Appendix: Supporting Information for "Presidential Selection of Supreme Court Nominees: The Characteristics Approach"

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A Appendix A: Empirical notes

In this appendix we discuss the data and coding choices used in our analyses, we also present supplementary figures.

A.1 Data description

Delineating unique nominations We include every vacancy and subsequent nomination from 1930 to 2018. This includes the failed nominations of John Parker (1930), Abe Fortas (1968, to become Chief Justice), Homer Thornberry (1968, to replace Fortas as an associate justice), Clement Haynsworth (1969), Harold Carswell (1970), Robert Bork (1987), Douglas Ginsburg (1987), Harriet Miers (2005), and Merrick Garland (2016). We treat the nominations of John Roberts to become an associate justice (to replace Justice O'Connor) and his subsequent nomination to be Chief Justice (upon the death of Chief Justice Rehnquist) as separate nominations (since President Bush had the option of selecting a different replacement for Rehnquist).

Short list candidates The original short list of candidates was collected by Christine Nemacheck (2008). Nemacheck collected information on candidates from 1930 to 2005. However, she excluded nominees that resulted from "one-person lists"; that is, instances where the president knew exactly whom he wanted to nominate, and hence no short list existed. These nominees were: James Byrnes, Robert Jackson, Sherman Minton, John Harlan, Arthur Goldberger, and Thurgood Marshall. Because we are interested in comparing presidential selection over time, we include these nominees as well (thus, the short list in the cases comprises one observation). In addition, Nemacheck pooled the nominations of Douglas Ginsburg and Anthony Kennedy together to create a single short list. To reflect the fact that President Reagan did choose to nominate Ginsburg (upon Bork's rejection), we treat his nomination both as unique and as comprising a one-person short list.

We updated this dataset to include short list candidates for the five total nominations of Presidents Obama and Trump (through 2018). We did so by reading media accounts of the respective processes of each selection—the lists in each case were well documented. Trump is unique in that in 2016, following the death of Justice Scalia but before the election, he put forward multiple "short lists" of candidates that he pledged to draw from if given the chance to nominate Scalia's successor. We include all 21 individuals on these campaign lists as members of the short list that Trump used in 2017 before selecting Neil Gorsuch.[1] For Trump's 2018 selection to replace Anthony Kennedy, we include the six finalists who Trump personally interviewed (Amy Cohen Barrett, Thomas Hardiman, Brett Kavanaugh, Raymond Ketheledge, Joan Larsen, and Amul Thapar).

Nemacheck collected data on the ideology, race and gender of each candidate (among other variables that we do not use in this paper). We updated these variables for the recent candidates. Among other sources, we used the Biographical Directory of Federal Judges and the Biographical Directory of the United States Congress to gather information.

Measuring candidate ideology We follow Nemacheck's lead and use an inferential measure of candidate ideology. Nemacheck collected the home state and partisan identification of every candidate through 2005; we extended this data to 2018. For each candidate, the measure takes the mean value of the co-partisan members of a candidate's home state Congressional delegation (including both senators and house members). Importantly, this means that if a president considers a candidate from the opposite party, the candidate will have a more distant ideology measure compared to a candidate of the same party. One issue arises for candidates from the D.C. Circuit Court of Appeals; we follow Nemacheck and use these candidates most recent home states before their service on the D.C. Circuit.

[1]See Wolf (2016) for the complete short list.

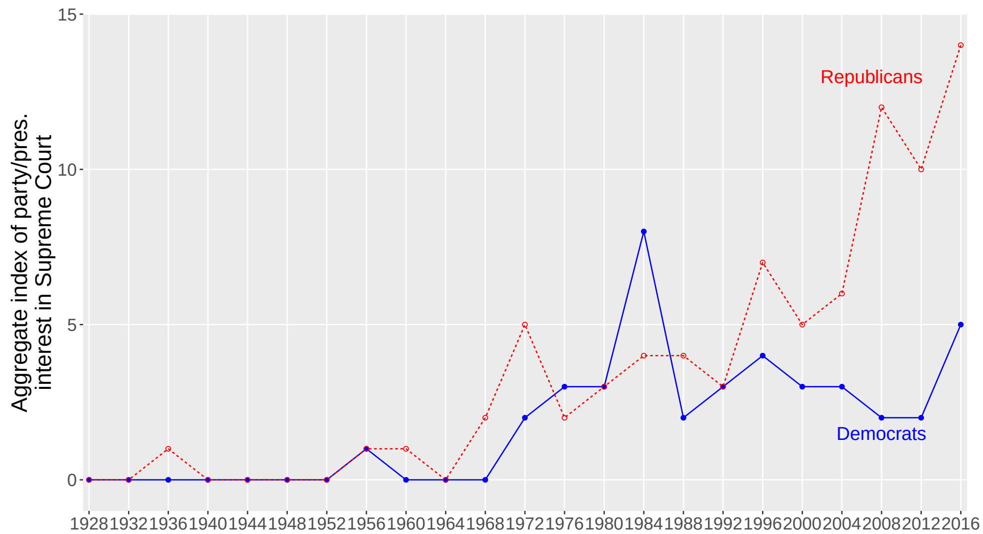

Figure A-1: Aggregate index of presidential/party interest, 1928-2016

Measuring default ideology As explained in Section 3.2 in the article, to measure the default level of ideology, for each active judge who served on the Courts of Appeals from 1930 to 2018, we calculated the DW-NOMINATE equivalent of the Giles-Hettinger-Pepper scores, which are based on the ideology of a judge's appointing president and/or home-state senators (Giles, Hettinger and Peppers 2001). The GHP scores are usually measured based on the Common-Space NOMINATE scores; we map the scores into DW-NOMINATE to make them comparable with our other DW-based measures. Specifically, for every senator with both a DW- and Common-Space score, we regressed their DW score on their CS score; we use the resulting constant and coefficient on the CS scores to project each judge's GHP score into DW space. We then take the mean value among all active judges in a given year to create our estimate of x_i^0.

Platform data, acceptance speeches, and presidential statements Note that the platform data and acceptance speeches are readily available from the American Presidency Project at the University of California at Santa Barbara (Peters and Woolley 2011). Figure A-1 shows the indices of party interest in the Supreme Court, as measured by party platforms and presidential speeches from 1928 to 2016. (See Section 3.1 in the text.)

To measure presidential-specific interest in the Court, we assume the president allocates more rhetoric to issues that he considers important. In particular, we assume the President displays greater interest in Supreme Court policy-making when he voluntarily allocates more of his total rhetorical agenda to Supreme Court policy, in contrast to other topics. The "voluntary" element is important, since often the president's rhetoric is reactive, for example, in response to questions put to him in press conferences. We collected new data measuring the share of the president's rhetoric in which he voluntarily speaks on Supreme Court policy.

To construct this measure, we again turn to the American Presidency Project, which has collected 129,483 documents related to the study of the presidency in a searchable online database. We narrowed the available data to the public papers of all U.S. Presidents dated between January 1929 and December 2018, that include the phrase "supreme court" anywhere in their text. We excluded any statement that the president did not make in his capacity as president. For example, if the statement was issued through the Office of the Press Secretary or as a campaign document, we did not include it. We also excluded statements in which president "goes public" on a specific nominee in order to drum up legislative support. Cameron and Park (2011) show that presidents go public over nominees in a reactive way, responding to interest group mobilization against nominees—if the nomination isn't in trouble, presidents do not initiate public campaigns on their behalf. Hence, such statements are not a good measure of the president's interest in Supreme Court policy.

The resulting data consists of 1,844 statements. Of these, most are voluntary (1523 or 82.6%), in that the president had full control over the entire content of the statement because of the medium of presentation. More specifically, we consider speeches and written statements as voluntary; we exclude press conferences, interviews, and exchanges with reporters because they are less likely to be entirely voluntary in content. Of the voluntary statements, more than half (930 or 72%) consist of presidential commentary on a Supreme Court case or set of cases and as such they directly address Supreme Court policy. These 930 voluntary, policy-oriented statements are the basis of the presidential interest score.

