

Strategic Judicial Preference Revelation

Álvaro Bustos *Pontificia Universidad Católica de Chile*

Tonja Jacobi *Northwestern University*

Abstract

We examine the revelation of preferences of justices whose true ideologies are not known when entering the Court but gradually become apparent through their judicial decisions. In a 2-period president-Senate-Court game, we show that some new justices vote disingenuously and so move the perceived ideology of the overall Court closer to their ideally preferred outcome, which influences the selection of future justices. Justices will sometimes have an incentive to exaggerate the extremeness of their preferences and at other times will seek to appear more moderate. Systematic changes in judicial behavior can be predicted on the basis of the characteristics of the cases; the initial ideologies of the justices, the president, and the Senate; and the probabilities of retirement of the justices. These results have important implications for interpreting judicial voting behavior: particularly, it is not safe to infer changes in actual judicial preferences from changes in expression of judicial preferences.

1. Introduction

It is well recognized that justices have an incentive to be vague during their confirmation hearings; however, existing accounts of Supreme Court behavior assume that once confirmed with life tenure, their judicial incentives change, and justices show their true colors immediately. Prior to this article, no attention has been given to the possibility that justices have an ongoing incentive to obfuscate their true ideological positions after entering the Court. In fact, evidence of changing judicial behavior on the Court has been interpreted as indicating substantial changes in actual judicial preferences (Epstein et al. 2007).

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How justices vote once on the Court, however, affects the apparent median of the Court, which in turn determines what future nominees will be nominated and confirmed. As such, justices will at times want to vote strategically to shape future nominations and, through them, future case determinations.¹

For example, when Judge John Roberts was nominated to the Court in 2005, it was unclear whether he would be moderately or strongly conservative. Knowing that a second vacancy was pending, and with the president to his right and the Senate and the existing Court median—Justice Anthony Kennedy—to his left, Roberts knew that only a new nominee at the Court median could be confirmed (Moraski and Shipan 1999). As such, he would have wanted to appear even more conservative than he really was, so as to move the apparent median of the existing eight-person Court to the right. In this article we show that incentives can exist for a given new justice to appear either more liberal or more conservative, depending on his own ideological position, the political composition of the Senate, the president, and the existing median.²

Consider a simple game akin to the classic Moraski and Shipan (1999) judicial nomination model, whereby the president proposes a judicial nominee and the Senate either confirms, and the nominee becomes the new justice, or rejects, and the seat remains vacant, with the Court median continuing to be the midpoint between the two remaining justices. Like in Moraski and Shipan, in our model the president's and Senate's utilities are increasing functions of the proximity of the median of the Court to their own ideological positions. Unlike in Moraski and Shipan, we model a 2-period game, considering strategic behavior that extends beyond entry to the Court and captures judicial anticipation of subsequent vacancies. This involves a number of new elements: the president and Senate do not know a nominee's true ideology, but they have Bayesian expectations; justices may or may not vote in a way that truthfully reflects their overall preferences; the voting decision of the three justices both determines the case outcome and provides information to other players about her true ideological position;³ and each justice benefits when the Court decides a case in the

¹ There are of course other reasons why justices may want to vote strategically, which have been explored elsewhere, such as avoiding or seeking legislative overrides (Spiller and Tiller 1996) or signaling to litigants (Baird 2007) or the political branches (Morris, Heise, and Sisk 2005).

² For a justice to mask his ideology, he need only expect that another nominee is likely to be proposed within the 2 years of the current Senate and president ideological alignment. Empirically, this is a reasonable expectation: only two of the last 20 Court appointments did not arise within 2 years of one another.

³ Justices' votes are the only source of information in the model. We assume that justices cannot openly or credibly reveal their ideologies directly through public declarations, for reasons of institutional legitimacy, and must do so through their determinations (Jacobi 2008). Also, for simplicity we do not consider concurrences or dissents; in reality this would refine the quality of the information made available to other agents. Nevertheless, justices' ability to reveal information ultimately depends on the type of the case that they may face, with justices able to reveal their type only over a number of cases, as modeled in the article, just at a different pace.

way in which she would like but faces a cost when she votes untruthfully.⁴ Together, these provide a model of judicial signaling and preference revelation.

We share the assumption in the literature that external observers can infer judicial preferences from votes on cases (Martin and Quinn 2002; Bailey and Chang 2001); however, the president and Senate can only estimate the median of the Court. A strategic justice will want to influence the perceived Court median, in order to shape forthcoming case outcomes, and can do so by manipulating her own perceived ideological position at the cost of voting untruthfully. Given this incentive, a justice's perceived ideology cannot be assumed to be the same as her actual ideology. One central result of our model, then, is to show when this kind of strategic insincere voting will occur. We identify the threshold conditions for untruthful voting and the conditions that make it more likely.

Judicial behavior of this type is shown to be determined by a justice's individual traits: her ideology, her tenure on the Court, and her expectations about potential judicial retirement. In addition, we establish that strategic voting behavior depends on external factors, namely, the type of cases that the justice faces and the justice's ideological position relative to other institutional players, which shapes the expected nomination game that the president and Senate will play in the case of a vacancy. When the president and Senate have opposed ideologies,⁵ the new justice votes untruthfully only in informative cases in which, if she had voted truthfully, she would have voted against her general ideological tendency. But when the president and Senate have semiopposed ideologies,⁶ the new justice votes untruthfully only in informative cases in which, had she voted truthfully, she would have voted in line with her ideological tendency. As such, we show that even though perceived judicial ideology cannot be assumed to be a justice's true ideology, revelation of each justice's true ideology is nevertheless predictable over time.

These results yield significant implications not only for judicial nominations but also for how we should interpret apparent changes in judicial preferences, and so also for measurement of judicial ideology. The freshman-effect literature asserts a difference between Supreme Court justices' initial and subsequent voting behaviors (Hagle 1993)—part of a more general ideological drift in actual judicial preferences alleged for 25 of 26 justices since 1937 (Epstein et al. 2008, p. 174). This claim is significant both descriptively—implying that judicial preferences

⁴ Since justices care about case outcomes (see, for example, Epstein and Knight 1998, p. 80), there is a direct cost to voting untruthfully if the justice is pivotal: casting the deciding vote contrary to her preferences. There is also both an instrumental and a reputational cost to a justice voting contrary to her true ideology. In effect, judicial votes can be nonpivotal yet nonetheless influential, for example, by cementing the strength of the majority opinion (see Cross and Tiller 1998; Jacobi 2009). In terms of reputation, voting inconsistently with actual preferences will make subsequent contradictory votes require differentiation, may make them less persuasive, and could even make the justice appear unreliable (see Jacobi 2008), ultimately harming the justice's legacy (see, for example, Ifill 2002).

⁵ In Moraski and Shipan's terminology, P and S play a fully constrained nomination game.

⁶ In Moraski and Shipan's terminology, P and S play a semiconstrained nomination game.

are not static but are shaped somehow by service on the Court—and consequentially—suggesting that all judicial nominees will be political surprises (Farnsworth 2007). But it seems highly unlikely that the genuine preferences of every modern justice bar one would significantly change, given that every justice has entered the Court well into middle age and an established career. Our results show that even with static actual judicial preferences, apparent judicial preferences will vary.

This article establishes how other factors can influence observed judicial behavior, providing an alternative explanation for the observed behavior on which the literature on judicial drift hinges. As such, it reconciles those empirical observations with the attitudinalist school, which views judges as maximizing stable policy preferences. We provide testable predictions to distinguish between the freshman effect or drift theory and our theory: that the nature of the judicial movement previously observed will vary predictably with the position of the president and Senate; that justices appointed with low probability of another vacancy arising soon—for example, when the oldest justice on the Court is still quite young—will exhibit less movement in their ideal points over time; and that judicial movement varies as a function of initial ideology—in particular, that more extreme justices move more than moderate justices.

Our model also has important implications for measuring judicial ideology. First, it challenges the necessary implication from the judicial drift claim that *ex ante* measures of judicial preferences—such as party of the appointing president and Segal-Cover scores (Segal and Cover 1989) using newspaper editorials—are inherently unreliable. Second, in Section 6, we suggest how dynamic measures of judicial ideology could be corrected to account for the possibility of insincere voting of this kind.

Section 2 formalizes the model. Section 3 characterizes justices' optimal voting strategies. Section 4 presents our main results. Section 5 provides an analysis of how our results vary: for moderate versus extreme justices, when the probability of retirement is uncertain, and when the Senate and president are long-lived. Section 6 concludes.

