we inquire whether — as per our hypothesis — the drop in judge’s productivity after the loss of senatorial connections is due to an erosion of their career prospects. Specifically, we posit that — since senators may also actively sponsor judges for appellate courts — a district court judge may have higher chances of promotion while her initial senatorial recommender is still in office. If this is the case, once their recommender leaves congress judges may lack the career incentives needed to keep working hard.

To test for this, we estimate Equation (3), separately for judges with one recommender (Table 3) and with two recommenders (Table 4). Since the possibility to be promoted obviously depends on the presence of a vacancy in an upper-level court, we estimate our model on three samples: all the years within our observation period (column 1 of each table), years with at least one vacancy in any US appellate court (column 2), and years with a vacancy in a court within the judge’s Circuit.

Consistent with our hypothesis, the coefficients show that losing senatorial connections does matter for a judge’s promotion prospects. In particular, for judges who had a single recommender, losing this connection reduces their chances of promotion by between 66% and 77%. Since promotions are already quite rare, this implies that advancing to an appellate court becomes almost impossible without the support of the senatorial recommender. Notably, the effect plays out in years in which a judge shares partisanship with the sitting president, and would thus stand to exploit the efforts of their senatorial connection.

To complement these results, Figure 2 plots event-study estimates from Equation (4). Consistent with the parallel trends assumption, there is no evidence of anticipation effects. As to the timing of the drop in probability of promotion, the plot shows how it stabilizes after one year of the recommender’s exit. This resonates with the average time it takes to fill an appellate court vacancy

during our sample period, which is of 8 months.

In line with the results on judge’s performance, this effect does not hold among judges with two recommenders, as displayed in Tables 4 and A6. In other words, the drop in productivity is specific to judges who also experiment a drop in their promotion chances, lending support to the role of career incentives as the key causal mechanism in our setting.

**6.2. Heterogeneity Analyses.** As we did for those on productivity, we check whether the results on promotions hold among judges of different partisan affiliation, different competence, and who lose their connection for different reasons. Once again – as shown in Figures from A7 to A9 – we do not find any significant heterogeneity along these dimensions. This implies that the drop in promotion consistently applies across a broad range of judges in our sample.

**6.3. Robustness Checks.** Like those on judicial output, the results on promotions are robust to the use of the  $DID_M$  estimator of De Chaisemartin and d’Haultfoeuille (2020) – Figure A10 –, to our alternative measure of connections based on confirmation hearings (Table A7), and to clustering standard errors at the judge level (Table A8).

Furthermore, given that promotions are a rare event, in Figure A11 we verify that our coefficient of interest is not determined by judges in a specific state (Panel A) or nominated by a specific president (Panel B). The only notable change in the coefficient’s magnitude obtains when excluding the years of the Reagan administration (1981-1989). This is due to President Reagan’s exceptional activism in promoting district court judges: of the 310 promotions in our sample, 33 (10.6 %) took place under his presidency, more than any other president in the history of the United States.

**6.4. Alternative Explanations.** Finally, to check that the effect on promotions is not due other reasons than the loss of senatorial connections, we run the same tests as we did in Section 5.4.

The results we obtain are very reassuring. First, the effect holds regardless of the party of the replacing senator (Figure A12). Second, when running our placebo check exploiting judges without senatorial connections, we find no comparable drop in promotion probability (Table A9).

## 7. CONCLUSION

We provide the first within-judge estimates of the effects of political connections on judicial performance. Our setting is the US federal judiciary, where district court judges are appointed via presidential nomination based on recommendations from home-state senators. Exploiting the exit of a judge’s recommenders from Congress as a source of within-judge variation in connectedness, we show that losing ties to incumbent senators reduces judicial output — as proxied by the number of opinions written — with no significant improvements on the quality of judges’ work.

The key causal mechanism behind this drop in productivity is an erosion of career prospects. In fact, with an additional set of difference-in-differences estimates, we document that losing the tie to their recommending senator reduces the yearly probability of promotion of district court judges by 66%. Consistent with the system of political appointments in place in the federal judiciary — and in many other federal agencies — such an effect emerges in years in which judges share partisan affiliation with the sitting president, and could thus benefit from their connection to a senator.

These findings are an important addition to extant work in political economy and organizational economics. Within the large empirical literature on patronage, our study is one of the few to examine the role of political patrons in determining both entry-level appointments and promotions. In this strand of work, our results complement those of Voth and Xu (2019), who study patronage promotions within the British Royal Navy and find that they can boost average performance if a majority of patrons prioritize merit over kinship. Here — thanks to our within-judge design — we

show that patrons who favor their peers may not only fail to select good candidates, but also erode the performance of their own appointees over time.

Our study also contributes to a growing debate on the merits of different appointment systems in determining the efficiency and fairness of judicial systems across the globe. While scholars have extensively researched the biases that may arise from the direct election of judges, the role of political nominations has only recently started to be scrutinized. In this emerging empirical literature, our paper is the first to offer within-judge estimates of the effects of political connections while holding constant the institutional setting in which judges operate. This approach holds great promise to further our understanding of the causes of judicial biases and inefficiencies, which constitute one of the main obstacles to political and economic development worldwide ([Persson et al., 1997](#); [Acemoglu and Johnson, 2005](#); [Chemin, 2020](#)).



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## TABLES

Table 1: Loss of Connection and Judicial Opinions,  
Judges with One Recommender

	(1)	(2)	(3)	(4)
	Nr. of Opinions	Length of Opinions	Citations Made	Citations Received
<i>ConnectionLost</i>	-0.12*** (0.03)	-0.00 (0.03)	-0.03 (0.03)	0.01 (0.03)
Observations	16,222	16,222	16,105	15,468
Judge FEs	Y	Y	Y	Y
State $\times$ Year FEs	Y	Y	Y	Y
Tenure FEs	Y	Y	Y	Y

*Notes:* All coefficients are estimated using Poisson regressions. The outcomes in columns from (2) to (4) are averaged over the opinions issued by judge  $i$  at year  $t$ . This sample includes only district court judges who had one connection at the time of appointment. Standard errors clustered by recommending senator(s)-year in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table 2: Loss of Connection and Judicial Opinions,  
Judges with Two Recommenders, Effect of Last Exit

	(1)	(2)	(3)	(4)
	Nr. of Opinions	Length of Opinions	Citations Made	Citations Received
<i>ConnectionsLost</i>	-0.07 (0.07)	0.10 (0.07)	-0.05 (0.06)	-0.11* (0.07)
Observations	13,153	13,153	12,941	12,474
Judge FEs	Y	Y	Y	Y
State $\times$ Year FEs	Y	Y	Y	Y
Tenure FEs	Y	Y	Y	Y

*Notes:* All coefficients are estimated using Poisson regressions. The outcomes in columns from (2) to (4) are averaged over the opinions issued by judge  $i$  at year  $t$ . This sample includes only district court judges who had two connections at the time of appointment. Standard errors clustered by recommending senator(s)-year in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .



Table 3: Loss of Connection and Probability of Promotion,  
Judges with One Recommender

	(1)	(2)	(3)
<i>ConnectionLost</i>	0.25 (0.26)	0.27 (0.28)	0.57 (0.50)
<i>ConnectionLost</i> × <i>Same-Party President</i>	-1.04*** (0.33)	-1.07*** (0.34)	-2.06*** (0.59)
<i>Same-Party President</i>	1.48*** (0.30)	1.56*** (0.32)	2.60*** (0.56)
<i>ConnectionLost</i> + <i>ConnectionLost</i> × <i>Same-Party President</i>	-0.79*** (0.28)	-0.80*** (0.30)	-1.49*** (0.51)
<u>Mean Probability of Promotion</u>			
<i>(ConnectionLost = 0)</i>			
<i>Same-Party President = 0</i>	0.15	0.17	0.37
<i>Same-Party President = 1</i>	1.19	1.24	1.94
Years in Sample	All Years	Any Vacancy	Vacancy in CoA
Observations	20,395	18,943	8,720
Judge FEs	Y	Y	Y
State × Year FEs	Y	Y	Y
Tenure FEs	Y	Y	Y

*Notes:* In all models, the dependent variable is an indicator for district judge  $i$  being promoted at year  $t$ . Coefficients, standard errors and baseline means are multiplied by 100 to enhance readability. This sample includes only district court judges who had one connection at the time of appointment. Standard errors clustered by recommending senator(s) in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

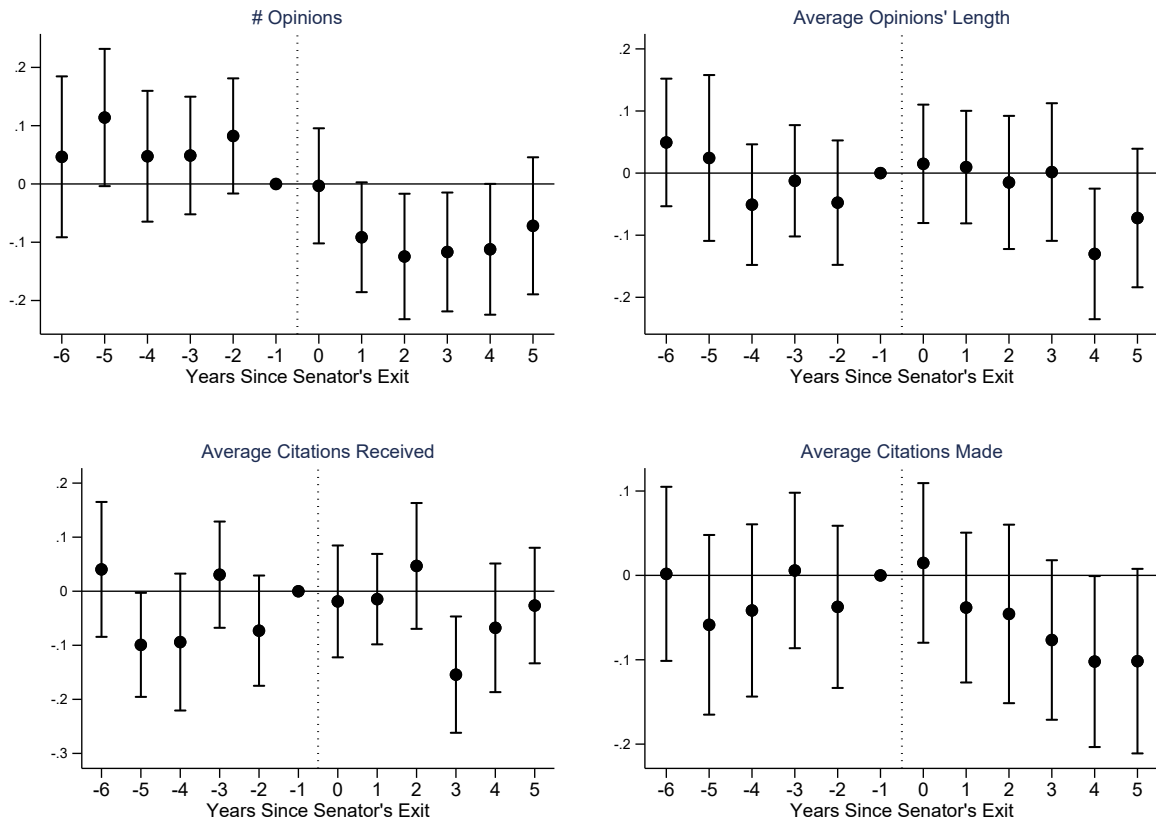
Table 4: Loss of Connection and Probability of Promotion,  
Judges with Two Recommenders, Effect of Last Exit

	(1)	(2)	(3)
<i>ConnectionsLost</i>	0.94*** (0.18)	0.96*** (0.23)	1.67*** (0.56)
<i>ConnectionsLost</i> × <i>Same-Party President</i>	-0.49* (0.26)	-0.56** (0.28)	-1.08* (0.56)
<i>Same-Party President</i>	0.85*** (0.23)	0.92*** (0.25)	1.63*** (0.47)
<i>ConnectionsLost</i> + <i>ConnectionsLost</i> × <i>Same-Party President</i>	0.45 (0.41)	0.41 (0.44)	0.59 (0.77)
<u>Mean Probability of Promotion</u>			
<i>(ConnectionsLost = 0)</i>			
<i>Same-Party President = 0</i>	0.04	0.05	0.11
<i>Same-Party President = 1</i>	0.88	0.97	1.85
Years in Sample	All Years	Any Vacancy	Vacancy in CoA
Observations	20,448	18,254	6,644
Judge FEs	Y	Y	Y
State × Year FEs	Y	Y	Y
Tenure FEs	Y	Y	Y

*Notes:* In all models, the dependent variable is an indicator for district judge  $i$  being promoted at year  $t$ . Coefficients, standard errors and baseline means are multiplied by 100 to enhance readability. This sample includes only district court judges who had two connections at the time of appointment. Standard errors clustered by recommending senator(s) in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

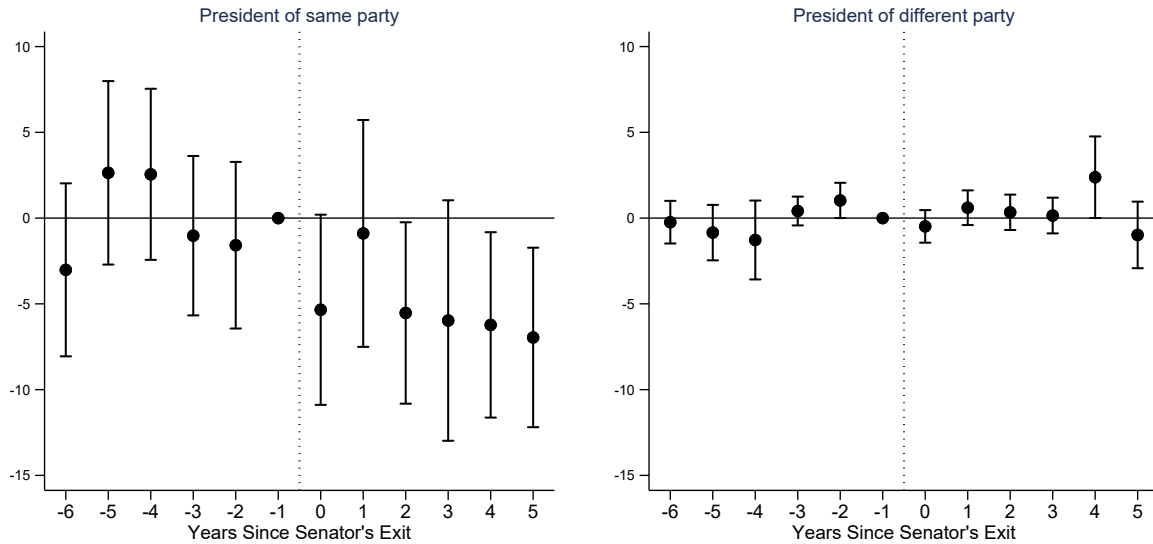
## FIGURES

Figure 1: Effect of Losing Connection on Opinions,  
Judges with One Recommender – Unique Exit