Normalizing the volume of rhetoric across presidents is important, because some presidents simply speak more frequently and at greater length across the board. To normalize

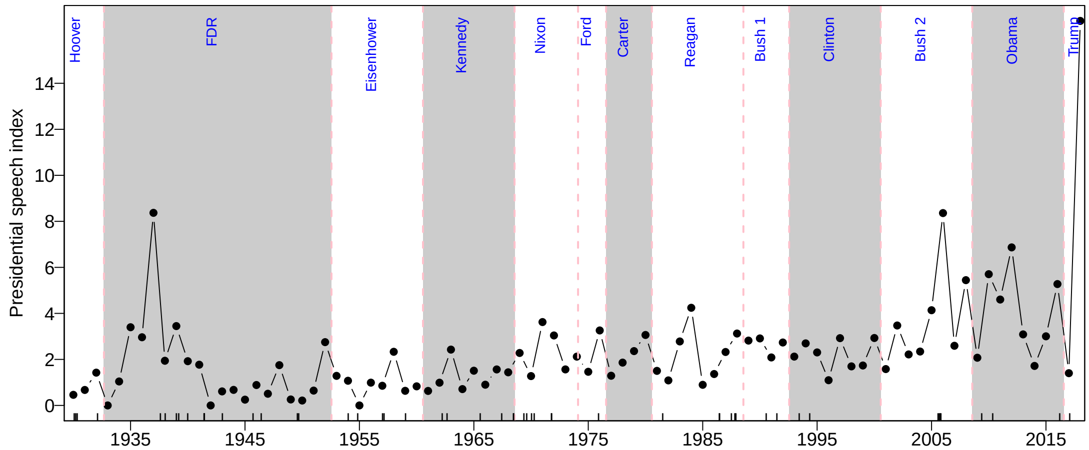

Figure A-2: Presidential Interest in Supreme Court Policy, 1930-2018. The measure is the percentage of the president's rhetoric in each year that is both voluntary and directed at Supreme Court policy. Administrations are indicated with shading while the "rug" on the bottom indicates a year in which a Supreme Court nomination took place.

for this variation in presidents' total issuance of rhetoric, we divide the number of voluntary policy statements about the Supreme Court by the number of total statements about any topic. Thus, the measure is the annual share of voluntary statements about the Supreme Court, as a fraction of total statements. We believe this is a reasonable proxy for presidential interest in Supreme Court policy-making.

Figure A-2 displays the rhetoric-based measure of the president's interest in Supreme Court policy over time. (Shaded regions indicate Democratic presidents.) Variation within presidential administrations is often substantial. Most dramatically Franklin Roosevelt's policy interest scores range from the highest in the observed time frame in 1937 during his confrontation with the Supreme Court over New Deal legislation, down to a score of zero from 1942-1944 (the war years). On the other hand, some presidents persist at relatively high levels of interest (George H.W. Bush) or relatively low ones (Lyndon B. Johnson) throughout their administrations. We observe a slight upward trend in voluntary rhetoric about Supreme Court policy-making from the late 1960s to the present day, as well as the persistence of rhetoric even in years when no nomination occurred. (The index spikes in 2018—this is because President Trump extensively invoked the confirmation of Brent Kavanaugh in 2018 in the run-up the midterm elections that year. This speech, the extent of which is unprecedented in the context of campaigning, does not count as "going public" since it occurred *after* Kavanaugh was confirmed.)

Combined measure of presidential interest To construct the combined measure of presidential interest, we extrapolated the platform data to cover the four year-interval (inclusive) after the respective year (e.g. the 1932 Democratic platform is duplicated for 1933-1935). This data exists for both parties. However, we only have rhetoric data from the incumbent president. We thus conducted separate analyses for Democrats and Republicans, which are based on the years in which each party is in office–that is, the Democratic principal component analysis is based only on years in which there was a Democratic president, and vice versa. We then merged the variables into a single measure, based on the party of the president at the time.

Using Courts of Appeals data to evaluate reliability of pool of nominees This subsection summarizes how we coded Courts of Appeals judges to measure the baseline level of reliability for presidents of each party over time. We used the Federal Judicial Center's biographical database (2018), which contains detailed information on every Article III Judge ever appointed. For every year from 1930 to 2018, we collected information on every active judge on the Courts of Appeals. We include a judge as being active in a given year if they serve at least six months. We include only "regular" judges and exclude senior judges (given their age, senior judges would not be viable candidates for a Supreme Court appointment except in very unusual cases).

For each judge, we collected the following information:

- **Party** It is straightforward to code the party of each judge, based on the party of the appointing president.
- **Race and gender**
- **Law school** We used the "School" variable to identify the judges law school. We then coded whether a judge went to a "top" law school, using the standard "top-14" definition.[2]

[2]Yale, Stanford, Harvard, University of Chicago, Columbia, New York University, University of Pennsyl-

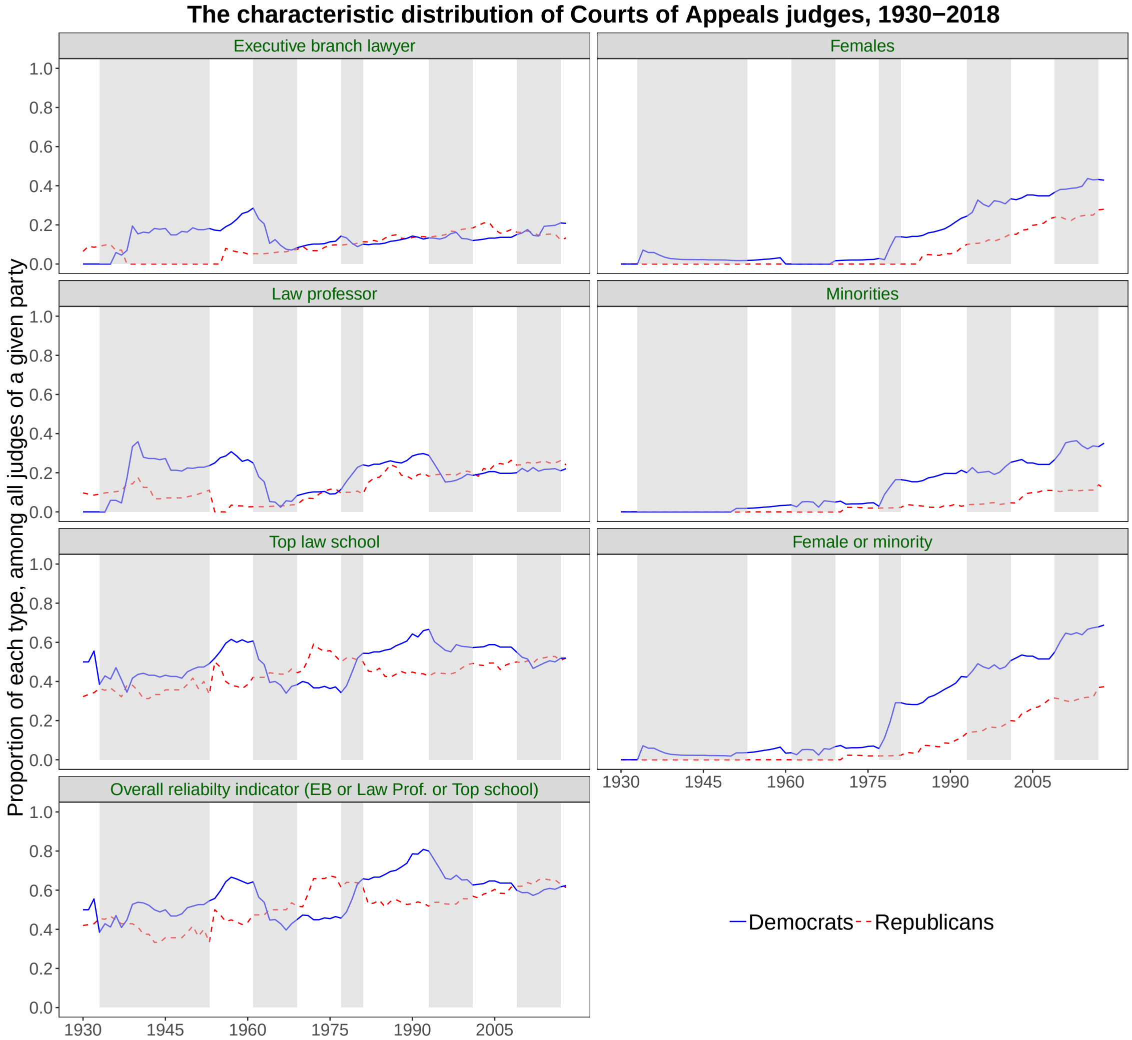

Figure A-3: The distribution of lower court characteristics over time.

- **Law professor experience** We use the "career" variable, we coded whether a judge taught in a law school. We search whether 'law" & "professor" both appear in the career coding.

- **Executive branch experience** First, we coded whether judges worked in the Department of Justice. We also include judges who were worked in the office of the president (this is a very small number). This coding protocol probably undercounts some judges who served in policy making roles in other Cabinet departments. However, we have no reason to believe this undercounting should be correlated with one party or the other.

