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Strategic Judicial Preference Revelation

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Strategic Judicial Preference Revelation

Álvaro Bustos and Tonja Jacobi¹

September, 2010

Abstract

We examine the revelation of preferences of justices whose true ideologies are not known at the moment of entering the Court but gradually become apparent through their judicial decisions. In the context of a two-period President-Senate-Court game — a generalization of Moraski and Shipan (1999) — we show that, while moderate new justices always vote truthfully, more extreme new justices may vote untruthfully at the beginning of their tenures. By concealing their true ideologies, new justices move the perceived ideology of the overall Court closer to their own, which in turn influences the selection of future members of the Court. New justices will sometimes have an incentive to exaggerate the extremeness of their overall preferences, and at other times they will seek to appear more moderate. The manifestation of the untruthful voting will depend on the characteristics of the cases they face, their initial ideologies and the ideologies of the President and Senate. Additionally, untruthful voting is more likely when the probabilities of retirement of the current justices are large. Finally, we assess judicial incentives to shape their perceived retirement probabilities.

Key words: Court, judicial preferences, evolution preferences, truthful vote

JEL: k10, k30, k40

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1. Introduction

When then Judge John Roberts was nominated to the Supreme Court, it was generally anticipated that he would be a somewhat conservative justice, but it was unclear whether he would be moderately or strongly conservative.² The Senate, and the public, had some information about Roberts' ideology, from his service as a judge, a political appointee and an advocate, but considerably less information than was available about the justice he was replacing, Chief Justice Rehnquist, whose lengthy voting record on the Court provided considerable information about his perceived ideal point. Most commentators recognized that Judge Roberts had an incentive to be vague during his confirmation hearings,³ however, existing accounts of Supreme Court behavior assume that once confirmed with life tenure, judicial incentives change, and justices show their true colors immediately. The literature has recognized institutional constraints, such as legislative override or institutional punishment, that may prompt judicial avoidance or moderation, but no attention has been given to the possibility that justices could have an ongoing incentive to obfuscate about their true ideological position after actually entering the court.

Roberts knew that a second vacancy would be filled within months of his joining the Court; as such, he could have reasonably anticipated that his own behavior as a justice could shape the President's and the Senate's decisions over who filled the next seat — but in which direction? A more liberal voting record might increase the liberal Senate's tolerance of another nominee who “looks like” Roberts; but a more conservative voting record would move the median of the existing eight person Court toward Roberts' true (conservative) preferences. This in turn would affect what type of candidate is viable, given the potential for Presidential-Senate stalemate.⁴ We show that both types of strategic deception in judicial voting will arise.

² Compare Peter Rubin, *What Does John Roberts Believe?* Spiegel Online. July 21, 2005 (reporting that many believe Roberts may be as conservative as Scalia and Thomas) with Washington Post, *Supreme Court: Roberts Confirmation Hearings*. Sep 12, 2005 (quoting John Yoo's claim that Roberts is a moderate conservative and not an ideologue).

³ An incentive he seemingly followed closely; Sen. Schumer complained that “It's as if I asked you: ‘What kind of movies do you like?’ and got a general answer about good acting and good directing. Then I ask you if you like ‘Casablanca,’ and you respond by saying lots of people like Casablanca.” (Judge Roberts responded “Dr. Zhivago and North by Northwest.”) *Confirmation Hearing on the Nomination of John G. Roberts, Jr. to be Chief Justice of the United States: Hearing Before the S. Comm. on the Judiciary*, 109th Cong. _ (2005).

⁴ The median of the Court in the absence of the replacement justice constitutes the only confirmable position of a nominee when the Senate is to one side of the Court median and the President to the other: Moraski and Shipan (1999:1095).

The possibility that justices may have an incentive to mask their ideology once on the Court, through not voting their true preferences, is not limited to the scenario where the new justice knows with certainty that another vacancy is immediately opening up. In this paper, we formulate a model that examines the gradual revelation of ideological preferences – through judicial decisions – of justices whose ideologies are not fully known at the moment of entering the Court.⁵

Consider a simple game akin to Moraski and Shipan’s model (hereinafter MS), played by a myopic and conservative President, a myopic and liberal Senate and a non-myopic 3-justice Court. Like MS, in our model the President and Senate’s utilities are increasing functions of the proximity of the median of the Court to their own ideological positions. That means that the ideology of a new justice may be more or less extreme than the default median of the Court (constituted by the two remaining justices.) Unlike MS, we model a 2-period game, which allows us to consider strategic behavior that extends beyond entry to the Court and captures judicial anticipation of subsequent vacancies.

The first period begins with a new justice entering the Court. The President and the Senate do not know the true ideology of the new justice, but they have expectations of the justice’s ideology, which lies in a given interval. The Court then faces a case. The underlying case facts determine the probability that any given Court⁶ would resolve the case with a liberal outcome. The new justice may vote truthfully – i.e. vote her sincere outcome preferences – or not. The voting decision determines the case outcome and also provides information to the other players about the true position of her ideology.

Each justice, including the new justice, has a probability of dying or retiring at the end of the first period. The second period may begin with another vacancy, which, in that eventuality, is filled by a second new justice. The Court then hears a second case, and the justices vote, again either truthfully or untruthfully.

The justices receive utility or disutility from two sources: whether the Court decides the case in the way in which the justice prefers, and whether the justice voted in favor of her true ideology. That is, justices care about case outcomes, (see e.g. Epstein and Knight 1998: 80) and there is a cost to lying (see Jacobi 2008).

⁵ We assume that justices cannot openly or credibly reveal their ideologies directly, for reasons of institutional legitimacy, and must do so through their determinations: *see* Jacobi (2008).

⁶ A Court with a random ideology.

We focus our analysis on the strategy of the justice appointed in the first period. To take into account the role of her ideology, we analyze separately the cases in which the new appointee is conservative, liberal or moderate. In order to do so, we assume that the expected ideology of the first new justice is equal to the ideology of the retiring/dying justice.⁷ That is, we model the impact of the second round appointment process, but not the first, as this has been done elsewhere, for example by Moraski and Shipan.⁸

We hold the ideology of the President fixed as conservative but consider all possible ideological positions of the Senate, which captures all three scenarios that MS identify — the fully constrained, the semi-constrained and the unconstrained nomination games, whereby the relative ideological positions of the President, Senate and Court median determine the relative power between the nominating President and confirming Senate. In addition, we uncover the existence of a fourth scenario, which we call the semi-fully constrained nomination game, which arises due to the ideological ambiguity of the justice — the justice’s vote determines whether the President and Senate play a fully or semi-constrained nomination game.

We find four broad effects: that new justices have an incentive to reveal their ideology strategically over time; that different justices are more likely to engage in strategic voting than others; that the expected evolution of revealed ideologies is predictable over time; and that the optimal strategy over a justice’s decision to retire will depend on the position of the Senate, which in turn will determine the distance between the Court and a subsequent justice’s ideology. We also specify comparative statics in relation to: the ideological position of the new justice, the probability of retirement of both the new and other justices, the relative ideological distance between the Senate and the President, and the informational value of the case type.

The first broad result, that incoming justices have an incentive to mask their ideologies, only revealing their true positions gradually over time, arises because untruthful voting increases the likelihood of a justice conforming the future Court to her own ideology. This suggests that untruthful behavior is intended not to mask the preferences of the individual justice, so as to encourage the President and the Senate to appoint other new justices who, like the signaling justice, are more conservative or liberal than they appear; rather the misleading signals are

⁷ That is, we assume a specific distribution of the bargaining power in the first period. Obviously, we do not impose any restrictions on the bargaining power in the second period.

⁸ Given that the correlation between the bargaining power at periods 1 and 2 does not affect the strategies of the President and the Senate, since they are myopic, we can study the impact of the relative bargaining power in the second period without loss of generality.

intended to affect the President and the Senate's calculation of the median of the Court, which determines the default equilibrium position of any potential nominee when the President and the Senate have opposing preferences.

In our second broad result, we identify which justices are more likely to engage in strategic voting, and under what conditions. This encompasses a number of findings. First, extremist justices will sometimes vote untruthfully, but moderate justices will not. Although both types of justices can induce some probability that the second period case is decided as the justice would like by voting untruthfully in the first period, for the moderate justice, voting untruthfully creates a *certain* disutility in the first period that the case outcome will not reflect her preference, as she is the pivotal voter and so decides the outcome. The probabilistic benefit never dominates this certain cost for the moderate justice. Second, the probability that an extreme justice votes untruthfully increases with the probability that one of the other justices will retire or die – for example, it would increase with the age of each justice. This is simply because the increased probability of a vacancy makes first period strategic voting more worthwhile.