2. The Model

2.1. *Players*

Suppose that the Court has three⁷ justices, the liberal justice (J_1), the moderate justice (J_2), and the conservative justice (J_3). The Court operates for 2 periods, $t \in \{1, 2\}$. While the liberal justice has just joined the Court in the first period (new justice), the moderate and conservative justices have been with the Court for some time (original justices). At the beginning of the second period, the

⁷ Although we do not formally explore it, intuition suggests that the capacity of each judge to influence the median of the remaining Court will be reduced as the number of seats increases, which will decrease the incentive to signal.

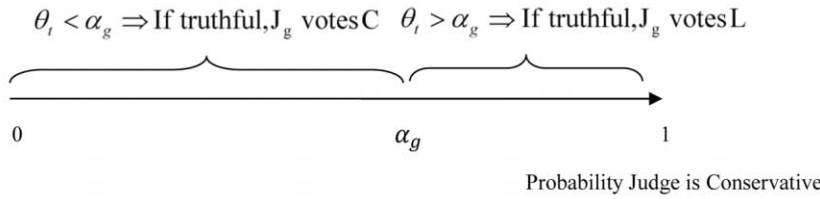


Figure 1. Truthful judicial votes by case type

conservative justice retires with certainty (retiring justice).⁸ In order to fill the vacancy, the president, P, and the Senate, S, play a 1-period game,⁹ as in Moraski and Shipan (1999).¹⁰

2.2. Players’ Preferences, Cases, and Votes

Justice J_g (g stands for generic) has true ideology α_g , which corresponds to the a priori probability with which she votes conservative instead of liberal in a case heard by the Court; hence, $0 < \alpha_1 < \alpha_2 < \alpha_3 < 1$. The link between ideology and cases is as follows. Each period the Court faces a case¹¹ characterized by the parameter $\theta_t \sim U[0, 1]$.¹² We denote the vote of justice J_g by $v_g(\theta_t) \in \{L, C\}$. For instance, the justices decide whether to overturn a lower court conviction. To acquit is the liberal decision, and to convict is the conservative decision. Justice J_g votes truthfully when she decides the case with a conservative vote if $\theta_t < \alpha_g$ or with a liberal vote if $\theta_t > \alpha_g$, as seen in Figure 1.¹³

The more conservative is justice α_g , the larger the potential case range to her left that she would want to have to preserve the conviction—for instance, the more mitigating evidence is needed before she will overturn the conviction. For example, if justices vote truthfully, a case θ such that $\alpha_2 < \theta < \alpha_3$ would receive a conservative vote by J_3 but a liberal vote by J_2 . We say that justice J_g votes untruthfully when the just-specified voting rule is violated (for example, she

⁸ In Section 5.2, we briefly discuss the differences when others know that justice J_3 may retire only with probability p ; for more detail, see Bustos and Jacobi (2013).

⁹ We do not model the nomination game in the first period because we want to study the impact of a future potential nomination game on the voting strategy followed by a new member of the Court. In Section 5.5 we consider how our results change when P and S are forward looking and consider the nomination games at both $t = 1$ and $t = 2$.

¹⁰ That is, P proposes a candidate and S confirms or rejects the nominee. If S confirms, the nominee becomes the new justice; if S rejects, then the seat remains vacant, and the Court keeps the default median, constituted by the midpoint of the two remaining justices. In the Appendix, we replicate the different nomination games as a function of the president’s and Senate’s ideologies.

¹¹ This single case can be interpreted as representative of the set of cases that justices face during the term.

¹² A uniform distribution of case types keeps the model as simple as possible. Although justices may strategically choose cases for certiorari, incorporating that element would overly complicate the voting and nomination games.

¹³ The expected probability that J_g truthfully votes conservative is $\int_0^{\alpha_g} d\theta = \alpha_g$.

votes liberal when $\theta_t < \alpha_g$). Thus, the justice is the liberal justice relative to the rest of the court (her overall proclivity is liberal), but her truthful vote is determined by the case type relative to her actual ideology (L if $\theta_t < \alpha_1$ and C if $\theta_t > \alpha_1$). Our inquiry concerns whether she sincerely votes liberal when $\theta_t < \alpha_1$ and conservative when $\theta_t > \alpha_1$. Without loss of generality, we assume that the president has ideology α_p , which is more conservative than the Senate's, and the Senate has ideology $\alpha_s \in [0, \alpha_p]$.

2.3. *Players' Knowledge*

Like Moraski and Shipan (1999), we assume that the ideologies of the original justices are known. But unlike Moraski and Shipan, we consider that the true ideology of the new justice is unknown to the remaining justices and to P and S. Only the new justice herself knows her true preferences. We denote the perceived ideology of the new justice when she just joined the Court as α_0 and the perceived ideology of the new justice after she votes in case 1 as $A = E[\alpha_1 | \text{knowledge at the end of period 1}]$. The remaining justices, P, and S know only that her ideology is uniformly distributed in the interval $[\alpha_0 - \Delta, \alpha_0 + \Delta]$, in which parameter $\Delta \geq 0$ is the precision of the initial beliefs of the agents.

The players use knowledge of the new justice's votes to update their beliefs about her perceived ideology according to Bayes's theorem. To see how, suppose that the new justice always votes truthfully and the Court faces a case θ in the range $[\alpha_0 - \Delta, \alpha_0 + \Delta]$.¹⁴ Then, if the new justice votes conservative, the players update their beliefs about the new justice's ideology from α_0 to $A = (\alpha_0 + \Delta + \theta)/2$ (the perceived ideology gets closer to 1); but if the new justice votes liberal, the players update it from α_0 to $A = (\alpha_0 - \Delta + \theta)/2$ (the perceived ideology gets closer to 0).

2.4. *Payoffs*

At this point we assume that P and S are myopic,¹⁵ so their goal is simply to minimize the distance between their own ideologies and the expected median of the Court. In contrast, the payoff for justice J_g at each period $t \in \{1, 2\}$ is the addition of two components: J_g gets utility 1 if the Court's decision matches her truthful vote, and J_g gets disutility $l > 0$ when she votes untruthfully (as we have normalized the utility to 1, this cost is also normalized). As both the original and the new justices live 2 periods, they want to maximize the net present value of the addition of the expected utilities obtained in both periods. As usual, $\delta \in$

¹⁴ We say that this case is informative because her vote allows other agents to update their beliefs; in contrast, agents do not learn anything from how the justice votes when she faces a case outside the interval $[\alpha_0 - \Delta, \alpha_0 + \Delta]$.

¹⁵ Presidents most obviously have short-term horizons, being limited to two 4-year terms (or 2.5 terms if a vice president is promoted during a presidential term). As of the 111th Congress, senators serve on average 12.3 years (Glassman and Hemlin 2010, p. 8), whereas as of 2006, Supreme Court justices serve for an average of 26.1 years (Calabresi and Lindgren 2006, p. 778). In Section 5.5 we relax this assumption.

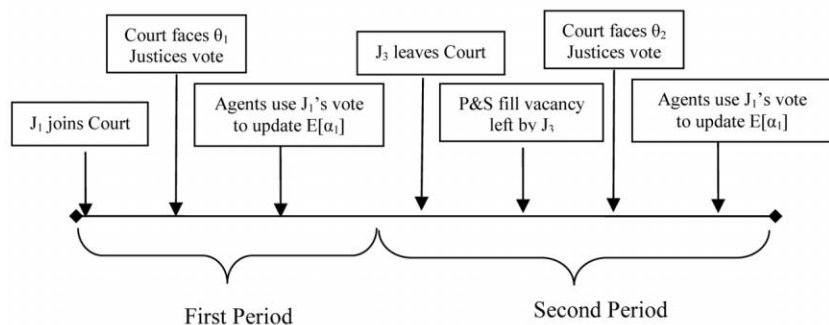


Figure 2. Timing of actions

[0, 1] is the discount factor, and Court decisions are made through simple majority.

2.5. Timing of Actions

Figure 2 summarizes the sequence of events and decisions described above. Notice that if parameter Δ is large enough,¹⁶ the new justice's perceived ideologies may overlap with the true ideologies of the original justices.¹⁷ At this point we consider Δ to be small enough to rule out that possibility. In Section 5.3 we revise this assumption.

3. Solution of the Model

Here our objective is to identify the justices' optimal voting strategies. In Sections 4 and 5 we interpret and discuss these strategies. It is easy to see that at $t = 2$ all justices vote truthfully because an untruthful vote reduces the utility of the justices¹⁸ and there is no expected benefit in the future, as this is the last period of the game. In addition, at $t = 1$ original justices always vote truthfully because their true preferences are known; however, the new justice may have incentives to vote untruthfully.

To understand the incentives faced by the new liberal justice to vote untruthfully at $t = 1$, consider a case in which S and P have opposed ideologies.¹⁹ Then

¹⁶ The exact value of the bound is $\Delta > \min\{\alpha_2 - \alpha_{01}, \alpha_{02} - \alpha_1, \alpha_3 - \alpha_{02}\}$.