Figure A-3 depicts the distributions of these variables over time. The left column depicts the professional background data, while the right column depicts information on race and gender. The respective blue (solid) and red (dotted) lines show the percentage of all active

vania, University of Michigan-Ann Arbor, UC-Berkeley, University of Virginia, Duke, Northwest, Cornell, Georgetown, and University of Texas-Austin.

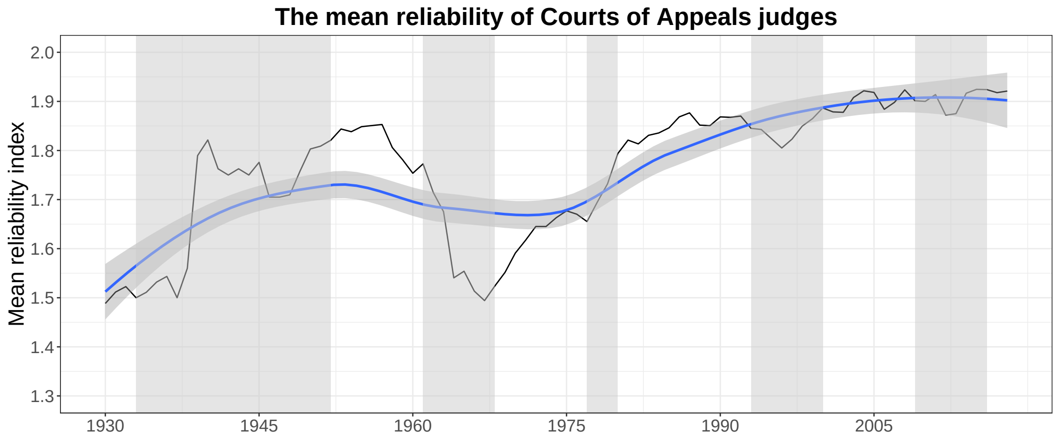

Figure A-4: The reliability of Courts of Appeals judges over time.

judges on the Court of Appeals that falls into a given category, from 1900 to 2018–broken down by party. For example, of the 53 active Republicans judge on the bench in 1982, 11% (6) had executive branch experience. The panel shows an increasing rate of reliable judges for both parties. Judging by overall reliability, Democratic judges have tended to be more reliable, though Republicans have caught up in recent years. In terms of race and gender, since the middle of the 20th century, there has always been a higher proportion of Democratic judges that are either non-male or non-white (or both). The rate among Republicans has risen steadily since 1980 or so, but the gap between the parties has been fairly constant.

Reliability index We created a reliability index in the following manner. First, we sum the indicator variables of "Law School", "Law professor experience," and, "Executive branch experience." We then add "1" to this index to account for the fact that we are working with federal judges to define the pool. The index runs from a minimum of 1 to a maximum of 4. This construction allows us to put the index on the same scale as the index used in the main text to measure the reliability of every candidate/nominee on the short list. For every year, we calculate the mean index for all judges. The index is shown in Figure A-4.

The importance of the lower court pipeline for ideology In Section 4.4, we presented a simulation based on the changing levels of diversity in the lower courts. Here we do the same for ideology. The theory identifies three distinct effects from "seeding" the circuit courts with ideologically favorable judges; two lead to more ideologically proximate picks, the third leads to less proximate ones. The first effect, the direct effect, comes from simply moving the ideology of the default nominee (x_i^0). The second effect, the cost effect, reflects the decrease in search costs that results from the president being able to increase the number of co-partisan judges on the Courts of Appeals over the course of his tenure. The third effect, the offset effect, constitutes a decrease in additional ideology chosen by the president because the default nominee moves closer to the president (that is, changes in x_i^0 stimulate somewhat offsetting changes in x_i). How big are these effects substantively?

To explore this question we consider the decade between 1981 and 1991. In this period two Republican presidents (Reagan and George H.W. Bush) appointed many conservatives to the U.S. Courts of Appeals. Over this span, the number of Republican judges increased from 44 to 96, and the ideology of the average circuit court judge increased from -.11 to .23. To evaluate the effect of these changes, we first calculate the additional level of ideology chosen by Reagan in 1981 (again using Model (2) in Table 2 in the article, based on his actual benefit-cost ratio in 1981. To do, we set the president's interest, the mean of the Court, and the president's ideal point at their average values in the 1981-1992 period. We estimate that Reagan in 1981 would have chosen .31 [.21, .40] additional units of ideology, for a total ideology of .17 [.08, .26]; recall the default level of ideology was .11. We then simulate Bush's choice of additional ideology in 1991, changing only the ratio (to reflect the decrease in costs due to the appointment of more lower court judges) and the default ideology. This simulation estimates that Bush chose a comparable amount of additional ideology (.27, [.20,.33]) as Reagan did in 1981; however, because of the increase in x_i^0, the estimate of $\hat{x}$ for Bush rises to .4 [.33, .47]. The .23 difference in predicted overall ideology is statistically significant [.11, .36] and substantively large. Thus, the model suggests that the combined offset effect and cost effect yielded little difference in additional ideology. However, changing the default level of ideology in "the farm team" during the 1980s translated into a substantial conservative shift in the short list.

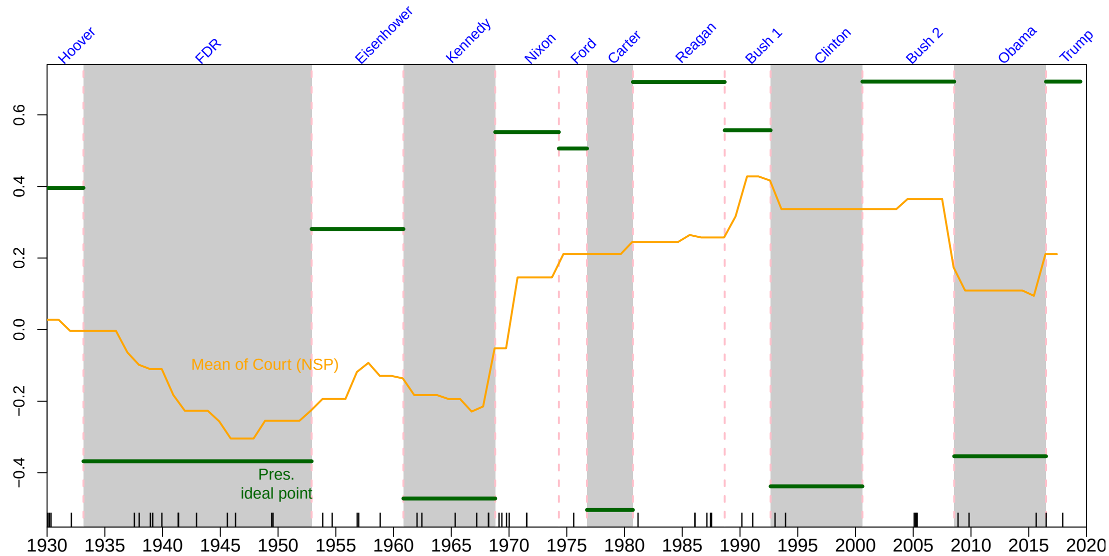

Figure A-5: The ideology of the president (the horizontal green lines) and the existing Court's respective ideology (the orange line) over time. The black line is a loess line.

A.2 Additional Figures

Presidential and Supreme Court Ideology Figure A-5 depicts the president (the horizontal green lines) and the existing Court's (the orange line) respective ideologies. The shows the distance between the Court and the president has varied significantly over time.

Comparing Nemacheck and NSP measures of ideology. As noted in footnote 14, we can check the validity of the Nemacheck measure of ideology by comparing it to the NSP scores developed in Cameron and Park (2009). Figure A-6 depicts a scatterplot comparing the two measures. As shown, the correlation is high (.84).

The distribution of Democratic and Republican judges on the Courts of Appeals Figure A-7 depicts the number of Democratic and Republican judges on the Courts of Appeals over time. This measure is used to indicate the search costs for ideology. As shown, there is a broad secular increases in the numbers, but the levels flow in tandem with which party controls the presidency.

The cost-benefit ratio of ideology over time Figure A-8 depicts the cost-benefit ratio for presidential demand for ideology over time, for both the measures based on the number of co-partisan judges on the Courts of Appeals and the size of the opposition in the Senate.

(For clarity, we exclude three years in which presidential interest was measured as zero (1933, 1942, and 1955)—in none of those years was there a nomination to the Court). Both graphs show a decreasing cost-to-benefit ratio over time.

The reliability index for Supreme Court nominees Figure A-9 depicts a dotplot of our Policy Reliability Index (PRI), solely for nominees. There are some exceptions but generally the measure displays face validity.