The third and final result within the second category is that strategic behavior depends both on the type of cases the justice faces and the expected nomination game that the President and Senate will play in case of a vacancy. When the President and Senate play a fully constrained nomination game, the new justice votes untruthfully only in informative cases in which she should vote against her ideological tendency. But when the President and Senate play a semi-constrained nomination game, the new justice votes untruthfully only in informative cases in which she should otherwise vote in line with her ideological tendency. The reversion of the result comes from the fact that, when the President and the Senate play a fully constrained game, the new justice's ideology pushes the expected ideology of the Court to the right but when the President and the Senate play a semi-constrained game, the new justice's ideology pushes the expected ideology of the Court to the left.

The third broad result is that we track the expected evolution of judicial preference revelation. For moderate justices, there is a smooth convergence of their initially perceived ideology toward their true ideology – regardless whether justices were initially perceived as more liberal or more conservative than they actually are. This is because moderate justices do not vote untruthfully, and so case determinations are highly informative, whereas for extremist justices, that convergence is not always monotonic. If the new liberal justice appears to be more

liberal (conservative) than she actually is and the President and Senate play a FC (SFC) nomination game, then there will still be smooth convergence, although in general it will be at a slower rate than is the case for the moderate justice (that is not surprising given that the votes conceal her true ideology and consequently other agents need more time to discover it).⁹ But if the new justice is perceived as more conservative (liberal) than she actually is and the President and Senate play a FC (SFC) game, then it may be the case that she will be perceived as even more conservative (liberal) at the beginning of her tenure, and only tend to her true liberal (conservative) ideology in posterior periods. That is, a non-monotonic path.¹⁰

The fourth and final broad result is that we predict the optimal signaling strategy followed by an extreme justice who knows she will retire in the second period. We predict that a liberal justice will signal a retirement probability which is increasing in the cost-benefit ratio of voting untruthfully and the probability that the replacing justice will be more conservative. But in the case of a conservative justice, we predict that she will either signal a zero or one probability of retirement.

The next Section briefly explains some of our key concepts. Then Sections 3 and 4 set out our model and present our main results; Section 5 provides discussion.

2. Key Concepts

This Part briefly explains three concepts that are central to our model – that judicial ideology is not static, that justices may vote untruthfully, and our conception of case facts.

First, we are concerned not with whether judicial ideology changes over time, but over whether *apparent* judicial ideology changes over time. Our model predicts that judicial behavior changes in significant and predictable ways, beyond simple noise, such that justices' voting patterns will be more or less liberal or conservative in one period than another. We are agnostic as to whether 'true' judicial preferences change over time, but in much of the literature the two concepts are merged, since common direct measures of judicial ideology – such as Martin-Quinn

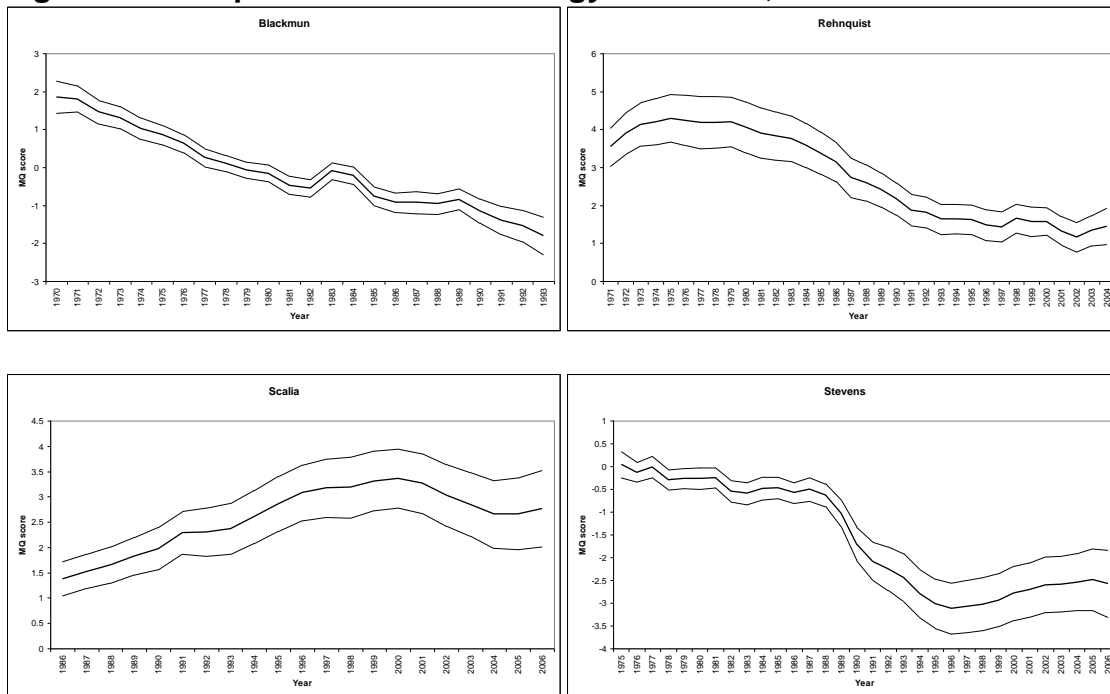
⁹ If the parameters of the model are such that the justice never votes untruthfully, then the evolution (speed of convergence) is the same as for the moderate justice. In addition, for particular values of the parameters, it may be the case that the speed of convergence is even faster.

¹⁰ It may seem counter-intuitive that a liberal justice, initially perceived to be too conservative, may want to be perceived as even more conservative at the beginning of her tenure. As we show below, this occurs due to the incapacity of the justice to commit herself to a strategy in which she always vote truthfully.

(2002) and Bailey-Chang (2001) scores – are predicated on the notion that voting patterns represent at least a very good proxy of judicial ideology.¹¹

Figure 1 illustrates the ideological movement of four of the more dynamic justices — Blackmun, Rehnquist, Scalia and Stevens — using Martin-Quinn scores. These patterns of change have been shown to be significant, beyond these four dramatic examples (Epstein et al 2007). These justices illustrate steady movements in one ideological direction (Blackmun), ideological movement combined with ideological plateaus, that maintain a largely monotonic conservative/liberal drift (Scalia and Stevens, respectively), as well as non-monotonic movement, with increasing initial extremism followed by moderation over time (Rehnquist) — the last of which has previously not been explained but our model predicts. We return to this point, and this Figure, in the conclusion.

Figure 1: Examples of Judicial Ideology over Time, with Confidence Intervals



Our results suggest that at least some of the movement illustrated in Figure 1 arises from through strategic judicial revelation of preferences, *a product of changes in perceived judicial ideology, rather than true judicial ideology*. We do not deny the possibility of genuine ideological change also occurring over time, but our model does suggest that later observed

¹¹ Given that voting behavior in one area of law can often be used to predict voting behavior in other, seemingly relatively unrelated areas of law (see e.g. Sag, Jacobi and Sytch 2009), this treatment is arguably quite reasonable.

behavior will be closer to the true preferences of the justice than initial voting behavior. This has implications for measurement of judicial ideology, and whether some behavior should be discounted as potentially less informative of true preferences.

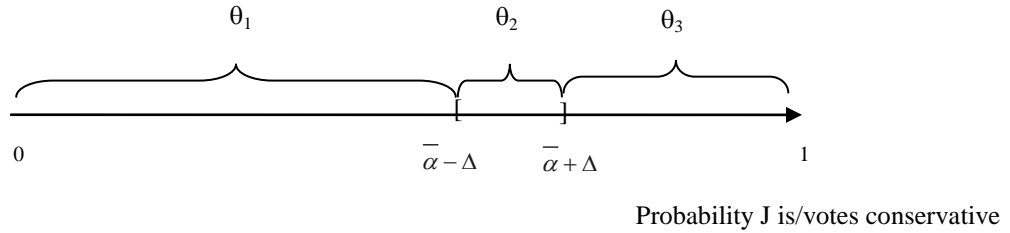
Second, Moraski and Shipan showed that when the President and the Senate each lie on opposite sides of the median of the Court (in the absence of filling the appointment), the resulting gridlock means that the only equilibrium outcome is the appointment of a justice at the existing Court median. So in our model, justices may vote untruthfully in order to shape the perception of the President and the Senate as to what the median of the remaining Court is. Thus a strategic new justice will vote contrary to her true preferences – even if doing so will move the decision of the Court away from the justice’s preferences in the immediate case – if doing so will mean that the median of the second period Court is closer to her ideology. This will ensure that the new vacancy is filled by a second new justice at a median closer to the first new justice’s preferences, and thus ultimately that more future cases will be decided more in line with the justice’s ideology. This assumes that justices may vote untruthfully – i.e. contrary to their true preferences over a specific case outcome – for strategic reasons (*see* Ulmer 1978; Lax 2003; Schubert 1962; Epstein, Segal and Victor 2002), and engage in signaling their preferences – with the necessary associated possibility of false signaling (Baird 2007; Dougherty and Reinganum 2006; Morriss, Heise and Sisk 2005; Baird and Jacobi 2009).