¹⁷ For example, if $\alpha_{01} > \alpha_2 > \alpha_{01} - \Delta$, the new justice will not be initially perceived at her correct ideological position in the Court, or when $\alpha_{02} - \Delta < \alpha_1$, a priori, other agents cannot rule out that her true ideology falls at a different position in the Court ordering.

¹⁸ Because the moderate justice in the second-period Court is pivotal to its decision, an untruthful vote reduces her utility by $-(1 + l)$. As the extreme justices of the Court are not pivotal, they suffer a disutility of only l . It follows that all justices in the second-period Court suffer at least a disutility of l if they vote untruthfully.

¹⁹ That is, $\alpha_s < (A + \alpha_2)/2 < \alpha_p$.

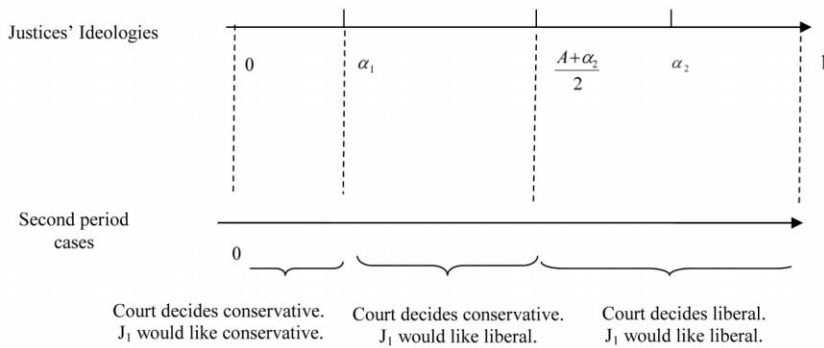


Figure 3. Second-period Court when J_3 retires if P and S have opposed ideologies

the justice who replaces J_3 in period 2 (whom we denote J_s) will have expected ideology $(A + \alpha_2)/2$,²⁰ which makes her the median voter of the Court at $t = 2$. As the Senate is more liberal than the Court and the president,²¹ the best the president can do is to choose a nominee at $(A + \alpha_2)/2$, because the Senate will reject any nominee to the right of that default position. Figure 3 shows the expected composition of the second-period Court.

As $(A + \alpha_2)/2$ is to the right of α_1 , not all the second-period cases will be decided in the way that the new justice wants. But if she is able to move her perceived ideology to the left, she will be able to reduce the number of cases that fall into that category. To be more specific, in Figure 3 all the second-period cases with $\theta_2 < \alpha_1$ will be decided by the Court as the new justice wants, which is to convict. Also, all of the second-period cases with $\theta_2 > (A + \alpha_2)/2$ will be decided by the Court as the new justice wants, which is to acquit. However, all the second-period cases $\theta_2 \in [\alpha_1, (A + \alpha_2)/2]$ will be decided with a conviction by the Court (because justices J_s and J_2 vote to convict), but the new justice would like those cases to be acquitted. It follows that the new liberal justice has incentives to move $(A + \alpha_2)/2$ as close as possible to α_1 , which is achieved if she is perceived as more liberal (A is smaller) after she votes in the first period. In deciding when to vote untruthfully, the new justice will have to balance the former incentives with the certain cost l associated with an untruthful vote.

To derive the voting strategy at $t = 1$ (P and S have opposed ideologies), consider that case θ_1 comes to the Court. It is evident that the new justice truthfully votes liberal if $\alpha_1 \leq \theta_1$, because a conservative vote not only implies that she will be perceived as more conservative than if she votes liberal²² but

²⁰ See the section on nomination games in the Appendix.

²¹ This is because we know that $\alpha_2 > (A + \alpha_2)/2 > \alpha_1$.

²² Any solution in which the justice is perceived as more liberal after voting conservative instead of liberal cannot be an equilibrium because she prefers to switch some conservative votes to liberal. In that way, she moves her perceived ideology to the left and saves l .

also means that she faces cost l for voting untruthfully. We need to determine the vote of the new justice only when $\alpha_1 > \theta_1$. There are three alternatives: the new justice truthfully votes conservative (separating equilibrium), the new justice untruthfully votes liberal (pooling equilibrium), or the new justice votes conservative sometimes and liberal at other times (semiseparating equilibrium). As we show next, the size of parameter l predicts what equilibrium (and ergo voting strategy) takes place.

A separating equilibrium (voting is truthful) takes place if the expected utility when the new justice truthfully votes conservative (convict) in the first period, which is

$$\delta \left(\int_0^{\alpha_1} 1 d\theta_2 + \int_0^{\{E[\alpha_1 | v_1(\theta_1) = C] + \alpha_2\}/2} 0 d\theta_2 + \int_{\{E[\alpha_1 | v_1(\theta_1) = C] + \alpha_2\}/2}^1 1 d\theta_2 \right)$$

(where the first term in parentheses indicates that the Court decides conservative and J_1 would like to vote conservative, the second term indicates that the Court decides conservative and J_1 would like to vote liberal, and the third term indicates that the Court decides liberal and J_1 would like to vote liberal), is larger than the expected utility when she untruthfully votes liberal (acquit), which is

$$-l + \delta \left(\int_0^{\alpha_1} 1 d\theta_2 + \int_0^{\{E[\alpha_1 | v_1(\theta_1) = L] + \alpha_2\}/2} 0 d\theta_2 + \int_{\{E[\alpha_1 | v_1(\theta_1) = L] + \alpha_2\}/2}^1 1 d\theta_2 \right)$$

(where the first term in parentheses indicates that the Court decides conservative and J_1 would like to vote conservative, the second term indicates that the Court decides conservative and J_1 would like to vote liberal, and the third term indicates that the Court decides liberal and J_1 would like to vote liberal). The first expected utility corresponds to the new justice's expected payoff in the second period (we are covering all possible values of θ_2). The second expected utility corresponds not only to the expected payoff in the second period but also to the cost of voting untruthfully in the first period.²³ Then, the first expected utility is larger than the second if and only if

$$\delta \left(\frac{E[\alpha_1 | v_1(\theta_1) = C] - E[\alpha_1 | v_1(\theta_1) = L]}{2} \right) < l \quad (1)$$

or

²³ In both expressions we omit the payoff (zero or one) that the justice receives in the first period conditional on how the Court decides the case there. We omit that payoff because it is the same regardless of whether the new justice votes truthfully or untruthfully, and ergo it cancels out in the analysis. In other words, J_1 is not pivotal in the first-period decision.

$$\delta \frac{\Delta}{2} < l. \quad (2)$$

The last inequality follows since $E[\alpha_1 | v_1(\theta_1) = C] = (\alpha_0 + \Delta + \theta_1)/2$ and $E[\alpha_1 | v_1(\theta_1) = L] = (\alpha_0 - \Delta + \theta_1)/2$.²⁴ The intuition behind expression (2) is clear: the new justice always votes truthfully when the cost of not doing so is too high.

On the other hand, a pooling equilibrium (vote is untruthful) takes place when the expected utility of untruthfully voting liberal is larger than the expected utility of truthfully voting conservative, both in the first period. That is, it is the reverse of inequality (1):

$$\delta \left(\frac{E[\alpha_1 | v_1(\theta_1) = C] - E[\alpha_1 | v_1(\theta_1) = L]}{2} \right) > l.$$

However, this time $E[\alpha_1 | v_1(\theta_1) = L] = \alpha_0$. The reason is that the liberal vote becomes uninformative because the new justice votes liberal for all values of θ_1 . Under the separating equilibrium we know that the justice votes conservative sometimes (when $\alpha_1 > \theta_1$). In addition, as before $E[\alpha_1 | v_1(\theta_1) = C] = (\alpha_0 + \Delta + \theta_1)/2$.²⁵ Hence, the new justice untruthfully votes liberal when

$$\frac{\delta \theta_1 - (\alpha_0 - \Delta)}{2} > l.$$

That is, when the cost of voting untruthfully is small enough, the new justice always votes liberal. Finally, when the cost of voting against her principles has an intermediate value ($l \in [\delta[\theta_1 - (\alpha_0 - \Delta)]/4, \delta\Delta/2]$), the new justice mixes strategies (sometimes she votes liberal and some other times she votes conservative). She truthfully votes conservative only with probability $p(\theta_1) = 1 - (\delta\Delta/2l - 1)[\theta_1 - (\alpha_0 - \Delta)]/(\alpha_0 + \Delta - \theta_1)$, which is the probability that makes her indifferent between the two pure strategies.²⁶

Now we consider how the incentives of the new justice to vote untruthfully change when the ideologies of P and S are no longer opposed. Consider that S and P have semiopposed ideologies.²⁷ Then J_s , the replacement of J_3 and the median voter of the Court at $t = 2$, has expected ideology $2\alpha_s - (A + \alpha_2)/2$.²⁸ This is the most conservative nominee the president can get away with because if he nominates a candidate any further right, the Senate will reject, as the default option of $(A + \alpha_2)/2$ is more liberal but closer to its preferences. Once again,

²⁴ In this equilibrium, we know that J_1 never votes liberal when $\theta_1 < \alpha_1$, but for this to be consistent we assume the following off-the-path belief: if J_1 (untruthfully) votes liberal, then all the agents learn that $\theta_1 > \alpha_1$.