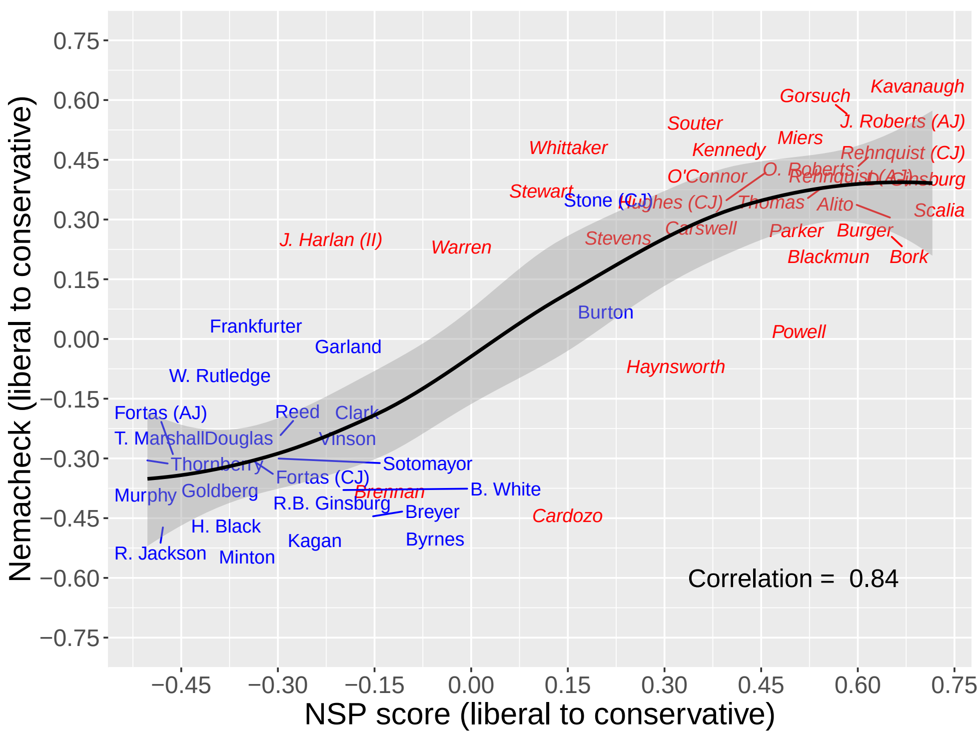

Figure A-6: Scatterplot of NSP measure versus Nemacheck measure of nominee ideology, 1930-2018, for Supreme Court nominees.

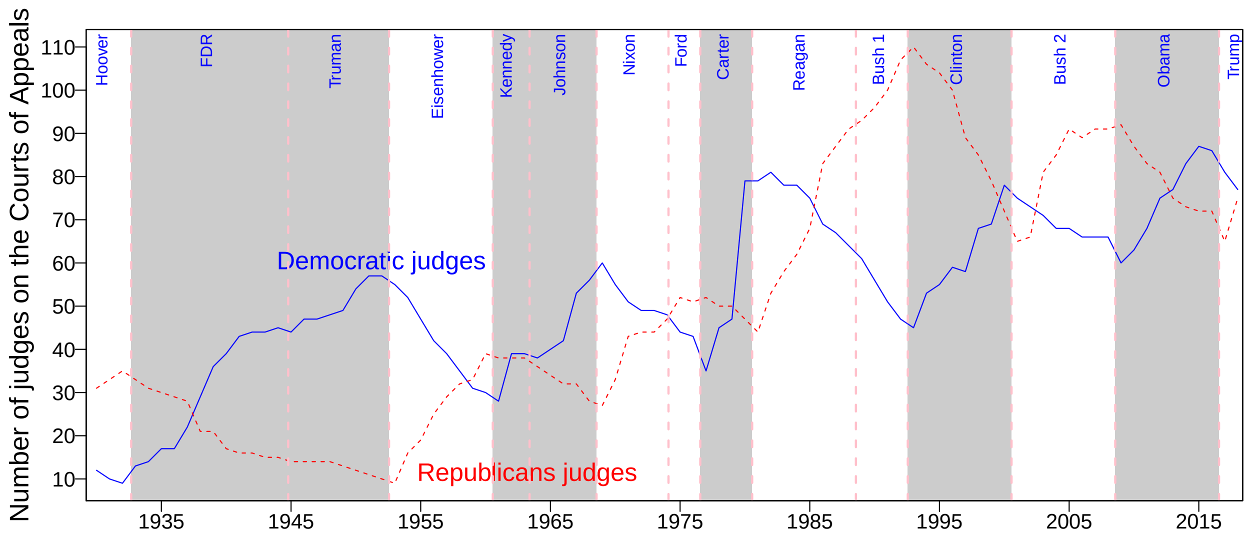

Figure A-7: The number of Democratic and Republican judges, over time.

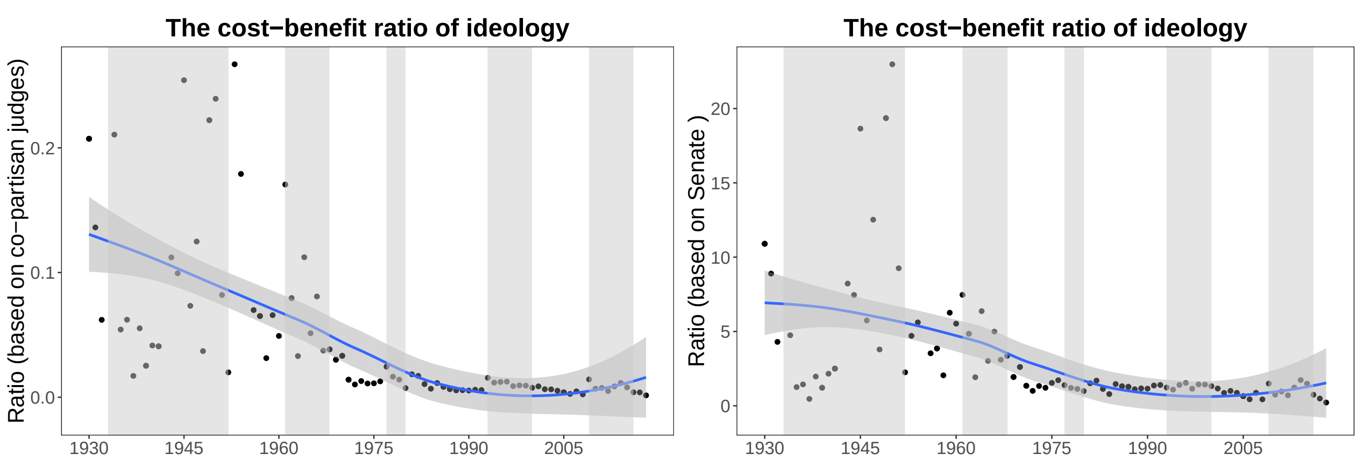

Figure A-8: The cost-benefit ratio for presidential demand of ideology.