Third, when a new justice is appointed to the Court, that justice is the only player who knows her own true ideology. The other players – the President, the Senate and the original justices – do not know the new justice’s true preferences, but they have initial expectations about the new justice’s ideology, based on imperfect information from their voting records on lower Courts, political party affiliations, publicly taken positions on specific issues etc. We represent this as each new justice has a true ideology α (the probability that the justice votes conservative in a given case) which is initially perceived as having an ideology uniformly distributed in the interval $[\bar{\alpha} - \Delta, \bar{\alpha} + \Delta]$ (specified in more detail in the next section). Notice that because we define ideology as the “probability” with which a justice votes conservative, it is consistent for a justice whose dominant preference is liberal (conservative) to vote conservative (liberal) in some cases — ideology is a tendency, not a rule for all cases.

Over time, the other players gain information about the true position of the new justice’s ideology, through the justice’s votes in cases. A case is characterized by its underlying facts,

which determine the likelihood that a random Court would resolve the case in a liberal direction. We capture this concept as $\theta_t \sim U[0,1]$. Players will update their prior expectation about the new justice's ideology based on whether she votes either liberal or conservative in each case, given its θ_t . This is illustrated in Figure 2.

Figure 2: Case Type and Learning Process



Suppose that J votes truthfully; then in the example in Figure 2, there are three possible ranges of case types. Any case-type in the range $[0, \bar{\alpha} - \Delta]$ such as θ_1 or in the range $[\bar{\alpha} + \Delta, 1]$ such as θ_3 will result in J's vote being uninformative, because the other players will still believe that J's true ideology is $\bar{\alpha}$. A case arising in the range $[\bar{\alpha} - \Delta, \bar{\alpha} + \Delta]$, however, is informative: if when faced with θ_2 , J votes conservative, then players will Bayesian update their beliefs about J's ideology from $\bar{\alpha}$ to $\frac{\bar{\alpha} + \Delta + \theta_2}{2}$ (and the perceived ideology gets closer to 1); but if J votes liberal, then agents update it to $\frac{\bar{\alpha} - \Delta + \theta_2}{2}$ (and the perceived ideology gets closer to 0). The vote is informative because it narrows the range of the interval in which the other players know J's ideology lies. The key question is whether J votes her true preferences in such cases or not. Our model addresses that question.

3. The Model

Suppose that the Supreme Court has three seats $s \in \{1, 2, 3\}$ and operates for two periods $t \in \{1, 2\}$. Two of the justices have been with the Court for a long time (original justices) and the other justice has just joined the Court at period 1 (new justice). Justice J_{sj} (referred to as simply J_s whenever length of tenure is irrelevant), who sits at s and joined the Court at the beginning of

period $j \in \{0, 1, 2\}$ ¹² has “true ideology” α_{sj} which corresponds to the probability with which the justice prefers to vote conservative instead of liberal in a case heard by the Court. At the beginning of period t (before a case is heard in that period), the “perceived ideologies” of the justices are denoted by $\{\bar{\alpha}_{1t^-}, \bar{\alpha}_{2t^-}, \bar{\alpha}_{3t^-}\}$. At the end of period t (after a case is heard in that period) the perceived ideologies of the justices are denoted by $\{\bar{\alpha}_{1t^+}, \bar{\alpha}_{2t^+}, \bar{\alpha}_{3t^+}\}$.¹³ In order to identify a liberal, a moderate and a conservative justice, let $0 < \alpha_{1j} < \alpha_{2j} < \alpha_{3j} < 1$ for all j — that is, J_1 is the liberal justice, J_2 is the moderate justice and J_3 is the conservative justice.

At the beginning of the second period, justice J_g dies or retires with probability p_g . We also consider that with probability p_0 no justice dies. Thus, $p_g \in \{p_0, p_1, p_2, p_3\}$.¹⁴ Whenever a justice dies or retires, the President (P) and the Senate (S) play a one-period game,¹⁵ as in Moraski and Shipan (MS), to fill the vacancy.¹⁶ As in MS, and without loss of generality, we assume that the President has ideology α_p which is more conservative than the Senate who has ideology $\alpha_s \in [0, \alpha_p]$.

Like MS, we consider that the ideologies of the original justices (α_{sj} when $j = 0$) are known. But unlike MS, we consider that neither the remaining justices nor P or S know the true ideology of the new justice – only the new justice herself knows her true preferences. Instead, the other players only know that her ideology is uniformly distributed in the interval $[\bar{\alpha} - \Delta, \bar{\alpha} + \Delta]$. The parameter $\Delta \geq 0$ captures the precision of the initial beliefs of the agents.

In order to model a process in which the appointing players discover the ideology of the new justice, each period the justices face a case¹⁷ characterized by $\theta_t \sim U[0,1]$. As was explained before, the parameter θ_t captures the likelihood with which a Court with a random ideology will

¹² $j = 0$ means that it is an original justice who retires, $j = 1$ means that it is a justice who joined the Court in the first period and $j = 2$ means that it is a justice who joined the Court in the second period.

¹³ Because no information is revealed between the first and second cases, $\bar{\alpha}_{i1^+} = \bar{\alpha}_{i2^-}$.

¹⁴ Either no justice retires or one of the three justices retires; we do not allow for more than one retirement in the same period.

¹⁵ We do not model the nomination game in the first period because, as we mention later, we consider that P and S realize their utilities before justices face the cases, that is, they only care about the perceived ideology of the Court at the beginning of the period.

¹⁶ 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 mid-point of the two remaining justices.

¹⁷ This single case can be interpreted as representative of the set of cases that justices face during the period.

Period 1

1. Justice J_{s1} joins the Court.¹⁸ Although the new justice's true ideology is α_{s1} , players believe it is $\bar{\alpha}_{s1^-}$. P's and S's payoffs are realized.
2. The first case takes place (θ_1 is observed), J_{s1} votes and the players update their beliefs about the new justice's ideology, which becomes $\bar{\alpha}_{s1^+}$. Justices' Payoffs are realized.

Period 2

1. Justice J_g dies or retires with probability p_g . If a justice retires, P and S nominate a new justice, as in Moraski and Shipan.
2. Although the new justice's true ideology is α_{g2} , agents believe it is $\bar{\alpha}_{g2^-}$. P's and S's payoffs are realized.
3. The second case takes place (θ_2 is observed), J_s and J_g vote and the players update their beliefs such that the new justices respective perceived ideologies become $\bar{\alpha}_{s2^+}$ and $\bar{\alpha}_{g2^+}$. Payoffs for the justices are realized.

At this point we impose a mathematical assumption that simplifies the analysis:

Condition 1 (C1): $\Delta < \min\{\bar{\alpha}_{2\Gamma} - \bar{\alpha}_{1\Gamma}, \bar{\alpha}_{3\Gamma} - \bar{\alpha}_{2\Gamma}\}$.

(C1) implies that the expected ideologies cannot overlap. For example, the expected ideology of the conservative justice cannot be more liberal than the expected ideology of the moderate justice ($\bar{\alpha}_{1\Gamma} + \Delta < \bar{\alpha}_{2\Gamma} - \Delta$).

3.1. Solution of the Game

We use backwards induction to identify optimal strategies. At $t = 2$ we do not need to specify the ideologies of the new justice, President and Senate. At $t = 1$ that specification is necessary.

At $t = 2$: All justices vote truthfully. To see why, notice that a justice lies if and only if in doing so she determines the outcome of the case; but if she determines the outcome of the vote,

¹⁸ We do not model new justices as choosing the expected ideology they want to reveal before they are appointed. This would complicate the analysis — the payoffs of P and S would depend on J's voting strategies — without changing the main results.

the Court decides against her true ideology, which results in disutility d . Without subsequent periods in which to shape perceptions of the Court, and thus future appointments, this disutility will not be offset by future gains.