*Notes:* The dependent variables are the number of opinions written by judge  $i$  in year  $t$  (top left); the average number of words in the opinions written by judge  $i$  in year  $t$  (top right); the average number of forward citations for the opinions written by judge  $i$  in year  $t$  (bottom left); and the average number of backward citations for the opinions written by judge  $i$  in year  $t$  (bottom right). All coefficients are estimated using Poisson regressions. Vertical lines are 95% confidence intervals based on robust standard errors clustered at the recommending senator level. Regressions include the following sets of FEs: judge, state by year, and judge's experience. This sample includes only district court judges who had one connection at the time of appointment.

Figure 2: Effect of Losing Connection on Promotions,  
Judges with One Recommender – Unique Exit



*Notes:* The dependent variable is an indicator for district judge  $i$  being promoted at year  $t$  (multiplied by 100). Vertical lines are 95% confidence intervals based on robust standard errors clustered at the recommending senator level. Regressions include the following sets of FEs: judge, state by year, and judge's experience. This sample includes only district court judges who had one connection at the time of appointment.

# APPENDIX

## ADDITIONAL TABLES

Table A1: Summary Statistics - Regression Sample

	Mean	Stand. Dev.	Min	Max
<i>Panel A. Cross-Sectional Variables</i>				
Ever Promoted	0.106	0.308	0	1
Connections at Appointment	1.510	0.500	1	2
Connections at Promotion	1.467	0.500	1	2
Total Tenure	19.82	12.22	1	56
Tenure at Promotion	9.843	5.932	1	28
<i>Party of Appointment</i>				
Democratic	0.484	0.500	0	1
Republican	0.490	0.500	0	1
Federalist	0.012	0.107	0	1
Jeffers. Republican	0.011	0.103	0	1
Whig	0.003	0.057	0	1
	Mean	Stand. Dev.	Min	Max
<i>Panel B. Time-Varying Variables</i>				
Opinions Written	4.910	7.906	0	131
Words in Opinions	3,357	3,585	0	140,646
Forward Citations	11.95	11.99	0	163.3
Backward Citations	3.776	4.561	0	203
Promoted at Year $t$ (x 100)	0.536	7.302	0	100
Same-Party President	0.530	0.499	0	1
Lost Connection (Unique)	0.631	0.483	0	1
Lost Connection (First)	0.710	0.454	0	1
Lost Connection (Second)	0.407	0.491	0	1
Tenure at Year $t$	14.18	10.20	1	56

Notes: Panel A only includes judges nominated to district court for a state in which there was at least one senator from the same party as the president at the time of nomination. In Panel B, statistics are computed for the 42,715 judge-year observations part of our sample, as described in Section 3.3. Statistics on opinions are for 32,729 judge-year observation covered by CourtListener.

Table A2: Loss of Connection and Judicial Opinions,  
Judges with Two Recommenders, Effects of Each Exit

	(1)	(2)	(3)	(4)
	Nr. of Opinions	Length of Opinions	Citations Made	Citations Received
<i>1stConnectionLost</i>	0.23*** (0.06)	0.05 (0.11)	0.00 (0.05)	0.03 (0.06)
<i>2ndConnectionLost</i>	-0.05 (0.07)	0.11 (0.05)	-0.05 (0.06)	-0.11* (0.07)
Observations	13,153	13,153	12,941	12,474
Judge FEs	Y	Y	Y	Y
State $\times$ Year FEs	Y	Y	Y	Y
Tenure FEs	Y	Y	Y	Y

*Notes:* All coefficients are estimated using Poisson regressions. The outcomes in columns from (2) to (4) are averaged over the opinions issued by judge  $i$  at year  $t$ . This sample includes only district court judges who had two connections at the time of appointment. Standard errors clustered by recommending senator(s)-year in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table A3: Loss of Connection and Judicial Opinions,  
Alternative Measure of Connection, Judges with One Recommender

	(1)	(2)	(3)	(4)
	Nr. of Opinions	Length of Opinions	Citations Made	Citations Received
<i>ConnectionLost</i>	-0.15*** (0.03)	-0.04 (0.03)	-0.06* (0.03)	-0.01 (0.04)
Observations	17,234	16,018	15,895	15,252
Judge FEs	Y	Y	Y	Y
State $\times$ Year FEs	Y	Y	Y	Y
Tenure FEs	Y	Y	Y	Y

*Notes:* All coefficients are estimated using Poisson regressions. The outcomes in columns from (2) to (4) are averaged over the opinions issued by judge  $i$  at year  $t$ . A judge is defined as “connected” to a senator if and only if the senator spoke to their favor during the confirmation hearing for their nomination. This sample includes only district court judges who had one connection at the time of appointment. Standard errors clustered by recommending senator(s)-year in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table A4: Loss of Connection and Judicial Opinions,  
Clustering SEs at Judge Level, Judges with One Recommender

	(1)	(2)	(3)	(4)
	Nr. of Opinions	Length of Opinions	Citations Made	Citations Received
<i>ConnectionLost</i>	-0.12*** (0.06)	-0.00 (0.04)	-0.03 (0.04)	0.01 (0.04)
Observations	16,222	16,222	16,105	15,468
Judge FEs	Y	Y	Y	Y
State $\times$ Year FEs	Y	Y	Y	Y
Tenure FEs	Y	Y	Y	Y

*Notes:* All coefficients are estimated using Poisson regressions. The outcomes in columns from (2) to (4) are averaged over the opinions issued by judge  $i$  at year  $t$ . This sample includes only district court judges who had one connection at the time of appointment. Standard errors clustered by judge in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .



Table A5: Loss of Connection and Judicial Opinions,  
Placebo on Judges without Recommending Senators

	(1)	(2)	(3)	(4)
	Nr. of Opinions	Length of Opinions	Citations Made	Citations Received
<i>1stSenatorOut</i>	-0.07 (0.14)	-0.13 (0.12)	-0.11 (0.12)	-0.14 (0.20)
<i>2ndSenatorOut</i>	0.10 (0.19)	0.05 (0.15)	-0.10 (0.13)	-0.03 (0.18)
Observations	6,591	6,591	6,501	6,195
Judge FEs	Y	Y	Y	Y
State $\times$ Year FEs	Y	Y	Y	Y
Tenure FEs	Y	Y	Y	Y

*Notes:* All coefficients are estimated using Poisson regressions. The outcomes in columns from (2) to (4) are averaged over the opinions issued by judge  $i$  at year  $t$ . This sample includes only district court judges who had no connections at the time of appointment. Standard errors clustered by recommending senator(s)-year in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table A6: Loss of Connection and Probability of Promotion,  
Judges with Two Recommenders, Effects of Each Exit

	(1)	(2)	(3)
<i>1stConnectionLost</i>	0.13 (0.31)	0.16 (0.33)	1.01 (0.75)
<i>1stConnectionLost</i> × <i>Same-Party President</i>	-0.65 (0.42)	-0.74 (0.47)	-1.37 (0.98)
<i>2ndConnectionLost</i>	0.78** (0.31)	0.78** (0.33)	1.53** (0.64)
<i>2ndConnectionLost</i> × <i>Same-Party President</i>	-0.28 (0.28)	-0.31 (0.32)	-0.70 (0.61)
<i>Same-Party President</i>	1.24*** (0.34)	1.36*** (0.38)	1.53** (0.64)
<i>1stConnectionLost</i> + <i>1stConnectionLost</i> × <i>Same-Party President</i>	-0.52 (0.40)	-0.58 (0.43)	-0.36 (0.84)
<i>2ndConnectionLost</i> + <i>2ndConnectionLost</i> × <i>Same-Party President</i>	0.50 (0.42)	0.47 (0.45)	0.83 (0.80)
<u>Mean Probability of Promotion</u> ( <i>ConnectionLost</i> = 0)			
<i>Same-Party President</i> = 0	0.06	0.07	0.15
<i>Same-Party President</i> = 1	0.80	0.88	1.53
Years in Sample	All Years	Any Vacancy	Vacancy in CoA
Observations	17,659	16,296	6,644
Judge FEs	Y	Y	Y
State × Year FEs	Y	Y	Y
Tenure FEs	Y	Y	Y

Notes: In all models, the dependent variable is an indicator for district judge  $i$  being promoted at year  $t$ . Coefficients, standard errors and baseline means are multiplied by 100 to enhance readability. This sample includes only district court judges who had two connections at the time of appointment. Standard errors clustered by recommending senator(s) in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

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Table A7: Loss of Connection and Probability of Promotion,  
Alternative Measure of Connection, Judges with One Recommender

	(1)	(2)	(3)
<i>ConnectionLost</i>	0.15 (0.25)	0.16 (0.26)	0.33 (0.51)
<i>ConnectionLost</i> × <i>Same-Party President</i>	-0.84*** (0.31)	-0.87*** (0.33)	-1.51** (0.62)
<i>Same-Party President</i>	1.34*** (0.28)	1.41*** (0.30)	2.29*** (0.56)
<i>ConnectionLost</i> + <i>ConnectionLost</i> × <i>Same-Party President</i>	-0.70*** (0.27)	-0.71*** (0.28)	-0.66*** (0.23)
<u>Mean Probability of Promotion</u>			
<i>(ConnectionLost = 0)</i>			
<i>Same-Party President = 0</i>	0.15	0.16	0.35
<i>Same-Party President = 1</i>	1.10	1.18	1.83
Years in Sample	All Years	Any Vacancy	Vacancy in CoA
Observations	22,303	18,961	8,624
Judge FEs	Y	Y	Y
State × Year FEs	Y	Y	Y
Tenure FEs	Y	Y	Y

*Notes:* In all models, the dependent variable is an indicator for district judge  $i$  being promoted at year  $t$ . Coefficients, standard errors and baseline means are multiplied by 100 to enhance readability. A judge is defined as “connected” to a senator if and only if the senator spoke to their favor during the confirmation hearing for their nomination. This sample includes only district court judges who had one connection at the time of appointment. Standard errors clustered by recommending senator(s) in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

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Table A8: Loss of Connection and Probability of Promotion,  
Clustering SEs at Judge Level, Judges with One Recommender

	(1)	(2)	(3)
<i>ConnectionLost</i>	0.25 (0.29)	0.27 (0.31)	0.57 (0.60)
<i>ConnectionLost</i> × <i>Same-Party President</i>	-1.04*** (0.39)	-1.07*** (0.41)	-2.06*** (0.75)
<i>Same-Party President</i>	1.48*** (0.37)	1.56*** (0.39)	2.60*** (0.72)
<i>ConnectionLost</i> + <i>ConnectionLost</i> × <i>Same-Party President</i>	-0.79** (0.35)	-0.80** (0.37)	-1.49** (0.65)
<u>Mean Probability of Promotion</u>			
<i>(ConnectionLost = 0)</i>			
<i>Same-Party President = 0</i>	0.15	0.17	0.37
<i>Same-Party President = 1</i>	1.19	1.24	1.94
Years in Sample	All Years	Any Vacancy	Vacancy in CoA
Observations	20,395	18,943	8,720
Judge FEs	Y	Y	Y
State × Year FEs	Y	Y	Y
Tenure FEs	Y	Y	Y

*Notes:* In all models, the dependent variable is an indicator for district judge  $i$  being promoted at year  $t$ . Coefficients, standard errors and baseline means are multiplied by 100 to enhance readability. This sample includes only district court judges who had one connection at the time of appointment. Standard errors clustered by judge in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table A9: Loss of Connection and Probability of Promotion,  
Placebo on Judges without Recommending Senators