²⁵ In this equilibrium, we know that J_1 never votes conservative when $\theta_1 < \alpha_1$, but for this to be consistent we assume the following off-the-path belief: if J_1 (truthfully) votes conservative, then all the agents learn that $\theta_1 < \alpha_1$.

²⁶ In the proof of proposition 1, we corroborate that this probability makes the justice indifferent.

²⁷ That is, $(A + \alpha_2)/2 < \alpha_s < (A + 3\alpha_2)/2 < \alpha_p$.

²⁸ See the section on nomination games in the Appendix.

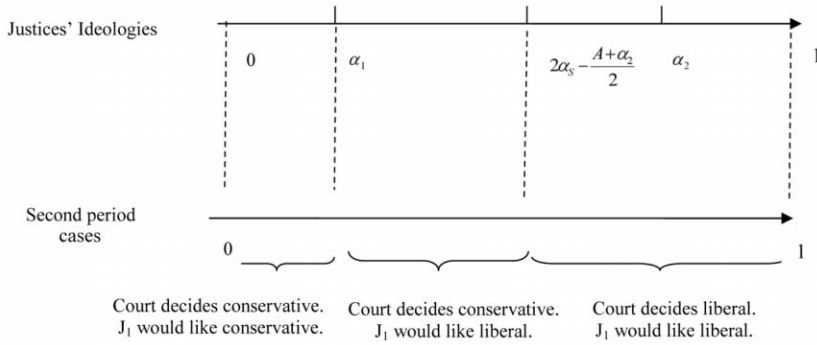


Figure 4. Second-period Court when J_3 retires if P and S have semiopposed ideologies

only some second-period cases will be decided as the new justice wants. Figure 4 summarizes the composition of the second-period Court.

This time, all the second-period cases with $\theta_2 < \alpha_1$ and $\theta_2 > 2\alpha_s - (A + \alpha_2)/2$ will be decided as the new justice wants. However, all the second-period cases with $\theta_2 \in [\alpha_1, 2\alpha_s - (A + \alpha_2)/2]$ will be convictions, while the new justice would like those to be acquittals. It follows that the new liberal justice has incentives to move $2\alpha_s - (A + \alpha_2)/2$ as close as possible to α_1 , which is achieved if she is perceived as more conservative (A is larger), in contrast to the case when the ideologies of the president and Senate were opposed, when she was perceived as more liberal.

In order to determine the optimal voting strategies, we follow the same analysis as when P and S have opposed ideologies, but we omit the detail of the intermediary steps. We know that a new liberal justice's vote is conservative if $\alpha_1 \geq \theta_1$, but we do not know how the justice votes when $\alpha_1 < \theta_1$. For a separating equilibrium to hold (truthful voting), it must be true that the new justice's expected payoff when she votes liberal is larger than when she votes conservative. Hence, it must be that

$$\delta \left[2\alpha_s - \frac{E[\alpha_1 | v_1(\theta_1) = L] + \alpha_2}{2} - \left(2\alpha_s - \frac{E[\alpha_1 | v_1(\theta_1) = C] + \alpha_2}{2} \right) \right] < l,$$

which leads to the same inequality in equation (2). In contrast, a pooling equilibrium (untruthful vote) takes place if the previous inequality does not hold. In evaluating the expression, we have to consider that the conservative vote is uninformative and $E[\alpha_1 | v_1(\theta_1) = L] = (\alpha_0 - \Delta + \theta_1)/2$. Then, an untruthful vote takes place when

$$\frac{\delta(\alpha_0 + \Delta) - \theta_1}{2} > l.$$

Finally, when the cost of voting against her principles has an intermediate value ($l \in [\delta(\alpha_0 + \Delta - \theta_1)/4, \delta\Delta/2]$), the new justice mixes strategies. This time she truthfully votes conservative with probability $p(\theta_1) = 1 - (\delta\Delta/2l - 1)(\alpha_0 + \Delta - \theta_1)/[\theta_1 - (\alpha_0 - \Delta)]$.

We summarize the voting strategies in proposition 1. To avoid overloading the article with mathematical expressions, we do not discuss the cases in which the new justice's voting strategy makes S and P indifferent between two nomination games because the properties of that solution are a combination of the properties of the solutions of the opposed and semiopposed cases. We also do not discuss the results for the case in which the ideologies of P and S are aligned²⁹ because in that situation it is self-evident that the new justice always votes truthfully.³⁰

Proposition 1: Optimal Voting Strategies. A new liberal justice who faces a case θ_1 votes as follows:

- I. If the president and Senate have opposed ideologies, then
 - a) when she sincerely prefers the liberal outcome ($\alpha_1 \leq \theta_1$), she truthfully votes liberal,
 - b) but when she sincerely prefers the conservative outcome ($\alpha_1 > \theta_1$), then
 - i) if $l > \delta\Delta/2$, she votes truthfully (conservative),
 - ii) if $l < \delta[\theta_1 - (\alpha_0 - \Delta)]/4$, she votes untruthfully (liberal), and
 - iii) if $l \in [\delta[\theta_1 - (\alpha_0 - \Delta)]/4, \delta\Delta/2]$, she votes truthfully (conservative) only with probability $p(\theta_1) = 1 - (\delta\Delta/2l - 1)[\theta_1 - (\alpha_0 - \Delta)]/(\alpha_0 + \Delta - \theta_1)$.
- II. If the president and Senate have semiopposed ideologies, then
 - a) when she sincerely prefers the conservative outcome ($\alpha_1 \geq \theta_1$), she truthfully votes conservative,
 - b) but when she sincerely prefers the liberal outcome ($\alpha_1 > \theta_1$), then
 - i) if $l > \delta\Delta/2$, she votes truthfully (liberal),
 - ii) if $l < \delta(\alpha_0 + \Delta - \theta_1)/4$, she votes untruthfully (conservative), and
 - iii) if $l \in [\delta(\alpha_0 + \Delta - \theta_1)/4, \delta\Delta/2]$, she votes truthfully (liberal) only with probability $p(\theta_1) = 1 - (\delta\Delta/2l - 1)(\alpha_0 + \Delta - \theta_1)/[\theta_1 - (\alpha_0 - \Delta)]$.

Proof. Parts i and ii follow from the text; in the Appendix we prove part iii.

4. Main Results

In presenting our main results, we first assess the threshold conditions under which new justices vote untruthfully. Next, we delineate when truthful voting

²⁹ That is, $(A + 3\alpha_2)/2 < \alpha_s < \alpha_p$.

³⁰ The new justice cannot affect the ideology of the second-period Court median, as this is always α_2 .

is more likely. Finally, we determine whether new justices understate or exaggerate their ideologies. We summarize these results in propositions 2 and 3.

Although there is no formal definition of a freshman effect,³¹ in the context of our model we introduce the following definition, which captures the intuition that under a freshman effect, new justices' first-period votes are not always good predictors of their future votes:

Freshman Effect. If faced with the same case in both periods, the new justice will not necessarily vote the same way in both periods.

Given that justices always vote truthfully during the second period, it is evident that, in the context of our model, the freshman effect exists if and only if the new justice votes untruthfully in the first period.

4.1. When Do Justices Vote Untruthfully, and When Is That More Likely?

We use several approaches to distinguish when justices vote truthfully or untruthfully. First, we consider the tenure of the justice. Second, we outline the effect of ideological differences between the president and the Senate. Finally, we identify higher or lower likelihoods of untruthful votes, distinguishing by case type.

No justice votes untruthfully in the second period because there are no future Court decisions to influence. Also, new justices face maximum incentives to vote untruthfully. Not only are the stakes higher for a new justice because she expects to remain on the Court longer, and hence influence more future judicial decisions, but in addition, the set of informative cases³² is at a maximum when she has just joined the Court. Accordingly, a justice's proximity to the end of her tenure increases her incentives to vote truthfully.