At $t = 1$: J_s solves

$$\max_{v_{s1}(\theta_1)} u\mathcal{G}(\theta_1) - d(1 - \mathcal{G}(\theta_1)) - lv_s^F(\theta_1) + \delta \sum_{g:0,3} p_g \int [u\mathcal{G}(\theta_2) - d(1 - \mathcal{G}(\theta_2))] d\theta_2 \quad (1)$$

where, as usual, δ denotes the discount factor. First, notice that the cases are non-informative when $\theta_1 \geq \bar{\alpha}_{s1} + \Delta$ or $\theta_1 \leq \bar{\alpha}_{s1} - \Delta$, which takes place with probability $1 - 2\Delta$.¹⁹ Hence we only need to analyze what happens when $\theta_1 \in [\bar{\alpha}_{s1} - \Delta, \bar{\alpha}_{s1} + \Delta]$. Obviously, the strategies will depend on whether J_s is conservative, liberal or moderate and what type of nomination game (in MS denomination) is played by the President and the Senate. We start with the case in which the new justice is moderate, which is the simplest case, and later we discuss the case in which the new justice is liberal. We do not discuss the case in which the justice is conservative, as results are symmetrical to the liberal case.

a. When $s = 2$ (New justice is moderate):

If the new justice is the median of the first period Court, then she never votes untruthfully, regardless of the ideologies of the President and the Senate. The reason is that although by voting untruthfully she induces some probability that the second period case will be decided as she would like, she faces a disutility with certainty in the first period because, as she is the median voter, her vote decides the outcome against her own ideology, and these costs are never fully compensated by the benefits gained in the second period.

The other agents will use the new justice's vote to update their beliefs about her true ideology. That is

$$\bar{\alpha}_{21^+}(\theta_1) = \begin{cases} \frac{\theta_1 + \bar{\alpha}_{21^-} + \Delta}{2} & \text{if } v_{21}(\theta_1) = C \\ \frac{\theta_1 + \bar{\alpha}_{21^-} - \Delta}{2} & \text{if } v_{21}(\theta_1) = L \end{cases}$$

¹⁹ That is, the better informed the players are about the new justice (a smaller Δ), the less informative the cases are.

b. When $s = 1$ (New justice is expected to be liberal):

In this case the new justice may have an incentive to vote untruthfully. In order to understand why, first we solve (1) for the particular case in which the moderate justice is replaced in the second period with certainty, that is, we solve (1) when $p_2 = 1$ and $p_0 = p_1 = p_3 = 0$. Later we generalize to the case in which any of those probabilities might be positive.

Since in the second period there will be a vacancy with certainty, the President and Senate will play a nomination game. We know from MS that, depending on their ideological positions relative to one another and the median of the Court prior to the vacancy being filled, the President and Senate play either a fully constrained (President and Senate ideologies are opposed), a semi-constrained (President and Senate ideologies are partially-aligned) or an unconstrained (President and Senate ideologies are aligned) nomination game. However, the MS nomination categories were made assuming certainty about the ideology of the Court. Because in our model the Court's perceived ideology will depend on the new justice's perceived ideology and her votes, in some cases the new justice will effectively decide the type of nomination game played by the President and Senate. Thus we specify a fourth variation of the nomination game that we call semi-fully-constrained, where the nomination game is either constrained or semi-constrained, depending on the relative positions of the Senate and the new justice.²⁰

Voting Strategy under a FC Nomination game: When the new liberal justice, J_1 , has certainty that the President and Senate will play a FC nomination game to replace J_2 , she understands that in the second period the new justice and thus the Court's ideology will

be $\frac{\alpha_{11}^{-FC} + \alpha_{30}}{2}$ (FC takes place when $\alpha_s \leq \frac{\alpha_{11}^{-FC} + \alpha_{30}}{2} \leq \alpha_p$, where α_{11}^{-FC} is justice 1's expected

ideology after voting in the first case knowing that the President and Senate will play a FC nomination game in the second period²¹). That means that she has incentives to move her

²⁰ Note that a potential fifth semi-unconstrained game does not exist because in the unconstrained game, the justices always vote truthfully.

²¹ Because the President and Senate are distant in their ideological preferences, they can only agree to nominate a justice with expected ideology equal to the default expected ideology of the Court — the ideology of the Court

constituted only by justices 1 and 3 after they faced the first case. This is $\frac{\alpha_{11}^{-FC} + \alpha_{30}}{2}$.

perceived ideology as far *left* as possible. Obviously, if justice J_1 faces a first period case in which her overall ideology mandates a liberal vote, i.e. ($\alpha_{11} < \theta_1$), then she votes truthfully. But if justice J_1 faces a first period case in which her overall ideology mandates a conservative vote, i.e. ($\alpha_{11} > \theta_1$), she may or not vote truthfully. Her vote is determined by the following trade-off: lying is costly but she increases the set of second period cases that will be decided liberally instead of conservatively. More specifically, if $\alpha_{11} > \theta_1$ and $v_{11}(\theta_1) = C$ then

$$\bar{\alpha}_{11}^T = E(\alpha_{11} | v_{11}(\theta_1) = C) = \frac{\theta_1 + \bar{\alpha}_{11}^T + \Delta}{2} \text{ but if } \alpha_{11} > \theta_1 \text{ and } v_{11}(\theta_1) = L \text{ then}$$

$\bar{\alpha}_{11}^U = E(\alpha_{11} | v_{11}(\theta_1) = L)$ where we have used the super-indexes T and U for truthful and untruthful votes respectively. Then, J_1 votes untruthfully if and only if²²

$$\delta(u+d) \left(\frac{\bar{\alpha}_{11}^T - \bar{\alpha}_{11}^U}{2} \right) > l \Leftrightarrow \frac{l}{\delta(u+d)} < \left(\frac{\bar{\alpha}_{11}^T - \bar{\alpha}_{11}^U}{2} \right), \quad (2)$$

That relation tells us that there must exist a threshold value of $l/\delta(u+d)$ – which in the appendix we show to be $\Delta/2$ – below which the new justice never lies. Since when $\alpha_{11} < \theta_1$ the new justice votes $v_{11}(\theta_1) = L$, if the new justice also voted liberal when $\alpha_{11} > \theta_1$, the vote would become uninformative and $\bar{\alpha}_{11}^U = \bar{\alpha}_{11}^T$. Plugging in the values $\bar{\alpha}_{11}^U$ and $\bar{\alpha}_{11}^T$ in (2), we determine that the new liberal justice untruthfully votes liberal if and only if the case-type θ_1 is liberal enough. That is:

$$\theta_1 > \frac{4l}{\delta(u+d)} + \bar{\alpha}_{11}^T - \Delta = \bar{\theta}^{FC}, \quad (3)$$

which means that the liberal justice votes liberal whenever $\theta_1 \geq \min\{\alpha_{11}, \bar{\theta}^{FC}\}$. The question is: what happens when $\theta_1 < \min\{\alpha_{11}, \bar{\theta}^{FC}\}$? Clearly when $l/\delta(u+d)$ is larger than a certain threshold, the new justice never lies and always vote C, but when $l/\delta(u+d)$ is smaller than the same threshold, the new justice randomizes between both votes. To see that the solution indeed

²² Relation (2) tells us that the new justice may want to voting untruthfully if the present value of the expected benefits for changing the determination of the Court for all the cases which fall within the region $[\alpha_{11}, \bar{\alpha}_{11}^T]$ are larger than the certain costs of lying. Notice that the payoff from the first case outcome does not appear because the J_2 and J_3 votes decide that case.

is in the form of a mixed strategy, first notice that the justice prefers to vote L than C because her expected ideology would then be perceived as $\bar{\alpha}_{11}$ (the justice would be perceived as more conservative if she votes C). However, when $l/\delta(u+d)$ is small enough (3) does not hold, ergo the justice does not want to vote L either. That implies that the solution cannot be a pure strategy.

In the appendix we show that the justice votes truthfully only with probability

$$p(\theta_1) = 1 - \frac{[\Psi - 1](\theta_1 - (\alpha_{10} - \Delta))}{(\alpha_{10} + \Delta - \theta_1)} \text{ in which } \Psi = \frac{\delta(u+d)\Delta}{2l}. \text{ As we show below, the central}$$

properties of the solution depend on this parameter Ψ . It corresponds to the ratio of the maximum expected benefits to be obtained in the second period (because the Court will decide according to the new justice's preferences) relative to the certain loss generated by an untruthful vote in the first period. The $l/\delta(u+d) = \Delta/2$ threshold — equivalent to $\Psi = 1$ — separates the pure from the mixed strategies solution. To see this intuitively, notice that when $l/\delta(u+d) = \Delta/2$ then

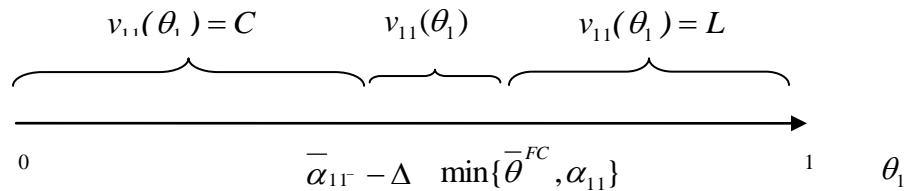
$$\bar{\theta}^{FC} = \frac{2\Delta}{\Psi} + \bar{\alpha}_{11} - \Delta = \bar{\alpha}_{11} + \Delta, \text{ which means that the new justice never lies, as (3) never holds;}$$

the same applies for all values of $\Psi < 1$. The previous analysis tells us that in order to characterize the voting strategies followed by a new liberal justice who knows that the President and Senate will play a FC nomination game, we need to distinguish two cases:

If $\frac{l}{\delta(u+d)} > \frac{\Delta}{2} \Leftrightarrow \Psi < 1$ (Pure Strategy, justice always votes truthfully): The voting strategy of the new liberal justice is the same of a moderate justice.