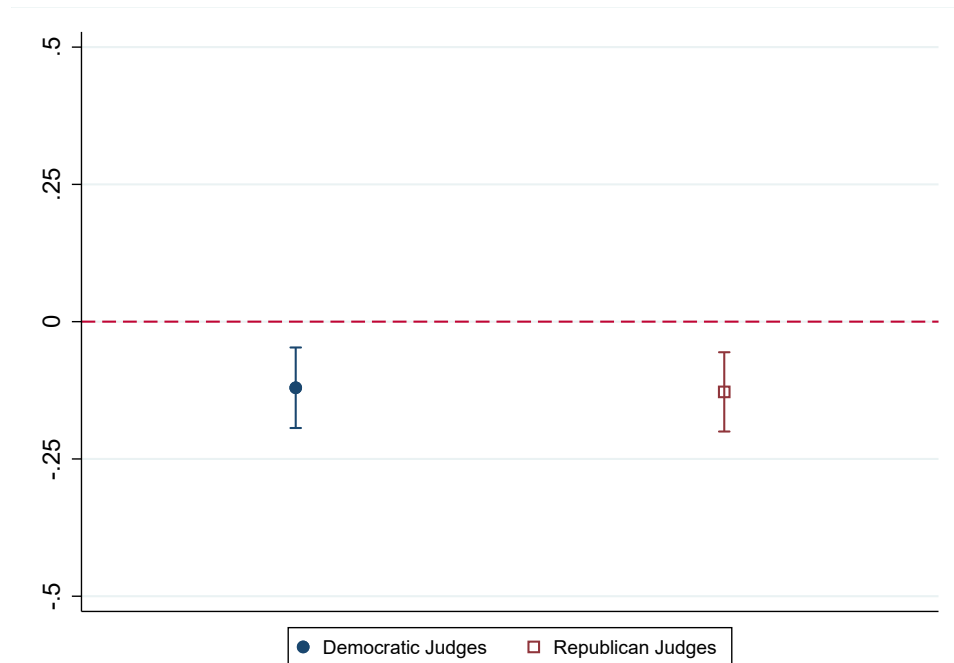
	(1)	(2)	(3)
<i>1stSenatorOut</i>	-0.12 (0.53)	-0.15 (0.58)	0.75 (1.36)
<i>1stSenatorOut</i> × <i>Same-Party President</i>	-0.36 (0.52)	-0.33 (0.59)	-1.65 (1.06)
<i>2ndSenatorOut</i>	0.11 (0.37)	0.17 (0.41)	0.33 (0.97)
<i>2ndSenatorOut</i> × <i>Same-Party President</i>	-0.18 (0.67)	-0.20 (0.76)	0.33 (1.25)
<i>Same-Party President</i>	1.16** (0.56)	1.23** (0.60)	3.21*** (1.17)
<i>1stSenatorOut</i> + <i>1stSenatorOut</i> × <i>Same-Party President</i>	-0.48 (0.78)	-0.48 (0.65)	-0.90 (1.36)
<i>2ndSenatorOut</i> + <i>2ndSenatorOut</i> × <i>Same-Party President</i>	-0.06 (0.61)	-0.03 (0.84)	0.66 (1.58)
<u>Mean Probability of Promotion</u> ( <i>SenatorOut</i> = 0)			
<i>Same-Party President</i> = 0	0.07	0.10	0.25
<i>Same-Party President</i> = 1	0.72	0.81	1.31
Years in Sample	All Years	Any Vacancy	Vacancy in CoA
Observations	8,914	8,208	3,434
Judge FEs	Y	Y	Y
State × Year FEs	Y	Y	Y
Tenure FEs	Y	Y	Y

Notes: In all models, the dependent variable is an indicator for district judge  $i$  being promoted at year  $t$ . Coefficients, standard errors and baseline means are multiplied by 100 to enhance readability. This sample includes only district court judges who had no connections at the time of appointment. Standard errors clustered by recommending senator(s)-year in parentheses.

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

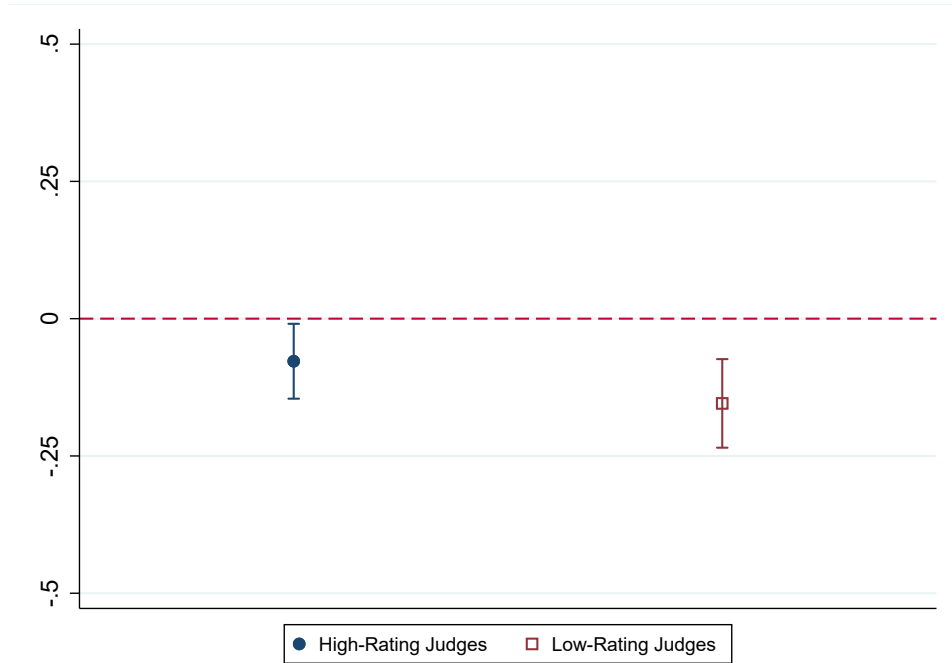
## ADDITIONAL FIGURES

Figure A1: Effect of Losing Connection on Number of Opinions,  
Heterogeneity by Judge's Partisan Affiliation – Unique Exit



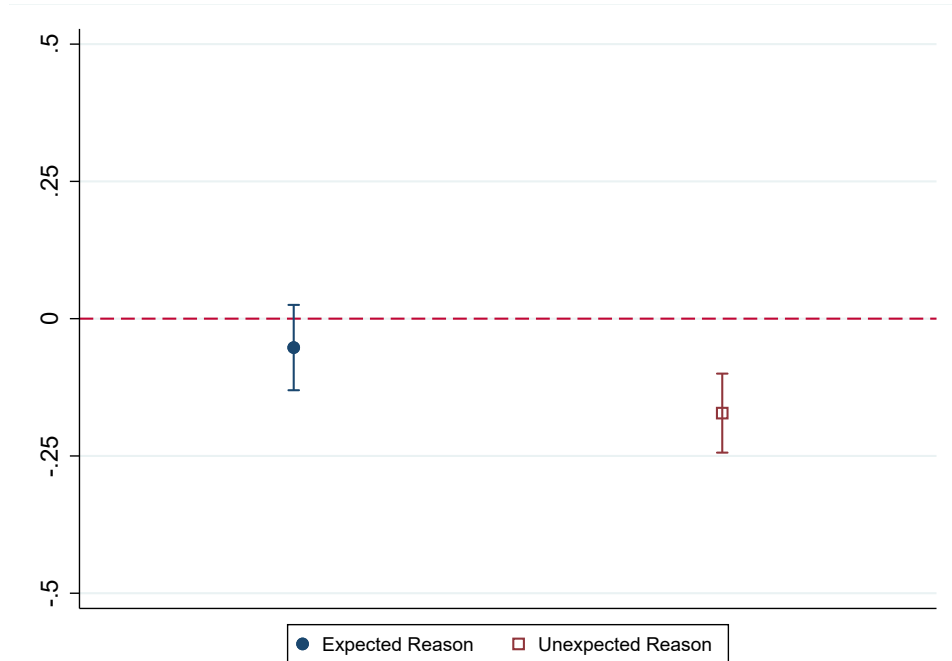
*Notes:* The dependent variable is the number of opinions written by judge  $i$  in year  $t$ . All coefficients are estimated using Poisson regressions. Vertical lines are 95% confidence intervals based on robust standard errors clustered at the recommending senator-year level. Regressions include the following sets of FEs: judge, state by year, and judge's experience. This sample includes only district court judges who had one connection at the time of appointment.

Figure A2: Effect of Losing Connection on Number of Opinions,  
Heterogeneity by Judge's ABA Rating – Unique Exit



*Notes:* The dependent variables is the number of opinions written by judge  $i$  in year  $t$ . All coefficients are estimated using Poisson regressions. Vertical lines are 95% confidence intervals based on robust standard errors clustered at the recommending senator-year level. Regressions include the following sets of FEs: judge, state by year, and judge's experience. This sample includes only district court judges who had one connection at the time of appointment.