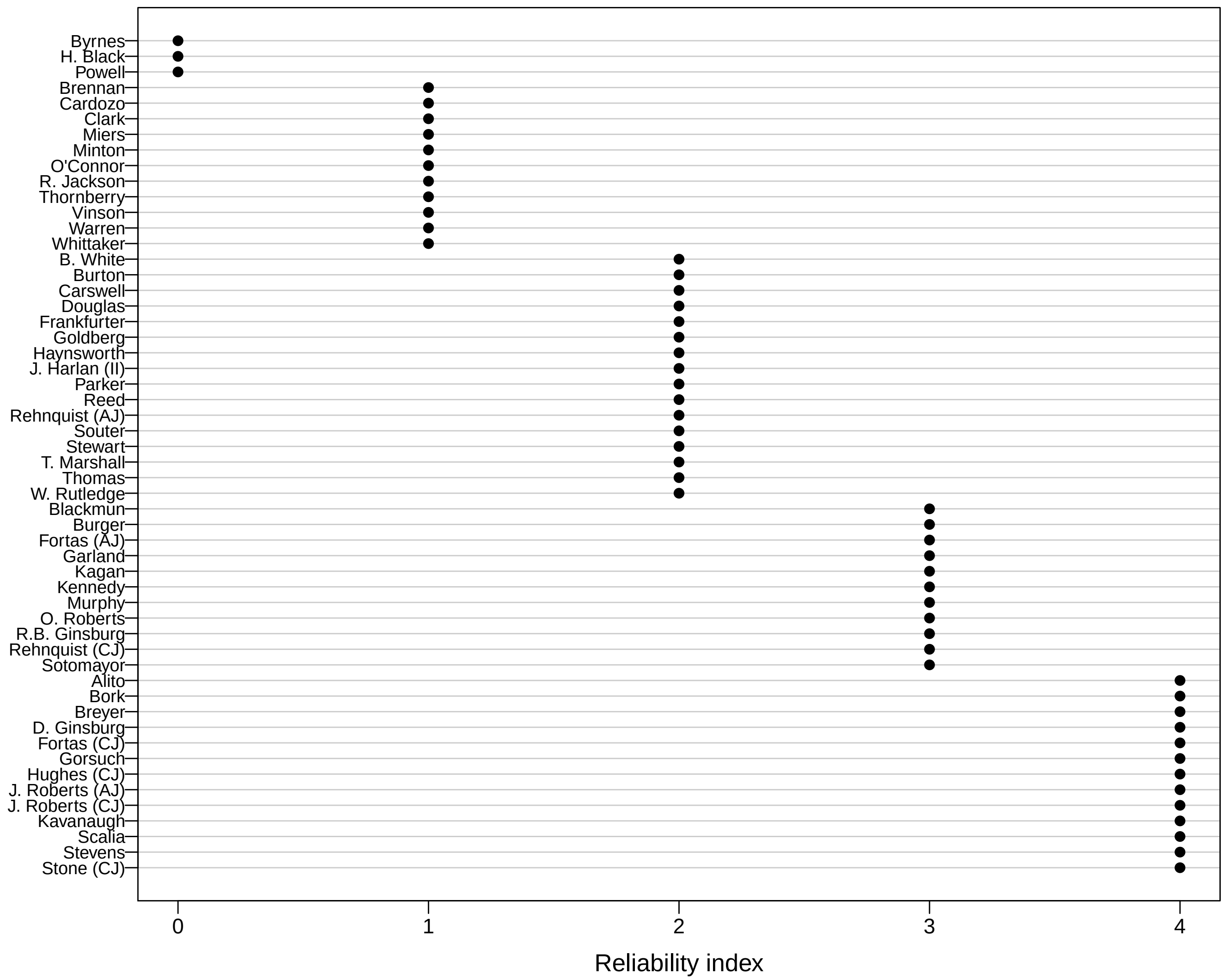

Figure A-9: Policy reliability index, for selected candidates, 1930-2018.

B Appendix B: Formal Theory Proofs and Additional Materials

Parameter	Description
$p_i \in \mathbb{R}$	President's most-preferred ideological output of the Supreme Court
$n_i = (\widehat{x}_{i,}, \widehat{q}_i, \widehat{y}_i)$	Total bundle of nominee characteristics
	Ideology
$\widehat{x}_{i,} \in \mathbb{R}$	Total level of ideology
x_i^0	Default level of ideology
x_i	Additional level of ideology president can choose at cost
$\widehat{x}_i = x_i^0 + x_i$	Defining total level of ideology
π_i^x	Benefits to president from ideology
w_i^x	Cost of finding additional ideology
$r^x(\cdot)$	President's overall returns from ideology
$\overline{x}_i$	Overall ideological composition of the extant Court
$x^J = f(\hat{x}_i, \overline{x}_i)$	Expected ideological tenor of the Court's output, conditional on $\overline{x}_i$ and $\widehat{x}_i$
	Policy reliability
$\widehat{q}_i \geq 0$	Total level of policy reliability
q_i^0	Default level of policy reliability
q_i	Additional level of policy reliability president can choose at cost
$\widehat{q}_i = q_i^0 + q_i$	Defining total level of policy reliability
π_i^q	Benefits to president from policy reliability
w_i^q	Cost of finding additional policy reliability
$r^q(\cdot)$	President's returns from policy reliability
	Diversity
$\widehat{y}_i \geq 0$	Total level of diversity traits
y_i^0	Default level of diversity
y_i	Additional level of diversity president can choose at cost
$\widehat{y}_i = y_i^0 + y_i$	Defining total level of diversity
π_i^y	Benefits to president from diversity
w_i^y	Cost of finding diversity
$r^y(\cdot)$	President's overall returns from diversity
$\overline{y}_i$	Overall diversity of the extant Court
$y^J = g(\hat{y}_i, \overline{y}_i)$	Perceived level of the Court's overall diversity given the nominee

Table B-1: Summary of notation.

Table B-1 summarizes the notation used in the theory.

B.1 Maximization of the General Utility Function

The general utility function, Equation 1, is

$$u(\cdot) = r^x(f(\widehat{x}_i, \overline{x}_i), p_i, \pi_i^x) + r^q(\widehat{q}_i, \pi_i^q) + r^y(g(\widehat{y}_i, \overline{y}_i), \pi_i^y) - w_i^x\,|x_i| - w_i^q q_i - w_i^y y_i$$

Maximization of this function implies three (necessary) first order conditions; in addition, there is a (sufficient) second order condition. Subscripts other than "i" denote derivatives.

The three first-order conditions are:

$$\begin{aligned} u_{x_i}(\cdot) &= r_f^x f_{\widehat{x}_i} - w_i^x = 0 \qquad \text{(B-1)} \\ u_{q_i}(\cdot) &= r_{\widehat{q}_i}^q - w_i^q = 0 \\ u_{y_i}(\cdot) &= r_g^y g_{\widehat{y}_i} - w_i^y = 0 \end{aligned}$$

The sufficient condition is that the matrix of cross-partial derivatives of the first order conditions is negative definite. The Hessian matrix of the cross-partials is

$$\begin{pmatrix} u_{x_i x_i} & u_{x_i q_i} & u_{x_i y_i} \\ u_{q_i x_i} & u_{q_i q_i} & u_{q_i y_i} \\ u_{y_i x_i} & u_{y_i q_i} & u_{y_i y_i} \end{pmatrix} = \begin{pmatrix} r_{ff}^x (f_{\widehat{x}_i})^2 + r_f^x f_{\widehat{x}_i \widehat{x}_i} & 0 & 0 \\ 0 & r_{\widehat{q}_i \widehat{q}_i}^q & 0 \\ 0 & 0 & r_{gg}^y (g_{\widehat{y}_i})^2 + r_g^y g_{\widehat{y}_i \widehat{y}_i} \end{pmatrix} \equiv H$$

The Hessian will be negative definite if the sign of the determinant of the following principal minors of order 1,2, and 3 is negative, positive and negative respectively:

$$\left| r_{ff}^x (f_{\widehat{x}_i})^2 + r_f^x f_{\widehat{x}_i \widehat{x}_i} \right|$$

$$\begin{vmatrix} r_{ff}^x (f_{\widehat{x}_i})^2 + r_f^x f_{\widehat{x}_i \widehat{x}_i} & 0 \\ 0 & r_{\widehat{q}_i \widehat{q}_i}^q \end{vmatrix} = r_{\widehat{q}_i \widehat{q}_i}^q \left(r_{ff}^x (f_{\widehat{x}_i})^2 + r_f^x f_{\widehat{x}_i \widehat{x}_i} \right)$$

$$\begin{vmatrix} r_{ff}^x (f_{\widehat{x}_i})^2 + r_f^x f_{\widehat{x}_i \widehat{x}_i} & 0 & 0 \\ 0 & r_{\widehat{q}_i \widehat{q}_i}^x & 0 \\ 0 & 0 & r_{gg}^y (g_{\widehat{y}_i})^2 + r_g^y g_{\widehat{y}_i \widehat{y}_i} \end{vmatrix} = \left(r_{ff}^x (f_{\widehat{x}_i})^2 + r_f^x f_{\widehat{x}_i \widehat{x}_i} \right) \left(r_{\widehat{q}_i \widehat{q}_i}^q \right) \left(r_{gg}^y (g_{\widehat{y}_i})^2 + r_g^y g_{\widehat{y}_i \widehat{y}_i} \right)$$

We assume $r_f^x > 0$, $r_{ff}^x < 0$ while $f_{\widehat{x}_i} > 0$ and $f_{\widehat{x}_i \widehat{x}_i} \leq 0$. So the first principal minor is negative (as required). With respect to the second principal minor, we assume $r_{\widehat{q}_i \widehat{q}_i}^q < 0$

which, with the earlier assumptions, means the expression is positive (as required). The third determinant is the product of the first two, times the term $r^y_{gg}(g_{\widehat{y}_i})^2 + r^y_g g_{\widehat{y}_i\widehat{y}_i}$. We assume $r^y_{gg} < 0$, $g_{\widehat{y}_i} > 0$, $r^y_g > 0$, and $g_{\widehat{y}_i\widehat{y}_i} < 0$. Hence the third term is negative and the third determinant is negative (as required).