If $\frac{l}{\delta(u+d)} < \frac{\Delta}{2} \Leftrightarrow \Psi > 1$ (Mixed Strategy, justice may vote untruthfully): The voting strategy of the new justice is given by Figure 4.

Figure 4: Voting Strategy for a Liberal Justice under FC when $l/(u+d)$ is low



or

$$v_{11}^{FC}(\theta_1) = \begin{cases} C & \text{if } \theta_1 < \bar{\alpha}_{1\Gamma} - \Delta \\ C \text{ with probability } p(\theta_1) & \text{if } \theta_1 \in [\bar{\alpha}_{1\Gamma} - \Delta, \min\{\bar{\theta}^{FC}, \alpha_{11}\}] \\ L & \text{if } \theta_1 > \min\{\bar{\theta}^{FC}, \alpha_{11}\} \end{cases}$$

Notice that the larger Ψ is, the larger is the set of cases in which the justice votes untruthfully L within the pure strategy ($\bar{\theta}^{FC}$ decreases with Ψ) and the larger the probability with which she votes untruthfully L within the mixed strategy ($p(\theta_1)$ decreases with Ψ). The reason is straightforward: the larger Ψ is, the larger are the expected benefits relative to the costs from voting untruthfully.

As in equilibrium all the agents know the voting strategy followed by the new liberal justice, they can use Bayes rule to update their beliefs about the justice's ideology conditional on the case type and the new justice vote.²³ Then if $\Psi < 1$

$$\bar{\alpha}_{1\Gamma}^{FC}(\theta_1 | \Psi < 1) = \begin{cases} \frac{\theta_1 + \bar{\alpha}_{1\Gamma} + \Delta}{2} & \text{if } v_{11}(\theta_1) = C \\ \frac{\theta_1 + \bar{\alpha}_{1\Gamma} - \Delta}{2} & \text{if } v_{11}(\theta_1) = L \end{cases}$$

but if $\Psi \geq 1$, then²⁴

²³ In equilibrium strategies must be functions of common knowledge parameters, which means that α_{11} should not appear. We have chosen to express the voting strategies as functions of the true ideology of the new justice, as that allows us to explain our ideas more intuitively.

²⁴ Notice that when $\Psi = 1$ then $\bar{\theta}^{FC} = \bar{\alpha}_{1\Gamma} + \Delta$ and $p(\theta_1) = 1$, which implies that:

$$v_{11}^{FC}(\theta_1) = \begin{cases} C & \text{if } \theta_1 < \bar{\alpha}_{1\Gamma} - \Delta \\ C & \text{if } \theta_1 \in [\bar{\alpha}_{1\Gamma} - \Delta, \alpha_{11}] \text{ which is a truthful vote and} \\ L & \text{if } \theta_1 > \alpha_{11} \end{cases}$$

$$\bar{\alpha}_{11}^{FC}(\theta_1 | \Psi = 1) = \begin{cases} \frac{\theta_1 + \bar{\alpha}_{1\Gamma} + \Delta}{2} & \text{if } v_{11}(\theta_1) = C \text{ and } \theta_1 < \bar{\alpha}_{1\Gamma} + \Delta \\ \frac{\theta_1 + \bar{\alpha}_{1\Gamma} + \Delta}{2} & \text{if } v_{11}(\theta_1) = L \text{ and } \theta_1 < \bar{\alpha}_{1\Gamma} + \Delta \end{cases} \text{ which is } \bar{\alpha}_{11}^{FC}(\theta_1 | \Psi \geq 1).$$

$$\bar{\alpha}_{11^+}^{FC}(\theta_1 | \Psi \geq 1) = \begin{cases} \frac{\theta_1 + \bar{\alpha}_{11^+} + \Delta}{2} & \text{if } v_{11}(\theta_1) = C \text{ and } \theta_1 < \bar{\theta}^{FC} \\ \bar{\alpha}_{11^+} & \text{if } v_{11}(\theta_1) = L \text{ and } \theta_1 > \bar{\theta}_L^{FC} \\ \frac{\theta_1 + \bar{\alpha}_{11^+} + \Delta(1 - 2/\Psi)}{2} & \text{if } v_{11}(\theta_1) = L \text{ and } \theta_1 < \bar{\theta}^{FC} \end{cases}$$

Voting Strategy under a SC nomination game: When the new liberal justice has certainty that the President and Senate will play a SC nomination game to replace J_2 , she understands that

in the second period the Court's ideology will be $2\alpha_s - \frac{\bar{\alpha}_{11^+}^{SC} + \alpha_{30}}{2}$ (SC takes place when

$\frac{\bar{\alpha}_{11^+}^{SC} + \alpha_{30}}{2} \leq \alpha_s \leq \frac{\bar{\alpha}_{11^+}^{SC} + 3\alpha_{30}}{4} \leq \alpha_p$, where $\bar{\alpha}_{11^+}^{SC}$ is justice 1's expected ideology after voting in

the first case and knowing that the President and the Senate will play a SC nomination game in the second period²⁵). That means that, unlike in a FC nomination game, she has an incentive to move her perceived ideology as far *right* as possible.²⁶ With that exception, the logic and properties of the solution are as in the FC nomination game. Justice J_1 votes truthfully when she faces a case which demands a conservative vote ($\alpha_{11} > \theta_1$), but she may vote untruthfully if she faces a case which demands a liberal vote ($\alpha_{11} < \theta_1$). The same logic from the FC scenario tells us that when $\alpha_{11} < \theta_1$, the justice will vote untruthfully if and only if

$$\theta_1 < \bar{\alpha}_{11^+} + \Delta - \frac{4l}{\delta(u+d)} = \bar{\theta}^{SC} = \bar{\alpha}_{11^+} + \Delta(1 - \frac{2}{\Psi}), \quad (4)$$

²⁵ This case takes place when $\frac{\bar{\alpha}_{11^+}^{SC} + \alpha_{30}}{2} \leq \alpha_s \leq \frac{\bar{\alpha}_{11^+}^{SC} + 3\alpha_{30}}{4}$ because it is the ideological range in which the

Senate prefers a President's nominee with ideology in $\left[\frac{\bar{\alpha}_{11^+}^{SC} + \alpha_{30}}{2}, \alpha_{30} \right]$ to leaving the Court with its default

ideology, which is $\frac{\bar{\alpha}_{11^+}^{SC} + \alpha_{30}}{2}$. That occurs when: $\alpha_s - \frac{\bar{\alpha}_{11^+}^{SC} + \alpha_{30}}{2} \leq \alpha_{30} - \alpha_s$.

²⁶ This is because the equilibrium replacement judge depends on the indifference point of the Senate, so the further right the Senate perceives the existing Court median to be, the further left an acceptable replacement can be. See the Discussion.

which means that the liberal justice votes C whenever $\theta_1 \leq \max\{\alpha_{11}, \bar{\theta}_L^{SC}\}$, votes L whenever $\theta_1 > \max\{\alpha_{11}, \bar{\theta}_L^{SC}\}$ and also $\Psi \geq 1$, and randomizes votes when $\theta_1 > \max\{\alpha_{11}, \bar{\theta}_L^{SC}\}$ and also $\Psi < 1$. In this last case the justice votes truthfully with probability

$$p(\theta_1) = 1 - \frac{[\Psi - 1](\bar{\alpha}_{11\Gamma} + \Delta - \theta_1)}{(\theta_1 - (\bar{\alpha}_{11\Gamma} - \Delta))}. \text{ Then the voting strategy followed by a liberal justice when}$$

the President and Senate play a SC nomination game also distinguishes two cases:

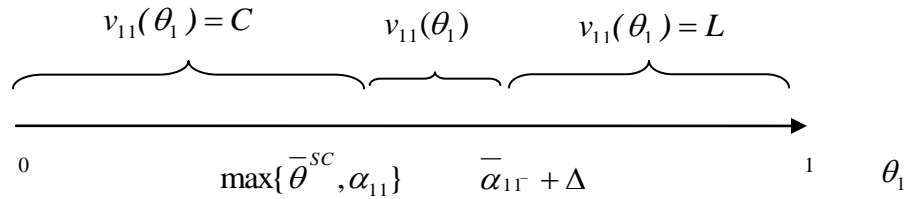
If $\frac{l}{\delta(u+d)} > \frac{\Delta}{2} \Leftrightarrow \Psi < 1$ (Pure Strategy, justice always votes truthfully): The voting strategy of

the new liberal justice is the same of a moderate justice.