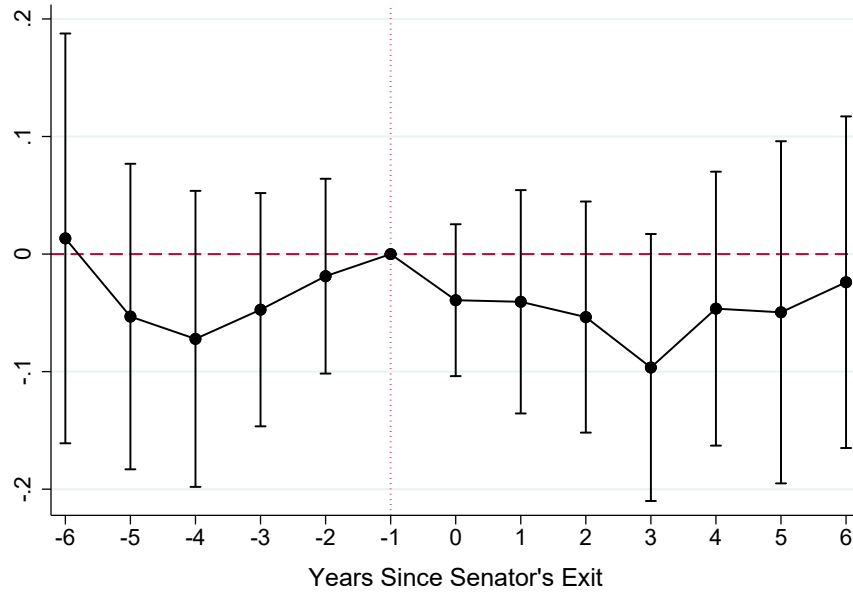
Figure A3: Effect of Losing Connection on Number of Opinions,  
Heterogeneity by Senator's Reason of Exit – Unique Exit



*Notes:* The dependent variables is the number of opinions written by judge  $i$  in year  $t$ . All coefficients are estimated using Poisson regressions. Vertical lines are 95% confidence intervals based on robust standard errors clustered at the recommending senator-year level. Regressions include the following sets of FEs: judge, state by year, and judge's experience. This sample includes only district court judges who had one connection at the time of appointment.

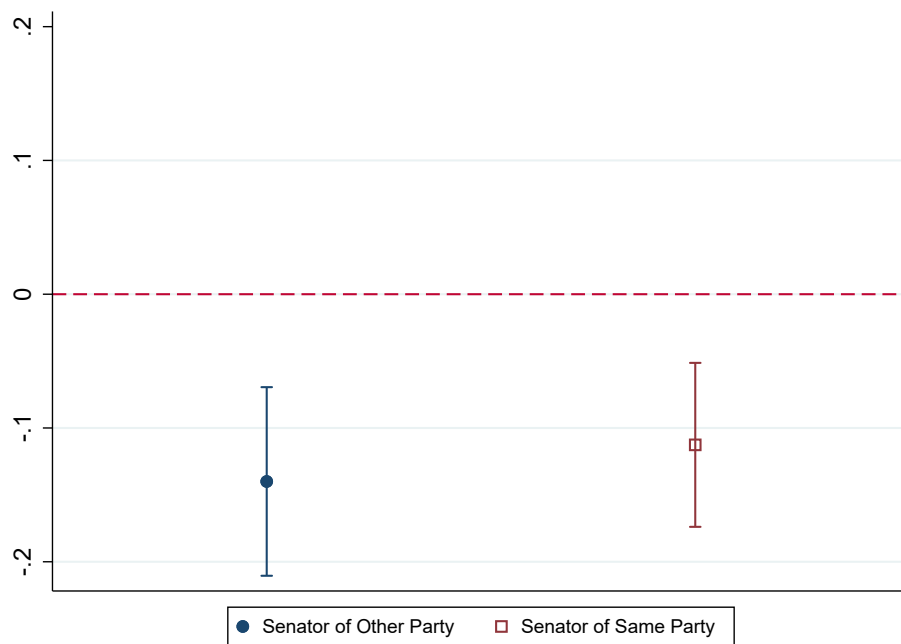


Figure A4: Effect of Losing Connection on Number of Opinions,  
Dynamic Estimates with  $DID_M$  Estimator – Unique Exit



*Notes:* The dependent variables is the number of opinions written by judge  $i$  in year  $t$ . All coefficients are estimated using Poisson regressions. Point estimates for the effect of having lost the connection to the recommending senator when the president is of the same party as the judge, retrieved via the  $DID_M$  estimator of [De Chaisemartin and d'Haultfoeuille \(2020\)](#). Vertical lines are 95% confidence intervals based on robust standard errors clustered at the recommending senator-year level. Regressions include the following sets of FEs: judge, year, and judge's experience. This sample includes only district court judges who had one connection at the time of appointment.

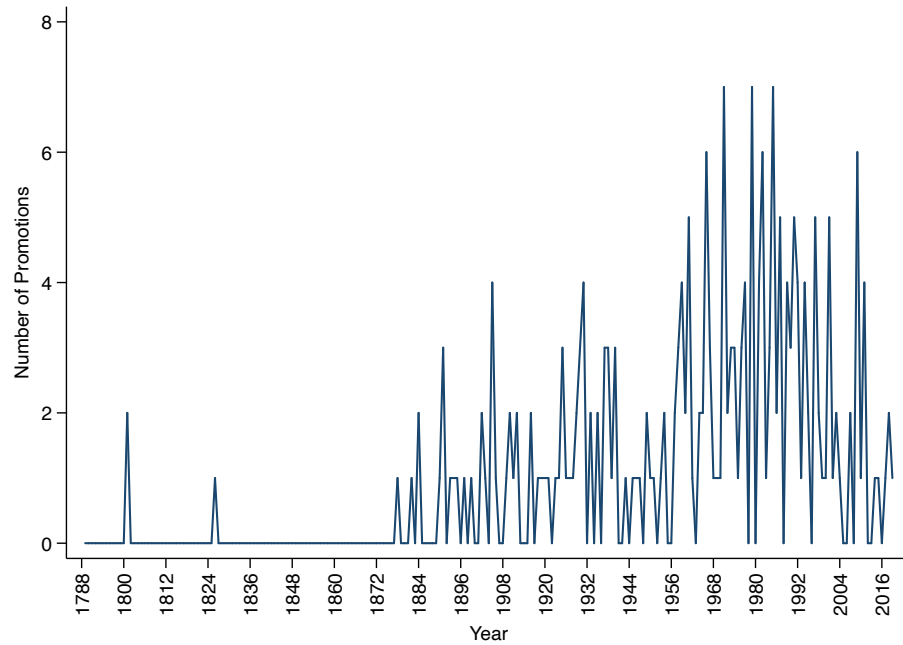
Figure A5: Effect of Losing Connection on Number of Opinions,  
Heterogeneity by Party of Replacing Senator – Unique Exit



*Notes:* The dependent variables is the number of opinions written by judge  $i$  in year  $t$ . All coefficients are estimated using Poisson regressions. Vertical lines are 95% confidence intervals based on robust standard errors clustered at the recommending senator-year level. Regressions include the following sets of FEs: judge, state by year, and judge's experience. This sample includes only district court judges who had one connection at the time of appointment.