Our model also implies that untruthful voting never takes place when the ideologies of the president and the Senate are aligned because then J_2 is always the median voter of the second-period Court. As such, the new justice wins nothing by voting untruthfully. In comparison, when the ideologies of P and S are at least semiopposed, the new justice has incentives to vote strategically in

³¹ There is little theory behind the claim: in fact, the literature makes no prediction about even the direction of the expected movements, only that justices will shift from their first-term preferences (see Epstein et al. 2008, p. 179). Theories include categorical exceptions, such as that prior executive experience will lead to less dramatic change (but only for conservatives) (Dorf 2007) or, in contrast, that prior judicial experience will have the same effect (Hagle 1993). Other explanations include "(1) initial bewilderment or disorientation, (2) assignment of a lower than average number of opinions to the new justice, and (3) an initial tendency on the part of the new justice to join a moderate block of justices" (Hagle 1993, p. 1142). The literature on judicial drift is even less specific: judicial evolution is not limited to a difference between the first and later periods—for instance, Epstein et al. (2008, p. 1520) claim that Justice Hugo Black and other justices "swung back and forth" in preferences.

³² The informative cases are those whose types fall within the ideological interval that contains the true ideology of the new justice. At $t = 1$, the set of informative cases is $[\alpha_0 - \Delta, \alpha_0 + \Delta]$. From Bayes's theorem it follows that only votes on these cases provide agents with information to update their beliefs about the new justice.

order to move the median of the Court as close to her own ideology as possible. But when exactly will the justice vote untruthfully? That is, when do we expect to find a freshman effect?

Three conditions must hold for a new justice to vote untruthfully. First, the new justice must know that J_3 is retiring next period (as we show in Section 5.2, it is enough if the probability of retirement of J_3 is strictly positive). Second, the cost of voting untruthfully cannot be too great. Third, the case type must have specific characteristics. We explain these points in further detail.

A necessary condition for a new liberal justice to vote untruthfully is for her to anticipate that there will be a future vacancy in the Court. Without a vacancy, the median of the Court will remain as in the first period, and no player will care about the perceived ideology of the new justice. In addition, a new justice will consider voting untruthfully only if the cost of doing so is lower than the maximum expected benefit.³³ In particular, if that same cost is lower than the minimum expected benefit associated with an untruthful vote, the new justice always votes liberal when P and S have opposed ideologies and always votes conservative when P and S have semiopposed ideologies. Notice that this minimum expected benefit depends on the case.³⁴ This implies that as well as being able to identify the situations in which a new justice votes untruthfully in terms of her reputational cost, we can do the same in terms of the cases she faces.

To better understand the last point, consider the scenario in which P and S have opposed ideologies. To say that the new justice always votes untruthfully for cases $\theta_1 < \alpha_1$ when $l < \delta[\theta_1 - (\alpha_0 - \Delta)]/4$ (from proposition 1) is equivalent to saying that she always votes to acquit in cases $\theta_1 \in [\alpha_0 - \Delta + 2l/\delta\Delta, \alpha_1]$. Those are cases in which truthful voting mandates that the new justice vote for conviction but the mitigating evidence is close to the indifference point.

That conclusion anticipates the relevance that the ideologies of P and S and the case types have in the likelihood of untruthful voting. The new justice votes untruthfully when she faces different case types, depending on the nomination game she expects that the president and Senate will play. When P and S have opposed ideologies, the new justice votes untruthfully only when she faces cases in which she would otherwise vote conservative, that is, against her liberal tendency. On the other hand, when P and S have semiopposed ideologies, the new justice votes untruthfully only when she faces cases in which she would otherwise vote liberal, that is, against her conservative tendency. The reason for this distinction is straightforward: when P and S have opposed ideologies, the new justice wants to be perceived as more liberal because the expected ideology of the replacement of J_3 is increasing in the perceived ideology of J_1 ; but when P and S have semiopposed ideologies, the new justice wants to be perceived as

³³ The maximum expected benefit is $\delta\Delta/2$, because the maximum value of the difference between $E[\alpha_i]$ when the new justice votes conservative instead of liberal is Δ .

³⁴ From proposition 1 we know that the bounds for l under which the justice always votes untruthfully are $\delta[\theta_1 - (\alpha_0 - \Delta)]/4$ when P and S are opposed and $\delta[(\alpha_0 + \Delta) - \theta_1]/4$ when P and S are semiopposed.

more conservative because the expected ideology of the replacement of J_3 is decreasing in the perceived ideology of J_1 . All the above ideas are summarized in proposition 2.

Proposition 2: Untruthful Voting When Δ Is Small (Freshman Effect).

- a) Untruthful voting takes place only in the first period, never in the second period.
- b) Necessary conditions for untruthful voting to take place are that
 - i) P and S do not have aligned ideologies,
 - ii) the justices know that a retirement will take place in the near future, and
 - iii) the cost of voting untruthfully is not too large.
- c) Untruthful voting is more likely when the case type is closer to the new justice's true ideology.

Proof. Parts a and b follow from the text. See the Appendix for a proof of part c.

4.2. Exaggerate or Understate?

The previous findings show that it is very likely that a new liberal justice will be involved in untruthful voting at the beginning of her tenure. The question is, how does the new justice's perceived ideology compare when she votes according to the strategies derived in Section 3 instead of a strategy of always voting truthfully? In other words, the new justice will rationally bias her perceived ideology away from her true ideology, but in which direction?

We address these questions from two angles. First, what differences do we find in perceived ideologies when we cancel out the effects from case diversity (that is, we analyze only expected perceived ideologies)? Second, what effects are present when we explicitly consider the role of cases (that is, we analyze perceived ideologies)?³⁵

Bias in the Expected Perceived Ideology ($E[A]$). The bias in the expected perceived ideology depends on the ideological positions of the president and the Senate. If the Senate's ideology lies to the Court's left, the new liberal justice anticipates a nomination game in which she has incentives to be perceived as more liberal (exaggerate her ideology). Instead, if the Senate's ideology lies to the Court's right, the new justice anticipates a nomination game in which she has incentives to be perceived as more conservative (understate her ideology).

Direct calculations yield $E[A] = \alpha_0 - \Delta(1 - 2\Delta)(\delta\Delta/2l - 1)/(\delta\Delta/2l)^2 < \alpha_0$ when P and S have opposed ideologies but $E[A] = \alpha_0 + \Delta(1 - 2\Delta)(\delta\Delta/2l - 1)/(\delta\Delta/2l)^2 > \alpha_0$ when P and S have semiopposed ideologies. These expressions tell us that after the first period, and in expected value, the new liberal justice will be

³⁵ These distinctions are relevant for empirical tests. We return to this point at the end of Section 5.

perceived as more liberal than she was initially perceived to be³⁶ when P and S are opposed but as more conservative when they are semiopposed.

Bias in the Perceived Ideology ($A(\theta_1)$). This bias is also connected to the ideological positions of P and S (the nomination games). Some of the insights are as in the expected perceived ideology, so we do not reiterate them. Instead, we discuss a different angle: the bias in the perceived ideology depends on the case faced by the Court. To see this more clearly, we write the value of $A(\theta_1)$ when P and S have opposed ideologies:

$$A(\theta_1) = \begin{cases} \frac{\theta_1 + \alpha_0 + \delta}{2} & \text{if } v_1(\theta_1) = C \text{ for all } \theta_1 \\ \alpha_0 & \text{if } v_1(\theta_1) = L \text{ and } \theta_1 > \alpha_0 - \Delta + 2l/\delta\Delta \\ \frac{\theta_1 + \alpha_0 + \delta(1 - 4l/\delta\Delta)}{2} & \text{if } v_1(\theta_1) = L \text{ and } \theta_1 < \alpha_0 - \Delta + 2l/\delta\Delta. \end{cases}$$

These expressions imply that if the justice faces a case with scarce mitigating evidence $\theta_1 < \alpha_0 - \Delta + 2l/\delta\Delta$, after voting untruthfully, she will be perceived as more liberal (exaggerating her ideology) than if she had voted according to an always-vote-truthfully strategy. In order to see this, notice that while under the first voting strategy her perceived ideology becomes $(\theta_1 + \alpha_0 + \Delta)/2 - 2l/\delta$, under the second it becomes $(\theta_1 + \alpha_0 + \Delta)/2$. In contrast, if the justice faces a case with plenty of mitigating evidence $\theta_1 > \alpha_0 - \Delta + 2l/\delta\Delta$, after voting untruthfully, she will be perceived as more conservative (understating her ideology) than if she had voted sincerely (always truthfully). While under the first strategy her perceived ideology remains α_0 , under the second it becomes $(\theta_1 + \alpha_0 - \Delta)/2$.³⁷ Proposition 3 formalizes the most important elements of this section.