Satisfaction of the second order condition, along with the assumption of continuous partial derivatives, allows the use of the implicit function theory in the neighborhood of (x^*_i, q^*_i, y^*_i) to investigate the properties of demand functions for ideology, policy reliability, and diversity characteristics, in particular, their comparative statics. We now turn to them.

B.2 Comparative Statics

The relevant first order conditions are given by Equation B-1. Recall the implicit functions in Equation 3 in the article. Application of the implicit function theorem allows derivation of the comparative static predictions.

The benefits to the president from ideology (π^x) We wish to solve simultaneously for $\frac{\partial}{\partial \pi^x}x^*_i$, $\frac{\partial}{\partial \pi^x}q^*_i$, and $\frac{\partial}{\partial \pi^x}y^*_i$. Using Equations B-1 and 3 we derive $H \begin{pmatrix} \frac{\partial}{\partial \pi^x}x^*_i \\ \frac{\partial}{\partial \pi^x}q^*_i \\ \frac{\partial}{\partial \pi^x}y^*_i \end{pmatrix} = \begin{pmatrix} -f_{\widehat{x}}r^x_{f\pi^x} \\ -0 \\ 0 \end{pmatrix}$

Via standard methods (e.g., Cramer's Rule) we find

$$\begin{aligned}
\frac{\partial}{\partial \pi^x}x^*_i &= -\frac{f_{\widehat{x}}r^x_{f\pi^x}}{r^x_{ff}(f_{\widehat{x}_i})^2 + r^x_f f_{\widehat{x}_i\widehat{x}_i}} \Longrightarrow \text{sign}\left(-\frac{(+)(+)}{(-)}\right) > 0 \\
\frac{\partial}{\partial \pi^x}q^*_i &= 0 \\
\frac{\partial}{\partial \pi^x}y^*_i &= 0
\end{aligned}$$

The denominator of the first quotient must be negative, as it is first principal minor of the Hessian. The term $r^x_{f\pi^x}$is the marginal return from Court ideology, as the salience of ideology increases. This term is positive. Hence, the choice of ideology as its political benefits increase, is postive.

The benefits to the president from policy reliability (π^q) We wish to solve simultaneously for $\frac{\partial}{\partial \pi^q} x_i^*$, $\frac{\partial}{\partial \pi^q} q_i^*$, and $\frac{\partial}{\partial \pi^q} y_i^*$. Using Equations B-1 and 3 we derive $H \begin{pmatrix} \frac{\partial}{\partial \pi^q} x_i^* \\ \frac{\partial}{\partial \pi^q} q_i^* \\ \frac{\partial}{\partial \pi^q} y_i^* \end{pmatrix} = \begin{pmatrix} 0 \\ -r^q_{\widehat{q}_i \pi^q} \\ 0 \end{pmatrix}$ Via standard methods we find

$$\begin{aligned} \frac{\partial}{\partial \pi^q} x_i^* &= 0 \\ \frac{\partial}{\partial \pi^q} q_i^* &= -\frac{r^q_{\widehat{q}_i \pi^q}}{r^q_{\widehat{q}_i \widehat{q}_i}} \Longrightarrow \text{sign}\left(-\frac{(+)}{(-)}\right) > 0 \\ \frac{\partial}{\partial \pi^q} y_i^* &= 0 \end{aligned}$$

The term $r^q_{\widehat{q}_i \pi^q}$ is the marginal return on policy reliability, as the saliency of policy reliability increases. We assume this term is positive.

The benefits to the president from diversity (π^y) We wish to solve simultaneously for $\frac{\partial}{\partial \pi^y} x_i^*$, $\frac{\partial}{\partial \pi^y} q_i^*$, and $\frac{\partial}{\partial \pi^y} y_i^*$. Using Equations B-1 and 3 we derive $H \begin{pmatrix} \frac{\partial}{\partial \pi^y} x_i^* \\ \frac{\partial}{\partial \pi^y} q_i^* \\ \frac{\partial}{\partial \pi^y} y_i^* \end{pmatrix} = \begin{pmatrix} 0 \\ 0 \\ -g_{\widehat{y}} r^y_{g\pi^y} \end{pmatrix}$ Via standard methods we find

$$\begin{aligned} \frac{\partial}{\partial \pi^t} x_i^* &= 0 \\ \frac{\partial}{\partial \pi^t} q_i^* &= 0 \\ \frac{\partial}{\partial \pi^t} t_i^* &= -\frac{g_{\widehat{y}} r^y_{g\pi^y}}{r^y_{gg}(g_{\widehat{y}_i})^2 + r^y_g g_{\widehat{y}_i \widehat{y}_i}} \Rightarrow -\frac{(+)(+)}{(-)} > 0 \end{aligned}$$

Price of Ideology (w_i^x) We wish to solve simultaneously for $\frac{\partial}{\partial w_i^x} x_i^*$, $\frac{\partial}{\partial w_i^x} q_i^*$, and $\frac{\partial}{\partial w_i^x} y_i^*$. Using Equations B-1 and 3 we derive $H \begin{pmatrix} \frac{\partial}{\partial w_i^x} x_i^* \\ \frac{\partial}{\partial w_i^x} q_i^* \\ \frac{\partial}{\partial w_i^x} y_i^* \end{pmatrix} = \begin{pmatrix} 1 \\ 0 \\ 0 \end{pmatrix}$ Via standard methods we find

$$\begin{aligned}
\frac{\partial}{\partial w_i^x} x_i^* &= \frac{1}{r_{ff}^x (f_{\widehat{x}_i})^2 + r_f^x f_{\widehat{x}_i \widehat{x}_i}} \Rightarrow \text{sign}\left(\frac{+}{(-)}\right) < 0 \\
\frac{\partial}{\partial w_i^x} q_i^* &= 0 \\
\frac{\partial}{\partial w_i^x} y_i^* &= 0
\end{aligned}$$

The denominator of the indicated quotient must be negative, as it is the first principal minor of the Hessian.

Price of Policy Reliability (w^q) We wish to solve simultaneously for $\frac{\partial}{\partial w^q} x_i^*$, $\frac{\partial}{\partial w^q} q_i^*$, and $\frac{\partial}{\partial w^q} y_i^*$. Using Equations B-1 and 3 we derive $H \begin{pmatrix} \frac{\partial}{\partial w^q} x_i^* \\ \frac{\partial}{\partial w^q} q_i^* \\ \frac{\partial}{\partial w^q} y_i^* \end{pmatrix} = \begin{pmatrix} 0 \\ 1 \\ 0 \end{pmatrix}$ Via standard methods we find

$$\begin{aligned}
\frac{\partial}{\partial w^q} x_i^* &= 0 \\
\frac{\partial}{\partial \pi^q} q_i^* &= \frac{1}{r_{\widehat{q}_i \widehat{q}_i}^q} \Rightarrow \text{sign}\left(\frac{+}{(-)}\right) < 0 \\
\frac{\partial}{\partial w^q} t_i^* &= 0
\end{aligned}$$

Price of Diversity (w^y) We wish to solve simultaneously for $\frac{\partial}{\partial w^t} x_i^*$, $\frac{\partial}{\partial w^t} q_i^*$, and $\frac{\partial}{\partial w^t} t_i^*$. Using Equations B-1 and 3 we derive $H \begin{pmatrix} \frac{\partial}{\partial w^y} x_i^* \\ \frac{\partial}{\partial w^y} q_i^* \\ \frac{\partial}{\partial w^y} y_i^* \end{pmatrix} = \begin{pmatrix} 0 \\ 0 \\ 1 \end{pmatrix}$ Via standard methods we find

$$\begin{aligned}
\frac{\partial}{\partial w^q} x_i^* &= 0 \\
\frac{\partial}{\partial \pi^q} q_i^* &= 0 \\
\frac{\partial}{\partial w^q} t_i^* &= \frac{1}{r_{gg}^y (g_{\widehat{y}_i})^2 + r_g^y g_{\widehat{y}_i \widehat{y}_i}} \Rightarrow \text{sign} \frac{+}{(-)} < 0
\end{aligned}$$

Baseline Level of Ideology (x^0) We wish to solve simultaneously for $\frac{\partial}{\partial x^0}x_i^*$, $\frac{\partial}{\partial x^0}q_i^*$, and $\frac{\partial}{\partial x^0}y_i^*$. Using Equations B-1 and 3 we derive: $H\begin{pmatrix}\frac{\partial}{\partial x^0}x_i^* \\ \frac{\partial}{\partial x^0}q_i^* \\ \frac{\partial}{\partial x^0}y_i^*\end{pmatrix} = \begin{pmatrix}-\left(r_{ff}^x(f_{\widehat{x}_i})^2 + r_f^x f_{\widehat{x}_i\widehat{x}_i}\right) \\ 0 \\ 0\end{pmatrix}$