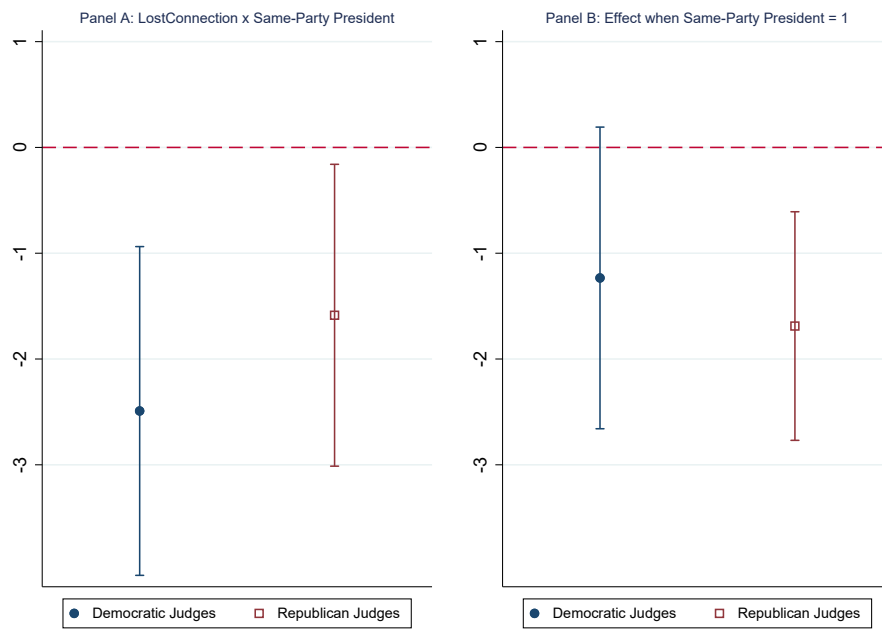
## POLITICAL CONNECTIONS, CAREERS, AND PERFORMANCE IN THE CIVIL SERVICE

Figure A6: Promotions of District Court Judges in the Period 1789-2019



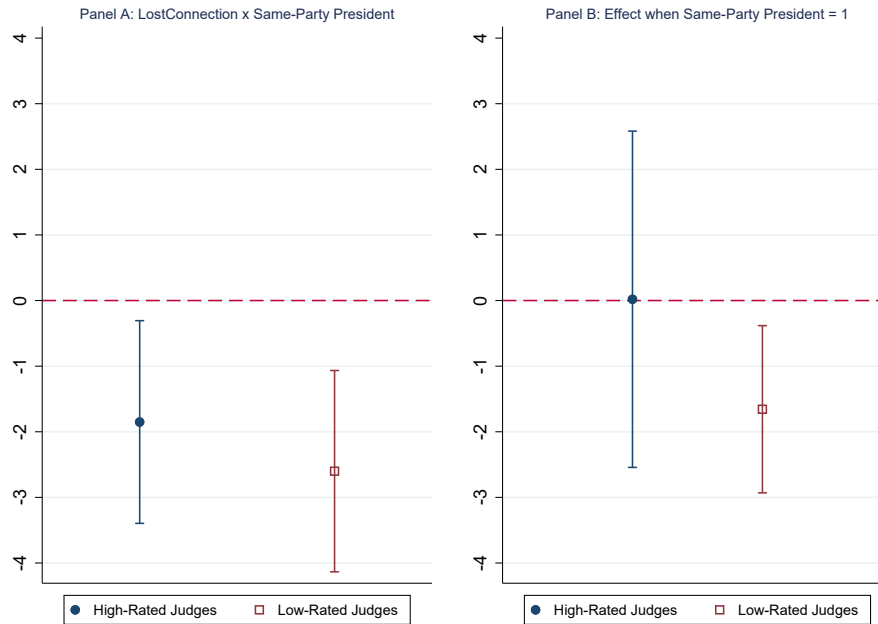
*Notes:* The figure reports the number of federal district court judges, who are part of our sample as described in Section 3.3 and got promoted to an appellate court, in every year from 1789 to 2019.

Figure A7: Effect of Losing Connection on Promotions, Heterogeneity by Judge's Partisan Affiliation - Unique Exit



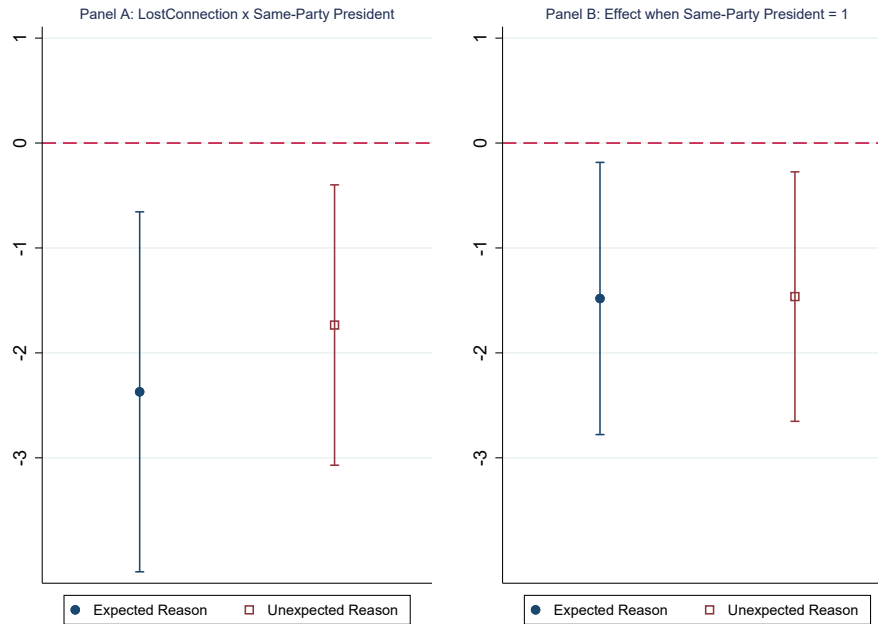
*Notes:* The dependent variable is an indicator for district judge  $i$  being promoted at year  $t$  (multiplied by 100). Vertical lines are 95% confidence intervals based on robust standard errors clustered at the recommending senator-year level. Regressions include the following sets of FEs: judge, state by year, and judge's experience. This sample includes only district court judges who had one connection at the time of appointment.