Proposition 3: Perceived Ideology When the New Liberal Justice Follows an Optimal Voting Strategy.

At the beginning of the new liberal justice's tenure,

- i) her expected perceived ideology will be seen as more liberal if P and S have opposed ideologies, but
- ii) her expected perceived ideology will be seen as more conservative if P and S have semiopposed ideologies.

Proof. It follows directly from the fact that $E[A] = \alpha_0 - \Delta(1 - 2\Delta)(\delta\Delta/2l - 1)/(\delta\Delta/2l)^2 < \alpha_0$ when P and S have opposed ideologies but $E[A] = \alpha_0 + \Delta(1 - 2\Delta)(\delta\Delta/2l - 1)/(\delta\Delta/2l)^2 > \alpha_0$ when P and S have semiopposed ideologies. Q.E.D.

³⁶ She will also be perceived as more liberal than if she had followed an always-vote-truthfully strategy.

³⁷ It may seem surprising that when $\theta_1 > \alpha_0 - \Delta + 2l/\delta\Delta$, the new liberal justice is more likely to follow a strategy in which she will be perceived as more conservative than if she had followed a strategy of always voting truthfully; however, remember not only that her expected perceived ideology is more liberal under her optimal voting strategy than under the always-vote-truthfully strategy but also that her perceived ideology will be more liberal than if she had voted conservative.

5. Discussion and Testable Predictions

In order to keep the model as simple as possible, until now we have assumed that the retiring justice retires with certainty, the new justice is always liberal, the ideology of only one justice is unknown, precision of the initial beliefs of the agents is high, and P and S are myopic. Here we discuss the robustness of our results when we relax these assumptions. We end by presenting testable predictions of our theory.

5.1. *New Justice's Ideology*

We have assumed that the new justice is always the liberal justice. What happens if the new justice is the conservative or the moderate justice? Because the model is symmetric, the results for the new conservative justice are analogous to the results that we derive for the new liberal justice. A new conservative justice will try to be perceived as more conservative when P and S have opposed ideologies but will try to be perceived as more liberal when P and S are semi-opposed. The voting strategies are symmetric to the ones characterized in proposition 1.

The case of a new moderate justice is more interesting. Our model predicts that this justice will always vote truthfully, both in the first period and in the second period. The logic is simple: because the moderate justice is pivotal in the first period, an untruthful vote induces a certain loss that expected future benefits cannot compensate.³⁸ In other words, while we expect to find a freshman effect when a new member of the Court has extreme ideology, we do not expect to find one when that justice is moderate.³⁹

5.2. *Retirement Uncertainty*

Suppose that at the beginning of the second period, J_3 retires only with probability p and not with certainty, as we have assumed. Then the results of propositions 1 and 2 hold,⁴⁰ but whenever δ appears, we instead have δp . The benefits associated with an untruthful vote will not be certain anymore; the new justice will enjoy these benefits only if J_3 retires. Consequently, the greater the probabilities of retirement are (which can be linked to age, health, tenure, and so forth), the stronger the incentives of the new justice to vote untruthfully. A direct implication is that while the ideology of P and S determine the direction of the freshman effect (the bias makes the new justice's expected ideology more liberal

³⁸ An untruthful vote at $t = 1$ implies a certain cost of $l + 1$. That needs to be contrasted with the expected benefit of δ times the number of cases that will be decided as the moderate justice wants at $t = 2$. But that number is smaller than $\Delta/2$. So the result follows since $1 + l > \Delta\delta/2$.

³⁹ If the model had more periods, then moderate justices may have an incentive to engage in untruthful voting as well, since the expected utilities of several future periods may dominate the current certain costs. It would nonetheless still be true that moderate justices have fewer incentives to vote untruthfully when we compare them with the same incentives for extreme justices.

⁴⁰ Proofs are available from the authors; for more detail, see Bustos and Jacobi (2013).

or conservative), the probability of retirement determines the magnitude of the effect.⁴¹

5.3. Correct and Incorrect Perceptions

Here we discuss the robustness of our results when we consider that agents (the original justices, P, and S) may perceive the ideological position of the new justice incorrectly; that is, Δ is large enough to allow for the possibility that the perceived ideologies of the justices might overlap. Then the true ideologies make J_1 the liberal justice, J_2 the moderate, and J_3 the conservative—but the other agents do not know this.

Although the mathematical expressions in proposition 1 will be different, results from propositions 2 and 3 hold. The most important difference is that for the case in which Δ is large, the conclusion derived in Section 5.1 that moderate justices never vote untruthfully in the first period is no longer true. When Δ is large enough, the new moderate justice might vote untruthfully because, for certain case types, he will no longer be the pivotal voter.⁴² That said, the incentives of the moderate justice to vote untruthfully are smaller than the ones for extreme justices.⁴³ In other words, when Δ is large enough, we expect to find a freshman effect for all types of new justices, but the size of the bias will be smaller for moderate justices than for extreme ones.

5.4. More than One Justice's Ideologies Are Unknown

It is very likely that at any moment there will be more than one justice whose ideology is not completely known. To incorporate this into our model, we consider that the ideologies of two justices have $\Delta > 0$ at $t = 1$. Because of space constraints we do not provide details here, but two interesting points derive from this innovation. First, our analysis and results hold as before if Δ is small (initial beliefs are precise) such that ideologies do not overlap. To see that, suppose that J_1 and J_3 are new justices and J_2 is the retiring justice. Then, if the case is informative⁴⁴ ($\theta_1 \in [\alpha_{01} - \Delta, \alpha_{01} + \Delta]$), J_2 and J_3 always truthfully vote conservative (because $\theta_1 < \alpha_2 < \alpha_{03} - \Delta$); hence, J_1 follows the strategy given

⁴¹ A more detailed analysis shows that the impact of p in the magnitude of the freshman effect is not monotonic but depends on the ratio $\delta\Delta/2l$.

⁴² Consider the following situation: $\alpha_{02} - \Delta < \alpha_1 < \alpha_2 < \alpha_1 < \alpha_{02} + \Delta$. In that case, the moderate justice is not a pivotal voter when she faces cases within the intervals $[\alpha_{02} - \Delta, \alpha_1]$ or $[\alpha_3, \alpha_{02} + \Delta]$.

⁴³ To see this formally, we calculate the payoffs obtained by the new moderate and liberal justices when they vote untruthfully in the next four scenarios: $\theta_1 < \alpha_1$, $\theta_1 \in [\alpha_1, \alpha_2]$, $\theta_1 \in [\alpha_2, \alpha_3]$, and $\theta_1 > \alpha_3$. Straightforward algebra tells us that the payoffs for the liberal justice will be $-l$, $-l$, $-(1+l)$, $-l$ and for the moderate justice will be $-l$, $-(1+l)$, $-(1+l)$, $-l$, respectively. From inspection we conclude that the payoff obtained by the moderate justice when she votes untruthfully is always less than or equal to the payoff obtained by the liberal justice.

⁴⁴ This is the relevant situation, as we know that J_1 does not vote untruthfully when the case is outside this interval.

by proposition 1, in which the ideology of J_3 is assumed to be α_{03} (her initially perceived ideology).⁴⁵

But when Δ is large (initial beliefs are imprecise) such that ideologies might overlap, the incentives of the justices to vote untruthfully increase. To see that, suppose as before that J_1 and J_3 are new justices and J_2 is the retiring justice. In addition, suppose that $\alpha_{01} < \alpha_{03} < \theta_1 < \alpha_{01} + \Delta < \alpha_{03} + \Delta$. That is, the case is informative of both new justices. Last, suppose that P and S are opposed in ideology, so the expected ideology of the median of the second-period Court is $(A_1 + A_3)/2$.⁴⁶ Then, facing θ_1 , J_1 and J_3 should vote liberal but only J_1 will do so with certainty, as that vote dominates the alternative of voting conservative, whereas J_3 might decide to switch her vote to conservative so that she can move the expected median of the Court further right. The analysis is the same as in Section 3 with one important difference. If J_1 was an original justice, we know that $A_1 = \alpha_{01}$, but with J_1 as a new justice, her expected ideology will be $A_1 < \alpha_{01}$. Consequently, the incentives of J_3 to be perceived as more conservative (that is, to vote untruthfully) increase.⁴⁷

5.5. *President and Senate Are Forward Looking*

Interesting implications arise if we consider that P and S are long-lived, because then they choose both the first- and the second-period new justices. Here we distinguish between the scenarios in which perceptions are precise (Δ is small) and imprecise (Δ is large).