If $\frac{l}{\delta(u+d)} < \frac{\Delta}{2} \Leftrightarrow \Psi > 1$ (Mixed Strategy, justice may vote untruthfully): The voting strategy of

the new justice is given by figure 5.

Figure 5: Voting Strategy for a Liberal Justice under SC when $l/(u+d)$ is low



or

$$v_{11}^{SC}(\theta_1) = \begin{cases} C \text{ if } \theta_1 < \max\{\bar{\theta}^{SC}, \alpha_{11}\} \\ L \text{ with probability } p(\theta_1) \text{ if } \theta_1 \in [\max\{\bar{\theta}^{SC}, \alpha_{11}\}, \bar{\alpha}_{11\Gamma} + \Delta] \\ L \text{ if } \theta_1 > \bar{\alpha}_{11\Gamma} + \Delta \end{cases}$$

As before, the larger Ψ is, the larger is the set of cases for which the justice votes untruthfully and the new justice's perceived ideology becomes:

$$\bar{\alpha}_{11^r}^{-SC}(\theta_1 | \Psi \geq 1) = \begin{cases} \bar{\alpha}_{11^r} & \text{if } v_{11}(\theta_1) = C \text{ and } \theta_1 < \bar{\theta}^{SC} \\ \frac{\theta_1 + \bar{\alpha}_{11^r} - \Delta}{2} & \text{if } v_{11}(\theta_1) = L \text{ and } \theta_1 > \bar{\theta}^{SC} \\ \frac{\theta_1 + \bar{\alpha}_{11^r} + \Delta(2/\Psi - 1)}{2} & \text{if } v_{11}(\theta_1) = C \text{ and } \theta_1 > \bar{\theta}^{SC} \end{cases}$$

Voting Strategy under a UC nomination game: When the new liberal justice has certainty that the President and Senate will play a UC nomination game to replace J_2 , she understands that in the second period the Court's ideology will be α_{30} (UC takes place when

$$\frac{\bar{\alpha}_{11^r}^{-SC} + 3\alpha_{30}}{4} \leq \alpha_s \leq \alpha_p).$$

As her vote in the first case does not affect the median of the Court, and so does not affect the way in which the Court decides the second case, there is no motivation for the new justice to understate or exaggerate her true ideology. Hence the new justice always votes truthfully. That is equally valid in the case that J_3 retires, for any retirement probabilities.

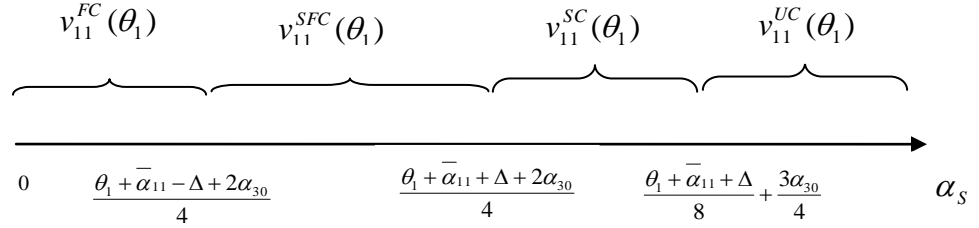
Voting Strategy under a SFC nomination game: Finally we are in the scenario in which the vote of the new justice determines whether the President and Senate play a fully- or semi-constrained nomination game in the eventuality that a justice retires in the second period (SFC

$$\text{takes place when } \min \left\{ \frac{\bar{\alpha}_{11^r}^{-SC} + \alpha_{30}}{2}, \frac{\bar{\alpha}_{11^r}^{-FC} + \alpha_{30}}{2} \right\} \leq \alpha_s \leq \max \left\{ \frac{\bar{\alpha}_{11^r}^{-SC} + \alpha_{30}}{2}, \frac{\bar{\alpha}_{11^r}^{-FC} + \alpha_{30}}{2} \right\} \leq \alpha_p).$$

Consequently we have to distinguish between two possibilities: 1) if the justice votes truthfully, then P and S play a SC game, but if the justice votes untruthfully, then P and S play a FC game; 2) if the justice votes truthfully, then P and S play a FC game, but if she votes untruthfully, then P and S play a SC game. We denote the first case SFC_1 and the second one SFC_2 . Because SFC will turn out to be a combination of the FC and SC cases and we express the majority of our results in terms of only these two last cases, we relegate the formulas for $v_{11}^{SFC_1}(\theta_1)$ and $v_{11}^{SFC_2}(\theta_1)$ to the Appendix.

Voting strategy under all nomination games (Senate's ideology): From the previous analysis it follows that there are Senate ideologies which separate the FC, SFC, SC and UC scenarios. Figure 6 shows that graphically

Figure 6: Voting Strategy for a Liberal Justice when $l/(u+d)$ is low



It is not difficult to see why those are the boundaries. First, to save notation we define:

$$\min^{FC} = \min\{\bar{\alpha}_{11^+}^{-FC,T}(\theta_1), \bar{\alpha}_{11^+}^{-FC,U}(\theta_1)\}; \max^{FC} = \max\{\bar{\alpha}_{11^+}^{-FC,T}(\theta_1), \bar{\alpha}_{11^+}^{-FC,U}(\theta_1)\}$$

$$\min^{SC} = \min\{\bar{\alpha}_{11^+}^{-SC,T}(\theta_1), \bar{\alpha}_{11^+}^{-SC,U}(\theta_1)\}; \max^{SC} = \max\{\bar{\alpha}_{11^+}^{-SC,T}(\theta_1), \bar{\alpha}_{11^+}^{-SC,U}(\theta_1)\}$$

As before, the super-indexes T and U stand for truthful and untruthful votes. We know that

FC is feasible if and only if $\alpha_s < \frac{\min^{FC} + \alpha_{30}}{2}$ and SC is feasible if and only if

$\alpha_s > \frac{\max^{SC} + \alpha_{30}}{2}$, because the new justice must be sure that S and P will play a FC or SC

nomination games respectively, regardless whether she votes truthfully or not. In addition, we

know that SFC_1 is feasible if and only if $\alpha_s \in [\min^{SC}, \max^{SC}]$ and SFC_2 is feasible if and only if

$\alpha_s \in [\min^{FC}, \max^{FC}]$. In the Appendix, we show that for all values of Ψ and α_{11} , it is the case

that $\min^{FC} = \frac{\theta_1 + \bar{\alpha}_{11} - \Delta}{4} + \frac{\alpha_{30}}{2} \leq \max^{SC} = \frac{\theta_1 + \bar{\alpha}_{11} + \Delta}{4} + \frac{\alpha_{30}}{2}$, which allows us to conclude, as

it is shown in Figure 6, that the new justice votes FC when $\alpha_s < \frac{\theta_1 + \bar{\alpha}_{11} - \Delta}{4} + \frac{\alpha_{30}}{2}$, votes SFC

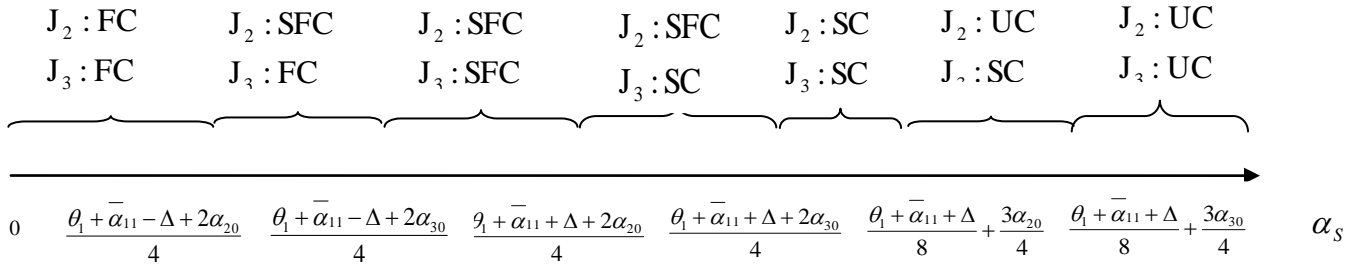
when $\alpha_s \in \left[\frac{\theta_1 + \bar{\alpha}_{11} - \Delta + 2\alpha_{30}}{4}, \frac{\theta_1 + \bar{\alpha}_{11} + \Delta + 2\alpha_{30}}{4} \right]$, votes SC when

$$\alpha_s \in \left[\frac{\theta_1 + \bar{\alpha}_{11} + \Delta + 2\alpha_{30}}{4}, \frac{\theta_1 + \bar{\alpha}_{11} + \Delta}{8} + \frac{3\alpha_{30}}{4} \right] \text{ and votes UC when } \alpha_s > \frac{\theta_1 + \bar{\alpha}_{11} + \Delta}{8} + \frac{3\alpha_{30}}{4}.$$

We relegate the exact characterization of $v_{11}^{SFC}(\theta_1)$ to the Appendix.