Via standard methods we find

$$\begin{aligned}\frac{\partial}{\partial x^0}x_i^* &= -1 < 0 \\ \frac{\partial}{\partial x^0}q_i^* &= 0 \\ \frac{\partial}{\partial x^0}y_i^* &= 0\end{aligned}$$

Baseline Level of Policy Reliability (q^0) We wish to solve simultaneously for $\frac{\partial}{\partial q^0}x_i^*$, $\frac{\partial}{\partial q^0}q_i^*$, and $\frac{\partial}{\partial q^0}y_i^*$. Using Equations B-1 and 3 we derive $H\begin{pmatrix}\frac{\partial}{\partial q^0}x_i^* \\ \frac{\partial}{\partial q^0}q_i^* \\ \frac{\partial}{\partial q^0}y_i^*\end{pmatrix} = \begin{pmatrix}0 \\ -r_{\widehat{q}_i\widehat{q}_i}^q \\ 0\end{pmatrix}$ Via standard methods we find

$$\begin{aligned}\frac{\partial}{\partial x^0}x_i^* &= 0 \\ \frac{\partial}{\partial x^0}q_i^* &= -1 < 0 \\ \frac{\partial}{\partial x^0}y_i^* &= 0\end{aligned}$$

Baseline Rate of Diversity (y^0) We wish to solve simultaneously for $\frac{\partial}{\partial y^0}x_i^*$, $\frac{\partial}{\partial y^0}q_i^*$, and $\frac{\partial}{\partial y^0}y_i^*$. Using Equations B-1 and 3 we derive $H\begin{pmatrix}\frac{\partial}{\partial y^0}x_i^* \\ \frac{\partial}{\partial y^0}q_i^* \\ \frac{\partial}{\partial y^0}y_i^*\end{pmatrix} = \begin{pmatrix}0 \\ 0 \\ -(r_{gg}^y(g_{\widehat{y}_i})^2 + r_g^y g_{\widehat{y}_i\widehat{y}_i})\end{pmatrix}$

Via standard methods we find

$$\begin{aligned}\frac{\partial}{\partial y^0}x_i^* &= 0 \\ \frac{\partial}{\partial y^0}q_i^* &= 0 \\ \frac{\partial}{\partial y^0}y_i^* &= -1\end{aligned}$$

Extant Court's Ideological Central Tendency ($\overline{x}$) We wish to solve simultaneously for $\frac{\partial}{\partial \overline{x}}x_i^*$, $\frac{\partial}{\partial \overline{x}}q_i^*$, and $\frac{\partial}{\partial \overline{x}}y_i^*$. Using Equations B-1 and 3 we derive $H \begin{pmatrix} \frac{\partial}{\partial \overline{x}}x_i^* \\ \frac{\partial}{\partial \overline{x}}q_i^* \\ \frac{\partial}{\partial \overline{x}}y_i^* \end{pmatrix} = \begin{pmatrix} -\left(f_{\widehat{x}\overline{x}}r_f^x + f_{\widehat{x}}f_{\overline{x}}r_{ff}^x\right) \\ 0 \\ 0 \end{pmatrix}$

Via standard methods we find

$$\begin{aligned} \frac{\partial}{\partial \overline{x}}x_i^* &= -\frac{f_{\widehat{x}\overline{x}}r_f^x + f_{\widehat{x}}f_{\overline{x}}r_{ff}^x}{r_{ff}^x(f_{\widehat{x}_i})^2 + r_f^x f_{\widehat{x}_i\widehat{x}_i}} \Rightarrow \text{Sign} - \frac{(0)(+)+(+)(+)(-)}{(-)} < 0 \\ \frac{\partial}{\partial \overline{x}}q_i^* &= 0 \\ \frac{\partial}{\partial \overline{x}}y_i^* &= 0 \end{aligned}$$

Note that $f_{\widehat{x}\overline{x}}$ is plausibly 0 or negative.

Level of Diversity in the Extant Court ($\overline{y}$) We wish to solve simultaneously for $\frac{\partial}{\partial \overline{y}}x_i^*$, $\frac{\partial}{\partial \overline{y}}q_i^*$, and $\frac{\partial}{\partial \overline{y}}y_i^*$. Using Equations B-1 and 3 we derive $H \begin{pmatrix} \frac{\partial}{\partial \overline{y}}x_i^* \\ \frac{\partial}{\partial \overline{y}}q_i^* \\ \frac{\partial}{\partial \overline{y}}y_i^* \end{pmatrix} = \begin{pmatrix} 0 \\ 0 \\ -\left(g_{\widehat{y}\overline{y}}r_g^y + g_{\widehat{y}}g_{\overline{y}}r_{gg}^y\right) \end{pmatrix}$

Via standard methods we find

$$\begin{aligned} \frac{\partial}{\partial \overline{y}}x_i^* &= 0 \\ \frac{\partial}{\partial \overline{y}}q_i^* &= 0 \\ \frac{\partial}{\partial \overline{y}}y_i^* &= -\frac{g_{\widehat{y}\overline{y}}r_g^y + g_{\widehat{y}}g_{\overline{y}}r_{gg}^y}{r_{gg}^y(g_{\widehat{y}_i})^2 + r_g^y g_{\widehat{y}_i\widehat{y}_i}} \Rightarrow \text{Sign} - \frac{(0)(+)+(+)(+)(-)}{(-)} < 0 \end{aligned}$$

Note that $g_{\widehat{y}\overline{y}}$ is plausibly 0 or negative.

The President's Ideology (p) We assume $p > \overline{x}$ so an increase in p (more conservative president) moves the president away from the Court's ideological central tendency in the 8 member Court. We also assume $p > x^0$ so the president is more conservative than the default ideology. We wish to solve simultaneously for $\frac{\partial}{\partial p}x_i^*$, $\frac{\partial}{\partial p}q_i^*$, and $\frac{\partial}{\partial p}y_i^*$. Using Equations

B-1 and 3 we derive $H\begin{pmatrix} \frac{\partial}{\partial p}x_i^* \\ \frac{\partial}{\partial p}q_i^* \\ \frac{\partial}{\partial p}y_i^* \end{pmatrix} = \begin{pmatrix} -f_{\widehat{x}}r_{fp}^x \\ 0 \\ 0 \end{pmatrix}$ Via standard methods we find

$$\begin{aligned} \frac{\partial}{\partial p}x_i^* &= -\frac{f_{\widehat{x}}r_{fp}^x}{r_{ff}^x(f_{\widehat{x}_i})^2 + r_f^x f_{\widehat{x}_i\widehat{x}_i}} \Rightarrow \text{Sign} - \frac{(+)(+)}{(-)} < 0 \\ \frac{\partial}{\partial p}q_i^* &= 0 \\ \frac{\partial}{\partial}y_i^* &= 0 \end{aligned}$$

B.3 Derivation of Estimating Equations

We assume the quadratic-log utility function

$$u_i(\cdot) = -\pi_i^x \left(p_i - (a\overline{x}_i + b\chi_i)\right)^2 + \pi_i^y \log\left(c\overline{y}_i + d\widehat{y}_i\right) - w_i^x \left|x_i\right| - w_i^q q_i - w_i^y y_i$$

where χ_i is a random variable with mean $\widehat{x}_i = x_i^0 + x_i$ and variance $\frac{1}{\widehat{q}_i} = \frac{1}{q_i^0+q_i}$. As noted in the text, taking expectations yields

$$Eu_i(\cdot) = -\pi_i^x \left(p_i - (a\overline{x}_i + b\widehat{x}_i)\right)^2 - \frac{b^2\pi_i^x}{\widehat{q}_i} + \pi_i^y \log\left(c\overline{y}_i + d\widehat{y}_i\right) - w_i^x \left|x_i\right| - w_i^q q_i - w_i^y y_i \quad \text{(B-2)}$$

Via inspection this utility function is additively separable in ideology, policy reliability, and diversity, and the three sub-components display the properties assumed in Sections B.1 and B.2 of this Appendix. Hence, Equation B-2 is a specific example of the general utility function Equation 1.