If perceptions are precise, then justices always vote truthfully.⁴⁸ But if perceptions are imprecise, then our results hold as before. The reason is that all justices still vote truthfully in the second period, as this is the last period of the game and justices have no incentives to vote strategically. In addition, in the first period justices will vote conditional on the case that they face, as well as on the true ideologies of the original justices, P, and S. That is, when Δ is large, they will follow the same strategy derived when P and S were myopic. What is different? The nomination game played by P and S in the first period will not be the standard Moraski and Shipan (1999) model. We find that P and S will have to consider the value of their expected utilities in the second period (which depends on the new justice's perceived ideology after voting in the first case and

⁴⁵ In addition, the moderate justice J_2 votes truthfully for all values of θ_1 (see Section 5.1). If $\theta_1 \in [\alpha_{03} - \Delta, \alpha_{03} + \Delta]$, the conservative justice J_3 votes according to proposition 1 (but the math is inverted for a new conservative justice).

⁴⁶ While J_1 wants to be perceived to be as liberal as possible, J_3 wants to be perceived to be as conservative as possible.

⁴⁷ Justice J_1 has more incentives to vote insincerely when $\alpha_{01} - \Delta < \alpha_{03} - \Delta < \theta_1 < \alpha_{01} < \alpha_{03}$. Both new justices vote sincerely when $\alpha_{01} < \alpha_{03} - \Delta < \theta_1 < \alpha_{01} + \Delta < \alpha_{03}$.

⁴⁸ A first-period new liberal justice can be elected only by a P and an S who have aligned liberal ideologies, and a first-period new moderate justice can be elected only by a P and an S who have opposed ideologies. Since we know from Section 5.1 that new moderate justices always vote truthfully and new extreme justices vote truthfully when they face aligned P and S, it follows that justices always vote truthfully when Δ is small enough.

the probability of retirement) and their expected utilities in the first period (which depends on the second-period voting scenarios conditional on the value of the true ideology of the new justice and the first-period case).⁴⁹

5.6. Testable Predictions (If Δ Is Small)

Our discussion of the evolution of perceived ideologies generated expressions for the expected perceived ideology and for the perceived ideology. Although in principle both expressions could be used to test the predictive power of our theory, we believe that $E[A]$ is preferable. The reason is that the perceived ideology relies on the assumption that the Court faces just one case per period, whereas we know that justices hear between 60 and 80 cases per term. Hence, an average seems more appropriate. As such, we suggest the following testable predictions:

1. Conditional on ideological perceptions being reasonably precise, at the beginning of their tenures, moderate justices' perceived ideologies should remain constant relative to their initial perceptions.
2. At the beginning of their tenures, liberal justices' perceived ideologies should shift to the left, relative to their initial perceptions, if the president's and Senate's ideologies are opposed. This can be tested by subsequent voting being further right than early tenure voting.
3. At the beginning of their tenures, liberal justices' perceived ideologies should shift to the right, relative to their initial perceptions, if the president's and Senate's ideologies are semiopposed. This can be tested by subsequent voting being further left than early tenure voting.
4. Conditional on the cost of an untruthful vote being nonnegligible,⁵⁰ the larger the expected probability of retirement of the other members of the Court, the larger the size of the bias should be at the beginning of the justice's tenure.

6. Conclusions

Uncertainty in judicial appointments does not disappear once a nominee is confirmed. We have shown that forward-looking justices may have an incentive to maintain ambiguity about their true preferences because they anticipate that they can influence the future composition of the Court. Over time, justices' expected ideologies will converge with their actual ideologies. This implies that a justice's later voting behavior is more informative of her true preferences than her earlier voting behavior, a conclusion that has important implications for measurement of judicial ideology and literature on the freshman effect.

First, measures of ideology should discount earlier voting as potentially un-

⁴⁹ For example, in the case in which J_1 and J_3 are the original justices and P and S have opposed ideologies, P would have to propose a candidate that makes S indifferent to a candidate with expected ideology $(\alpha_1 + \alpha_3)/2 + \delta[(\alpha_1 + \alpha_3)/2 + \alpha_3]/2$. That is, $(\alpha_1 + A)/2 + \delta(\alpha_1 + A)/2 = (\alpha_1 + \alpha_3)/2 + \delta[(\alpha_1 + \alpha_3)/2 + \alpha_3]/2$, which implies a new moderate justice with expected ideology of $\alpha_0 = (\alpha_1 + \alpha_3)/2 + \Delta(1 - 2\Delta)(\delta\Delta/2l - 1)/(\delta\Delta/2l)^2$.

⁵⁰ That is, $l > \delta p\Delta/4$.

reliable. In addition, two justices who have identical ideologies but who face different case-fact distributions will appear to have different ideological preferences. As such, cross-term scores such as Martin and Quinn's (2002) are actually comparing perceived rather than true ideologies. Furthermore, because voting scores leverage the staggered nature of judicial retirement, they effectively compare newer justices' perceived ideologies with more established justices' actual ideologies.

This conclusion does not deny the power of cross-court scores of judicial ideology, but it does suggest that we should interpret those measures with caution. Of particular concern is using such scores as both the dependent and independent variables, such as in the literature asserting a freshman effect or a more general judicial drift.

There are now two competing theories as to why we observe evidence of changes in perceived judicial ideology: because actual judicial preferences change or because expression of unchanged judicial preferences varies. These two theories present starkly divergent views of the nature of judging, and so it is important to differentiate them. There is little theory behind the freshman effect and even less for the judicial drift literature, which does not predict the direction or timing of movement and has no corroborating evidence. In contrast, there is an extensive body of evidence for strategic judicial voting behavior, and on the basis of the strategic approach, we have provided a series of testable predictions. Future empirical work can examine these hypotheses and so determine whether judicial preferences are static or dynamic.

Appendix

Proofs

Nomination Games

To clarify the characterization of the solution, here we replicate the logic of the Moraski and Shipan (1999) nomination games played by P and S when a Court vacancy occurs at the beginning of the second period.

P and S Have Opposed Ideologies (Moraski and Shipan Fully Constrained Case). If $\alpha_s < (A + \alpha_2)/2 < \alpha_p$, the president nominates a new justice with ideology $(A + \alpha_2)/2$, and she is confirmed by the Senate. Even when the president would like to nominate a new justice more conservative than J_3 , so that J_3 becomes the new median, any justice with ideology further right than $(A + \alpha_2)/2$ will be rejected by the Senate, since that is the default option in case of no agreement.

P and S Have Semiopposed Ideologies (Moraski and Shipan Semiconstrained Case). If $(A + \alpha_2)/2 < \alpha_s < (A + 3\alpha_2)/4 < \alpha_p$, the president nominates a new justice with ideology $2\alpha_s - (A + \alpha_2)/2$, and she is confirmed by the Senate. Again the president would like to appoint a new justice who is as conservative as possible, but any nominee whose ideology lies at a distance from the Senate's ideology larger than the distance of the Senate's ideology from the default median

will be rejected by the Senate. Then, if we denote the ideology of the new nominee α_N , the Senate will reject any nominee for which $\alpha_N - \alpha_S > \alpha_S - (A + \alpha_2)/2$. In other words, the most conservative new nominee that the Senate is willing to confirm has ideology $\alpha_N = 2\alpha_S - (A + \alpha_2)/2$. Notice that when $\alpha_S = (A + 3\alpha_2)/4$, the president's nominee has ideology α_2 , which means that for any nominee further right, the median of the Court will be α_2 .

P and S Have Aligned Ideologies (Moraski and Shipan Unconstrained Case). If $(A + 3\alpha_2)/4 < \alpha_S < \alpha_P$, the president is free to nominate a new justice with ideology α_P , who will be confirmed by the Senate because then the new median of the Court is α_2 . The Senate prefers α_2 to $(A + \alpha_2)/2$.

Proof of Proposition 1

We have already shown why parts i and ii are true when P and S have opposed or semiopposed ideologies. Here we show that part iii is also true and that the probabilities given in the proposition define the semiseparating strategy. We provide the analysis for the case in which P and S have opposed ideologies; the other case is analogous.

To see that the justice randomizes votes when $l \in [\delta[\theta_1 - (\alpha_0 - \Delta)]/4, \delta\Delta/2]$, assume that this is not the case and instead the justice votes conservative. Then the justice's perceived ideologies become

$$E[\alpha_1 | v_1(\theta_1) = C] = \frac{(\alpha_0 + \Delta + \theta_1)}{2}$$

and

$$E[\alpha_1 | v_1(\theta_1) = L] = \frac{(\alpha_0 - \Delta + \theta_1)}{2},$$

which implies that the expected utility from a liberal vote is larger than the expected utility from a conservative vote in $\delta\Delta/2$. From this it follows that the justice prefers to vote liberal; however, if the justice votes liberal, her vote becomes uninformative (she will vote liberal in all the cases) and $E[\alpha_1 | v_1(\theta_1) = L] = \alpha_0$. Then the expected utility differential becomes only $\delta[\theta_1 - (\alpha_0 - \Delta)]/4$, which is not enough to compensate for the cost of an untruthful vote, which is $l > \delta[\theta_1 - (\alpha_0 - \Delta)]/4$. It follows that the justice does not want to vote liberal in these cases, so the solution cannot be in the form of pure strategies.