When retirement is uncertain: The former expressions were derived under the assumption that $p_2 = 1$. Intuitively, the solution preserves its main properties when we consider that any justice may retire during the second period with probability p_g , but now the solution explicitly depends on these values. First, Figure 7 replaces Figure 6:

Figure 7: General Voting Strategy for a Liberal Justice when $l/(u+d)$ is low



In the Appendix we provide a detailed characterization of the voting strategy presented in

Figure 7. Here we just summarize the most important properties: When $\alpha_s < \frac{\theta_1 + \bar{\alpha}_{11} - \Delta + 2\alpha_{20}}{4}$,

$$\alpha_s \in \frac{\theta_1 + \bar{\alpha}_{11}}{4} + \left[\frac{2\alpha_{30} - \Delta}{4}, \frac{2\alpha_{20} + \Delta}{4} \right], \alpha_s \in \left[\frac{\theta_1 + \bar{\alpha}_{11} + \Delta}{4} + \frac{\alpha_{30}}{2}, \frac{\theta_1 + \bar{\alpha}_{11} + \Delta}{8} + \frac{3\alpha_{20}}{8} \right] \text{ and}$$

$\alpha_s > \frac{\theta_1 + \bar{\alpha}_{11} + \Delta}{8} + \frac{3\alpha_{30}}{4}$, the new justice has certainty that S and P will play a FC, SFC, SC and

UC nomination games, respectively, if any of the justices retire in the second period.

Consequently we retrieve the same FC, SFC, SC and UC voting strategy solutions as before, with the caveat that the parameter Ψ includes the probabilities that justices may retire during the

second period, that is $\Psi = \frac{\delta(u+d)\Delta(p_2 + p_3)}{2l} = \frac{\delta(u+d)\Delta(1 - p_0 - p_1)}{2l}$. When

$\alpha_s \in \frac{\theta_1 + \bar{\alpha}_{11} - \Delta}{4} + \left[\frac{\alpha_{20}}{2}, \frac{\alpha_{30}}{2} \right]$, the new justice randomizes between the SFC₁ and FC voting strategies; when $\alpha_s \in \left[\frac{\theta_1 + \bar{\alpha}_{11} + \Delta}{4} + \frac{2\alpha_{20}}{4}, \frac{\theta_1 + \bar{\alpha}_{11} + \Delta}{8} + \frac{3\alpha_{20}}{4} \right]$, the new justice randomizes between the SFC₂ and SC voting strategies. Finally, when $\alpha_s \in \frac{\theta_1 + \bar{\alpha}_{11} + \Delta}{8} + \left[\frac{3\alpha_{20}}{4}, \frac{3\alpha_{30}}{4} \right]$, the new justice follows a SC voting strategy only when J₂ retires (when J₃ retires she follows a UC voting strategy) and that is consistent with the fact that the parameter Ψ becomes $\frac{\delta(u+d)\Delta p_2}{2l}$.

4. Results

In this Section we present our main results. First we discuss under which circumstances new justices will vote untruthfully and when that is more or less likely. Next we provide details of whether new justices are more interested in understating or exaggerating their ideologies, which will be reflected in the expected evolution of the perceived ideologies. Finally we use our model to discuss other issues of interest, such as the incentives faced by justices to shape their perceived retirement probabilities.

4.1. When do justices vote untruthfully?

No justice votes untruthfully in the second period, the end of her tenure, because there are no future Court decisions to influence. Similarly, moderate justices never vote untruthfully in the first period, as their votes always decide the first case, and the disutility suffered in the first period with certainty will not be compensated by the probabilistic utility enjoyed in the second period.

When do justices vote untruthfully? We know that only extreme justices may vote untruthfully. In addition, there are scenarios in which that behavior takes place with certainty and scenarios in which that happens only with a certain probability. From the characterization of the solution we know that new justices may vote untruthfully if the President and the Senate play a FC, SC or SFC nomination game, whereas the new justice always votes truthfully if the President and the Senate play a UC nomination game. From the characterization of the new

justice's voting strategy, we see that P and S play a UC game with certainty if and only if

$$\alpha_S > \frac{\bar{\alpha}_{1\Gamma} + \Delta + 3\alpha_{30}}{4}.^{27}$$

In contrast, when $\alpha_S < \frac{\bar{\alpha}_{1\Gamma} + \Delta + 3\alpha_{30}}{4}$, the new justice may vote untruthfully— though not with certainty. Three conditions must hold: first, the expected benefits of getting the Court to vote as she actually prefers relative to the costs of lying must be large enough (that is Ψ must be larger than 1, otherwise v_{11}^{FC} , v_{11}^{SC} and v_{11}^{SFC} correspond to truthful votes for all case-types). Second, the probability of retirement of the other justices must be strictly positive (that is $p_2 + p_3 > 0$, otherwise $\Psi = 0$ and v_{11}^{FC} , v_{11}^{SC} and v_{11}^{SFC} correspond to truthful votes for all case-types). Third, the case-type must have specific characteristics. This third point requires a more detailed explanation.

As v_{11}^{SFC} is just a combination of v_{11}^{FC} and v_{11}^{SC} , we focus our discussion in the FC and SC voting strategies. When the new justice follows the FC voting strategy

$$(\alpha_S < \frac{\theta_1 + \bar{\alpha}_{1\Gamma} - \Delta + 2\alpha_{20}}{4}), \text{ she truthfully votes L for all the case-types in which } \theta_1 > \alpha_{1\Gamma},$$

untruthfully votes L with certainty for all the case-types in the interval $\left[\min\{\bar{\theta}^{FC}, \alpha_{1\Gamma}\}, \alpha_{1\Gamma} \right]$,

and truthfully votes C only with probability $p(\theta_1) = 1 - \frac{[\Psi - 1](\theta_1 - (\bar{\alpha}_{1\Gamma} - \Delta))}{(\alpha_{1\Gamma} + \Delta - \theta_1)}$ for all the case-

types in the interval $\left[\bar{\alpha}_{1\Gamma} - \Delta, \min\{\bar{\theta}^{FC}, \alpha_{1\Gamma}\} \right]$. That is, a new justice votes untruthfully only when

she faces *informative cases in which she would ordinarily vote conservative, that is, against her liberal tendency*. The reason is obvious: the new justice wants to be perceived as more liberal when those cases take place, and that can be achieved by voting liberal here. By voting liberal in case-types within the interval²⁸ $\left[\min\{\bar{\theta}^{FC}, \alpha_{1\Gamma}\}, \alpha_{1\Gamma} \right]$, the new justice's perceived ideology

²⁷ From Figure 7 we see that P and S play a UC nomination game when α_S is larger than $\frac{\theta_1 + \bar{\alpha}_{11} + \Delta}{8} + \frac{3\alpha_{30}}{4}$. As the

maximum value of θ_1 is $\bar{\alpha}_{11} + \Delta$, if $\alpha_S > \frac{\bar{\alpha}_{1\Gamma} + \Delta + 3\alpha_{30}}{4}$ then P and S play a UC nomination game for all values of θ_1 .

²⁸ Cases whose facts barely convinced the new justice to (non-strategically) vote conservative.

becomes $\bar{\alpha}_{1r}$ instead of $\frac{\theta_1 + \bar{\alpha}_{1r} + \Delta}{4}$, while by voting liberal with probability $1 - p(\theta_1)$ in case-types within the interval²⁹ $\left[\bar{\alpha}_{1r} - \Delta, \min\{\bar{\theta}^{FC}, \alpha_{1r}\}\right]$, the new ideology becomes $\frac{\theta_1 + \bar{\alpha}_{1r} + \Delta(1 - 2/\Psi)}{4}$ instead of $\frac{\theta_1 + \bar{\alpha}_{1r} + \Delta}{4}$.