Figure A8: Effect of Losing Connection on Promotions,  
Heterogeneity by Judge's ABA Rating - Unique Exit



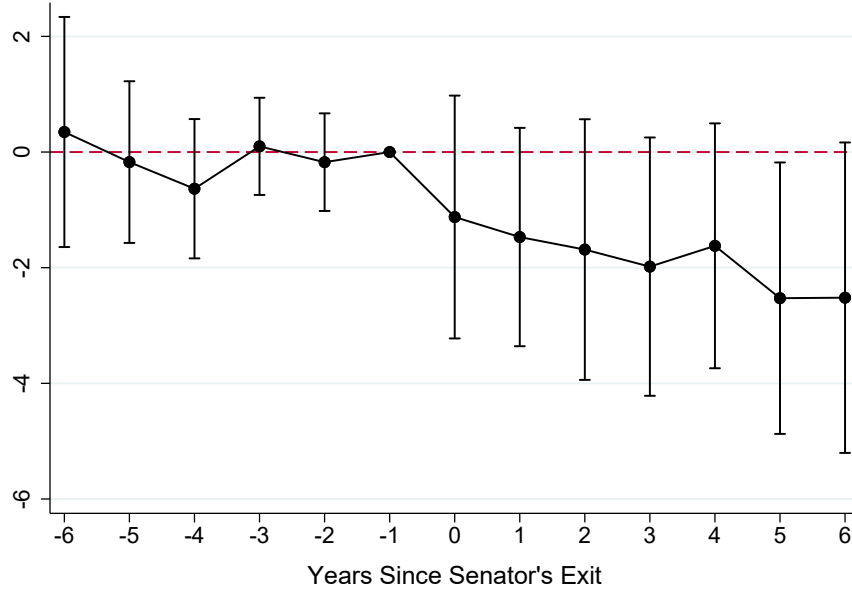
*Notes:* The dependent variable is an indicator for district judge  $i$  being promoted at year  $t$  (multiplied by 100). Vertical lines are 95% confidence intervals based on robust standard errors clustered at the recommending senator-year level. Regressions include the following sets of FEs: judge, state by year, and judge's experience. This sample includes only district court judges who had one connection at the time of appointment.

Figure A9: Effect of Losing Connection on Promotions, Heterogeneity by Senator's Reason of Exit - Unique Exit



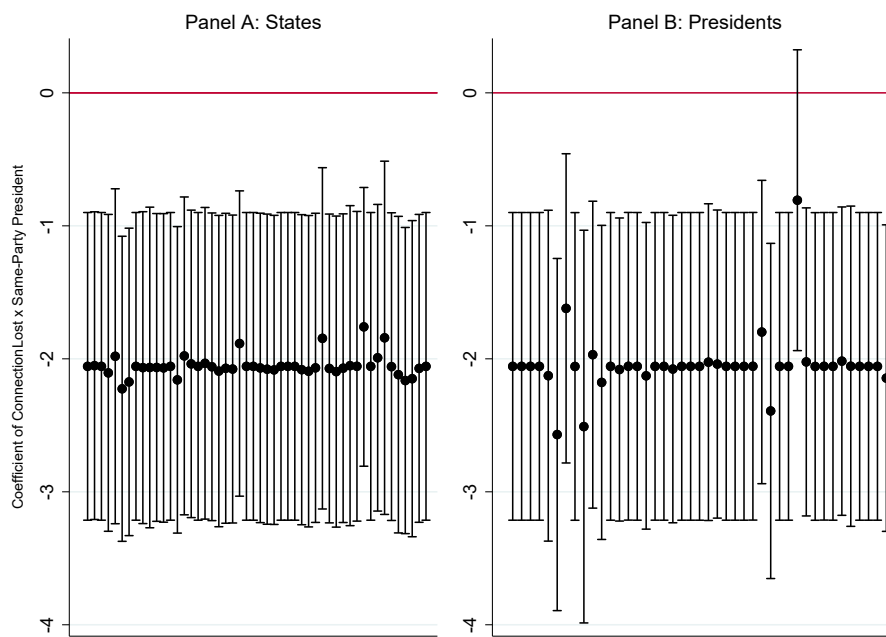
*Notes:* The dependent variable is an indicator for district judge  $i$  being promoted at year  $t$  (multiplied by 100). Vertical lines are 95% confidence intervals based on robust standard errors clustered at the recommending senator-year level. Regressions include the following sets of FEs: judge, state by year, and judge's experience. This sample includes only district court judges who had one connection at the time of appointment.

Figure A10: Effect of Losing Connection on Promotions,  
Dynamic Estimates with  $DID_M$  Estimator - Unique Exit



*Notes:* The dependent variable is an indicator for district judge  $i$  being promoted at year  $t$  (multiplied by 100). Point estimates for the effect of having lost the connection to the recommending senator when the president is of the same party as the judge, retrieved via the  $DID_M$  estimator of [De Chaisemartin and d'Haultfoeuille \(2020\)](#). Vertical lines are 95% confidence intervals based on robust standard errors clustered at the recommending senator-year level. Regressions include the following sets of FEs: judge, year, and judge's experience. This sample includes only district court judges who had one connection at the time of appointment.

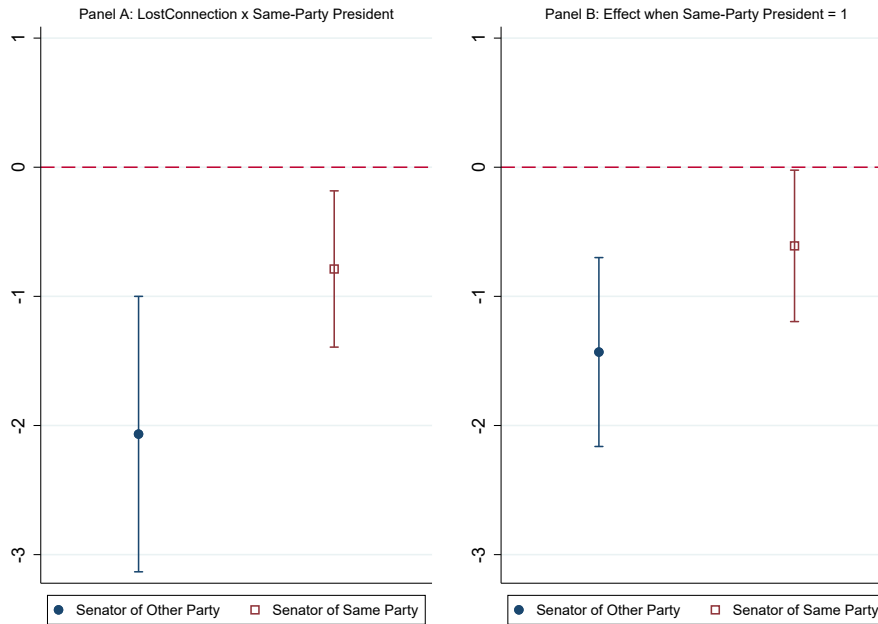
Figure A11: Effect of Losing Connection on Promotions,  
Excluding States and Presidents – Unique Exit



*Notes:* The dependent variable is an indicator for district judge  $i$  being promoted at year  $t$  (multiplied by 100). Point estimates are the marginal effect of losing the connection with the recommending senator when the president is of the same party as the judge. Vertical lines are 95% confidence intervals based on robust standard errors clustered at the recommending senator-year level.



Figure A12: Effect of Losing Connection on Promotions,  
Heterogeneity by Party of Replacing Senator – Unique Exit



*Notes:* The dependent variable is an indicator for district judge  $i$  being promoted at year  $t$  (multiplied by 100). Vertical lines are 95% confidence intervals based on robust standard errors clustered at the recommending senator-year level. Regressions include the following sets of FEs: judge, state by year, and judge's experience. This sample includes only district court judges who had one connection at the time of appointment.