To see that $p(\theta_1) = 1 - (\delta\Delta/2l - 1)[\theta_1 - (\alpha_0 - \Delta)]/(\alpha_0 + \Delta - \theta_1)$ makes the new justice indifferent between a liberal and a conservative vote, first notice that $l > \delta[\theta_1 - (\alpha_0 - \Delta)]/4$ is equivalent to saying that θ_1 must be smaller than $\underline{\theta} = \alpha_0 - \Delta + 4l/\delta$. Then $p(\theta_1)$ must be the probability that makes the following identity true:⁵¹

⁵¹ Agents do not know whether $\theta_1 < \alpha_1$, but they do know that $\theta_1 < \underline{\theta}$. Note that we are analyzing only informative cases; that is, $\theta_1 \in [\alpha_0 - \Delta, \alpha_0 + \Delta]$. The proof is not contingent on that, but the range is smaller than $\theta_1 \in [0, 1]$.

$$\frac{\delta(E[\alpha_1|\theta_1 < \underline{\theta}, v_1(\theta_1) = C] - E[\alpha_1|\theta_1 < \underline{\theta}, v_1(\theta_1) = L])}{2} = l. \quad (A1)$$

First, notice that

$$\begin{aligned} E[\alpha_1|\theta_1 < \underline{\theta}, v_1(\theta_1) = C] &= E[\alpha_1|\alpha_1 < \theta_1]\{Pbb(\alpha_1 < \theta_1|\theta_1 < \underline{\theta}, v_1(\theta_1) = C)\} \\ &\quad + E[\alpha_1|\alpha_1 > \theta_1]\{Pbb(\alpha_1 > \theta_1|\theta_1 < \underline{\theta}, v_1(\theta_1) = C)\} \\ &= E[\alpha_1|\alpha_1 > \theta_1] \\ &= \frac{\theta_1 + \alpha_0 + \Delta}{2} \end{aligned}$$

(where the first term in curly braces equals 0 and the second term in curly braces equals 1). Intuitively, α_1 cannot be to the left of θ_1 , otherwise the justice would vote liberal, and given that the justice voted conservative, her true ideology has the same probability of being at any point in the interval $[\theta_1, \alpha_0 + \Delta]$. The last point follows from the fact that the probability of voting conservative when $\theta_1 < \underline{\theta}$ is the same for any ideology α_1 in the interval $[\theta_1, \alpha_0 + \Delta]$.

On the other side,

$$\begin{aligned} E[\alpha_1|\theta_1 < \underline{\theta}, v_1(\theta_1) = L] &= E[\alpha_1|\alpha_1 < \theta_1]Pbb(\alpha_1 < \theta_1|\theta_1 < \underline{\theta}, v_1(\theta_1) = L) \\ &\quad + E[\alpha_1|\alpha_1 > \theta_1]Pbb(\alpha_1 > \theta_1|\theta_1 < \underline{\theta}, v_1(\theta_1) = L). \end{aligned}$$

From Bayes's theorem we know that

$$\begin{aligned} &Pbb[\alpha_1 < \theta_1|\theta_1 < \underline{\theta}, v_1(\theta_1) = L] \\ &= \frac{[\theta_1 - (\alpha_0 - \Delta)]/2\Delta}{[\theta_1 - (\alpha_0 - \Delta)]/2\Delta + [1 - p(\theta_1)]\{[(\alpha_0 + \Delta) - \theta_1]/2\Delta\}} \end{aligned}$$

and

$$\begin{aligned} &Pbb[\alpha_1 > \theta_1|\theta_1 < \underline{\theta}, v_1(\theta_1) = L] \\ &= \frac{[1 - p(\theta_1)]\{[(\alpha_0 + \Delta) - \theta_1]/2\Delta\}}{[\theta_1 - (\alpha_0 - \Delta)]/2\Delta + [1 - p(\theta_1)]\{[(\alpha_0 + \Delta) - \theta_1]/2\Delta\}}. \end{aligned}$$

Notice that the restriction $\theta_1 < \underline{\theta}$ is important here because $Pbb[v_1(\theta_1) = L|\theta_1 < \underline{\theta}, \alpha_1 > \theta_1] = 1 - p(\theta_1)$, which is different from $Pbb[v_1(\theta_1) = L|\alpha_1 > \theta_1]$, as the justice always votes liberal when $\theta_1 \in [\underline{\theta}, \alpha_1]$.

These probabilities have a direct interpretation. Their denominators correspond to the total number of scenarios in which the justice votes liberal when $\theta_1 < \underline{\theta}$. That is, when $\alpha_1 < \theta_1$, the justice always votes liberal, but when $\alpha_1 \geq \theta_1$, the justice votes liberal only with probability $1 - p(\theta_1)$. The numerators identify the number of scenarios in which the justice votes liberal when $\alpha_1 < \theta_1$ and $\alpha_1 \geq \theta_1$ separately. The rest is algebra:

$$E[\alpha_1 | \theta_1 < \underline{\theta}, v_1(\theta_1) = L] =$$

$$\frac{\theta_1 + \alpha_0 - \Delta}{2} \frac{[\theta_1 - (\alpha_0 - \Delta)]/2\Delta}{[\theta_1 - (\alpha_0 - \Delta)]/2\Delta + (1 - p(\theta_1))\{[(\alpha_0 + \Delta) - \theta_1]/2\Delta\}}$$

$$+ \frac{\theta_1 + \alpha_0 + \Delta}{2} \frac{(1 - p(\theta_1))\{[(\alpha_0 + \Delta) - \theta_1]/2\Delta\}}{[\theta_1 - (\alpha_0 - \Delta)]/2\Delta + (1 - p(\theta_1))\{[(\alpha_0 + \Delta) - \theta_1]/2\Delta\}}$$

After substituting $E[\alpha_1 | \theta_1 < \underline{\theta}, v_1(\theta_1) = C]$ and $E[\alpha_1 | \theta_1 < \underline{\theta}, v_1(\theta_1) = L]$ in equation (A1) we get

$$\delta \left(\frac{\theta_1 + \alpha_0 + \Delta}{2} - \frac{\theta_1 + \alpha_0 - \Delta}{2} \right) \left(\frac{[\theta_1 - (\alpha_0 - \Delta)]/2\Delta}{[\theta_1 - (\alpha_0 - \Delta)]/2\Delta + (1 - p(\theta_1))\{[(\alpha_0 + \Delta) - \theta_1]/2\Delta\}} \right) \frac{1}{2} = l$$

$$\Rightarrow 1 - p(\theta_1) = \left(\frac{\delta\Delta}{2l} - 1 \right) \frac{\theta_1 - (\alpha_0 - \Delta)}{\alpha_0 + \Delta - \theta_1}.$$

Q.E.D.

Proof of Proposition 2c

From proposition 1 we know that when P and S have opposed ideologies and the new justice faces a case $\theta_1 < \alpha_1$, she always votes untruthfully when $l < \delta[\theta_1 - (\alpha_0 - \Delta)]/4$ and votes untruthfully with probability $1 - p(\theta_1) = (\delta\Delta/2l - 1)[\theta_1 - (\alpha_0 - \Delta)]/(\alpha_0 + \Delta - \theta_1)$ when $l \in [\delta[\theta_1 - (\alpha_0 - \Delta)]/4, \delta\Delta/2]$. It follows that the closer θ_1 is to α_1 , the larger is the probability that the new justice votes untruthfully because $\delta[\theta_1 - (\alpha_0 - \Delta)]/4$ and $1 - p(\theta_1)$ increase with θ_1 . In contrast, when P and S have semiopposed ideologies and the new justice faces a case $\theta_1 > \alpha_1$, she always votes untruthfully when $l < \delta(\alpha_0 + \Delta - \theta_1)/4$ and votes untruthfully with probability $1 - p(\theta_1) = (\delta\Delta/2l - 1)(\alpha_0 + \Delta - \theta_1)/[\theta_1 - (\alpha_0 - \Delta)]$ when $l \in [\delta(\alpha_0 + \Delta - \theta_1)/4, \delta\Delta/2]$. It follows that the closer θ_1 is to α_1 , the larger is the probability that the new justice votes untruthfully because $\delta(\alpha_0 + \Delta - \theta_1)/4$ and $1 - p(\theta_1)$ decrease with θ_1 . Q.E.D.

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