We first consider conservative presidents, so $x_i \geq 0$. Hence, we drop the absolute value in Equation B-2. The first order condition with respect to ideology is then $2\pi_i^x b\left(p - b\left(x_i^0 + x_i\right) - a\overline{x}_i\right) - w_i^x = 0$. Solving for x_i yields $x_i^* = \frac{1}{b}p_i - \frac{1}{2b^2}\frac{w_i^x}{\pi_i^x} - \frac{a}{b}\overline{x}_i - x_i^0$. This demand function displays the comparative statics derived in Section B.2 from the general utility function (as it must). Note that a conservative president would never choose additional liberal ideology ($x_i < 0$), since choosing zero or positive additional ideology would afford the same or greater policy utility at a lesser cost.

For a liberal president, $x_i \leq 0$. Hence, in Equation B-2 replace the term "$-w_i^x \left|x_i\right|$" with "$+w_i^x x_i$." The first order condition with respect to ideology is then $2\pi_i^x b\left(p_i - b\left(x_i^0 + x_i\right) - a\overline{x}_i\right) +$

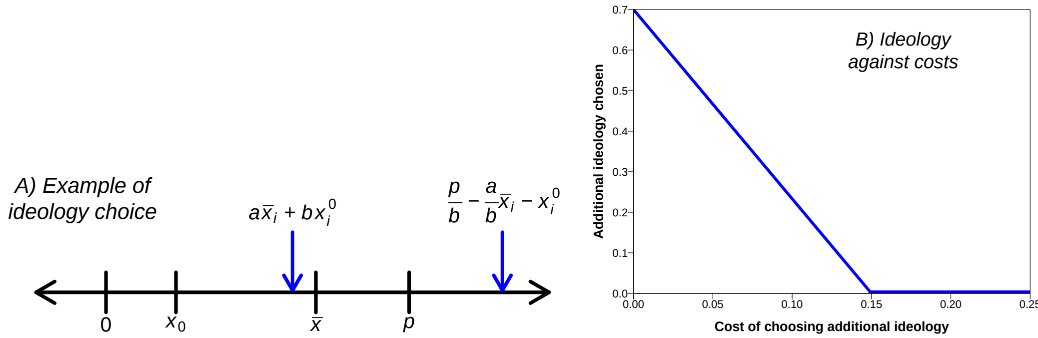

Figure B-1: Example of ideological selection. See text for details.

$w_i^x = 0$, and $x_i^* = \frac{1}{b}p_i + \frac{1}{2b^2}\frac{w_i^x}{\pi^x} - \frac{a}{b}\overline{x}_i - x_i^0$.

With a liberal president, it is important to remember that $x_i \leq 0$. So, if an increase in an exogenous variable leads to an increase in x_i, (e.g., $\frac{\partial}{\partial w_i^x} x_i > 0$) this has the substantive interpretation of a positive movement in a negative number, that is, a decrease in the volume of additional ideology chosen by the president.

The first order condition from Equation B-2 with respect to policy reliability is $\frac{b^2}{\left(q_i + q_i^0\right)^2}\pi_i^x - w_i^q = 0$. Solving for q_i yields the demand function for policy reliability $q_i^* = b\sqrt{\frac{\pi_i^x}{w_i^q}} - q_i^0$. Finally, the first order condition from Equation B-2 with respect to diversity is $\frac{d}{c\overline{y}_i + d(y_i^0 + y_i)}\pi_i^y - w_i^y = 0$. Solving for y_i yields the demand function for diversity $y_i^* = \frac{\pi_i^y}{w_i^y} - \frac{c}{d}\overline{y}_i - y_i^0$.

B.4 Numerical example of ideological selection, and liberal presidents

A numerical example of ideological selection The following numerical example provides intuition for how the president chooses ideology. Assume that $p = .55$, x^0=1/4, $\overline{x}$=1/2, a=8/9, and b=1/9. What would the president do? As seen in Figure B-1A, the expected ideological location of the overall Court with 'the default level of ideology (i.e. $a\overline{x}_i + bx_i^0$) is at .47. If the price of ideology were free, the president would choose a "cost-free" nominee at .7 (i.e. $\frac{p}{b} - \frac{a}{b}\overline{x}_i - x_i^0$).

What happens if the choice of additional ideology is not costless? Figure B-1B depicts how the president's choice of ideology changes as the cost increases, using the same simulated values as in Figure B-1A. If ideology is free, the president would choose $x_i = .7$. As the cost increases, the president's choice decreases linearly. At a certain threshold (here around .15), the costs become too great for the president to choose additional ideology, and hence he does not, and instead opts for the default ideology.

Liberal presidents We have focused on conservative presidents. Let us briefly consider liberal presidents—i.e. $pi < x_i^0$ and $p_i < \overline{x}_i$. If so, the president chooses "negative" ideology, and a nominee is a random variable with mean $\hat{x}_i = x_i^0 - x_i$. Solving for the president's demand for ideology results results in:

$$x_i^* = \frac{1}{b}p_i + \frac{1}{2b^2}\frac{w_i^x}{\pi_i^x} - \frac{a}{b}\overline{x}_i - x_i^0$$

Because in this configuration the president's choice of additional ideology is negative, a comparative static of the form (say) $\frac{\partial x_i}{\partial p_i} > 0$ indicates that chosen ideology becomes less negative (i.e. less liberal) as the president becomes less liberal—in other words, the *absolute amount* of additional ideology decreases. Conversely, a comparative static of the form (say) $\frac{\partial}{\partial x_i^0} x_i < 0$ indicates that additional ideology ideology becomes more negative as the baseline level of ideology available "for free" moves in a conservative direction. In other words, the absolute volume of additional ideology increases.

Derivation of logged reliability specification In Section 3.3.4, we employ a specification of the demand for reliability in which the benefit-cost ratio is broken down into separate components via logs. The derivation is as follows: Solving for q_i yields the demand function for policy reliability $q_i^* = b\sqrt{\frac{\pi_i^q}{w_i^q}} - q_i^0$. This estimating equation is used in models (1)-(4) in Table 3. Re-arranging and taking logs yields $\log(q_i^* + q_i^0) = \beta^0 + \beta^1 \log(\pi_i^q) + \beta^2 \log(w_i^q)$, where $\beta^0 = \log(b)$, $\beta^1 = \frac{1}{2}$ and $\beta^2 = -\frac{1}{2}$. This estimating equation is employed in models (5) and (6) in Table 3.

Derivation of logged diversity specification In Section 3.4.1, we employ a specification of the demand for diversity in which the benefit-cost ratio is broken down into separate components via logs. The derivation is as follows. Solving for y_i yields the demand function for diversity $y_i^* = \frac{\pi_i^y}{w_i^y} - \frac{c}{d}\overline{y}_i - y_i^0$. This demand function may be estimated directly. However, the following proves convenient. Note that the we may take the default nominee to be a white male so that $y_i^0 = 0$. Assume $c = \frac{8}{9}$ and $d = \frac{1}{9}$ (so perceived diversity on the Court is just mean diversity). Then $y_i^* + 8\overline{y}_i = \frac{\pi_i^y}{w_i^y} - \log(y_i^* + 8\overline{y}) = \log(\pi_i^y) - \log(w_i^y)$. This estimating equation is implemented in Models 3 and 4 of Table 4. The estimated model has the form: $\log(y_i^* + 8\overline{y}) = \beta_0 + \beta_1 \log(\pi_i^y) - \beta_2 \log(w_i^y)$.

Comparison of our model to Bailey and Spitzer (2017) As we mention in the paper, a conservative president may nominate someone whose expected ideology is even more conservative than his own, or a liberal president may nominate someone whose expected ideology is more liberal than his own. The reason is, such an extremist nominee drags the Courts expected output closer to the presidents ideal point. The feature of our model is similar to the model in Bailey and Spitzer (2017), although the mechanisms differ. Bailey and Spitzer present a move-the-median (MTM) model, so the Court's output is given by the median justice. The largest possible movement of the median justice is constrained in a MTM framework (the median can move only as far left as the 4th most liberal justice on the old nine-member court and as far right as the 4th most conservative justice on the old Court). They also assume nominees are random variables. Hence, if a conservative president "overshoots" with a nominee who turns out to be super-conservative, the effect is negligible since the Court's median will just shift modestly in a conservative direction. But if a conservative president "undershoots" with a nominee who turns out to be somewhat liberal, the effect is to move the Court's median in the liberal direction. Hence, presidents have an incentive to nominate extremists, since the downside is negligible while the upside is substantial. This reasoning depends heavily on the properties of moving the median. The model we consider more closely resembles a move-the-*mean* (or move-the-center) game. An extremist may yield a favorable move of the Court's central tendency, but there are limits—too much movement can be bad. Hence, the tendency to nominate extremists remains, but somewhat circumscribed relative to a MTM game.

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