When the new justice follows the SC voting strategy

$(\alpha_s \in \left[\frac{\theta_1 + \bar{\alpha}_{11} + \Delta}{4} + \frac{\alpha_{20}}{2}, \frac{\theta_1 + \bar{\alpha}_{11} + \Delta}{8} + \frac{3\alpha_{30}}{8}\right])$, she truthfully votes C for all the case-types in

which $\theta_1 < \alpha_{1r}$, untruthfully votes C with certainty for all the case-types in the interval

$\left[\alpha_{1r}, \max\{\bar{\theta}^{SC}, \alpha_{1r}\}\right]$, and truthfully votes L with probability

$$p(\theta_1) = 1 - \frac{[\Psi - 1](\bar{\alpha}_{1r} + \Delta - \theta_1)}{(\theta_1 - (\bar{\alpha}_{1r} - \Delta))}$$

for all the case-types in the interval $\left[\max\{\bar{\theta}^{FC}, \alpha_{1r}\}, \bar{\alpha}_{1r} + \Delta\right]$.

That is, a new justice votes untruthfully only when she faces *informative cases in which she should otherwise vote liberal, that is, in favor of her liberal tendency*. As before, the reason is that the new justice wants to be perceived as more conservative, so that if another justice retires, the new appointee will be more liberal.

Intuitively, untruthful voting is more likely the larger parameter Ψ is, because the benefits of voting untruthfully relative to its costs are larger. As parameter Ψ is proportional to $p_2 + p_3$, untruthful voting is more likely when the probabilities of retirement are large as well. In addition, untruthful voting is more or equally likely when the case-type is closer to the new justice's true ideology. To see this, take for example the case in which the new justice has certainty that FC happens in the second period; if the case type is more liberal than the justices true ideology ($\theta_1 > \alpha_{1r}$), then the justice never votes untruthfully; but if the case type is more

²⁹ Cases whose facts strongly convinced the new justice to (non-stretgically) vote conservative.

conservative, then the new justice votes untruthfully with probability $\frac{[\Psi - 1](\theta_1 - (\bar{\alpha}_{1\Gamma} - \Delta))}{(\alpha_{1\Gamma} + \Delta - \theta_1)}$,

which is increasing in θ_1 (a similar logic works in the case that SC occurs).³⁰

What about the Senate's ideology? Does a more liberal Senate induce a new extreme liberal justice to vote liberal more frequently? Although the Senate must be liberal enough to induce the new justice to vote untruthfully (to avoid the UC scenario), there is not an evident relation between α_s and the probability with which the new justice votes untruthfully. This can be easily seen by noting that some case types will induce the new justice to vote truthfully when α_s is large enough to induce the UC game, will induce the new justice to vote untruthfully when α_s induces the SC game, but will produce a truthful vote again when α_s induces the FC game. That is, there is a non-monotonic relationship between the Senate's ideology and the new justice's probability to vote untruthfully. All the previous ideas are summarized in Lemma 1, which is formally proved in the Appendix.

Lemma 1: Untruthful Voting:

- i. Moderate justices never vote untruthfully
- ii. Extreme liberal justices always vote truthfully in the second period
- iii. When $\alpha_s < \frac{\theta_1 + \bar{\alpha}_{11} - \Delta + 2\alpha_{20}}{4}$, extreme liberal justices vote untruthfully in the first period with the following probability:

$$p^{FC}(\theta_1; \bar{\theta}^{FC}) = \begin{cases} 1 - p^{FC}(\theta_1) & \text{if } \theta_1 \in [\bar{\alpha}_{1\Gamma} - \Delta, \min\{\bar{\theta}^{FC}, \alpha_{1\Gamma}\}] \\ 1 & \text{if } \theta_1 \in [\min\{\bar{\theta}^{FC}, \alpha_{1\Gamma}\}, \alpha_{1\Gamma}] \\ 0 & \text{if } \theta_1 \in [\alpha_{1\Gamma}, \bar{\alpha}_{1\Gamma} + \Delta] \end{cases}$$

³⁰ Notice that it can also be argued that ex-ante untruthful voting becomes more likely for larger values of θ_1 because

the boundary between the SC and UC scenarios, $\frac{\theta_1 + \bar{\alpha}_{11} + \Delta}{8} + \frac{3\alpha_{30}}{4}$, is increasing on θ_1 .

iv. When $\alpha_s \in \left[\frac{\theta_1 + \bar{\alpha}_{11} - \Delta}{4} + \frac{2\alpha_{30}}{4}, \frac{\theta_1 + \bar{\alpha}_{11} + \Delta}{4} + \frac{2\alpha_{20}}{4} \right]$, extreme liberal justices vote

untruthfully in the first period with the following probability:

$$p^{SFC}(\theta_1; \bar{\theta}^{FC}, \bar{\theta}^{SC}, \bar{\theta}^{SFC}) = \begin{cases} p^{FC}(\theta_1; \bar{\theta}^{FC}) * p_I + p^{SC}(\theta_1; \bar{\theta}^{SFC_1})(1 - p_I) & \text{if } \alpha_s \in I \\ p^{SC}(\theta_1; \bar{\theta}^{SFC_1}) * p_{II} + p^{FC}(\theta_1; \bar{\theta}^{SFC_2})(1 - p_{II}) & \text{if } \alpha_s \in II \\ p^{FC}(\theta_1; \bar{\theta}^{SFC_2}) * p_{III} + p^{SC}(\theta_1; \bar{\theta}^{SFC_1})(1 - p_{III}) & \text{if } \alpha_s \in III \end{cases}$$

In which $I = \left[\frac{\theta_1 + \bar{\alpha}_{11} - \Delta}{4} + \frac{2\alpha_{30}}{4}, \min \right]$, $II = [\min, \max]$ and

$$III = \left[\max, \frac{\theta_1 + \bar{\alpha}_{11} + \Delta}{4} + \frac{2\alpha_{20}}{4} \right]. \text{ Additionally, } p_I = \frac{\min - \alpha_s}{\min - \left(\frac{\theta_1 + \bar{\alpha}_{11} - \Delta}{4} + \frac{2\alpha_{30}}{4} \right)},$$

$$p_{II} = \frac{\max - \alpha_s}{\max - \min} \text{ and } p_{III} = \frac{\frac{\theta_1 + \bar{\alpha}_{11} + \Delta}{4} + \frac{2\alpha_{20}}{4} - \alpha_s}{\frac{\theta_1 + \bar{\alpha}_{11} + \Delta}{4} + \frac{2\alpha_{20}}{4} - \max}.$$

Where the values for

min and max are given in Table 1 of the Appendix.

v. When $\alpha_s \in \left[\frac{\theta_1 + \bar{\alpha}_{11} + \Delta}{4} + \frac{2\alpha_{20}}{4}, \frac{\theta_1 + \bar{\alpha}_{11} + \Delta}{8} + \frac{3\alpha_{30}}{4} \right]$, extreme liberal justices vote

untruthfully in the first period with the following probability:

$$p^{SC}(\theta_1; \bar{\theta}^{SC}) = \begin{cases} 0 & \text{if } \theta_1 \in [\bar{\alpha}_{11} - \Delta, \alpha_{11}] \\ 1 & \text{if } \theta_1 \in [\alpha_{11}, \max\{\bar{\theta}^{SC}, \alpha_{11}\}] \\ 1 - p^{SC}(\theta_1) & \text{if } \theta_1 \in [\max\{\bar{\theta}^{SC}, \alpha_{11}\}, \bar{\alpha}_{11} + \Delta] \end{cases}$$

vi. When $\alpha_s > \frac{\theta_1 + \bar{\alpha}_{11} + \Delta}{8} + \frac{3\alpha_{30}}{4}$, extreme liberal justices vote untruthfully in the first period with probability 0.

vii. Untruthful voting is more or equally likely when: a) Ψ gets larger; b) p_2 or p_3 get larger; c) case-type is closer to the new justice's true ideology.

viii. Although untruthful voting only takes place when the Senate is adequately liberal, there is a non-monotonic relationship between the probability of untruthful vote and the Senate's ideology.

Proof: See the Appendix.

4.2. Evolution of Perceived Ideologies: Exaggerate or Understate?

The previous findings show that the perceived ideology (after voting for the first time) of a justice who joins the Court as a new liberal justice will be very different than the perceived ideology (after voting for the first time) of the same justice if she joined the Court as a new moderate justice.³¹ A new extreme justice may vote untruthfully, whereas a new moderate justice will never follow that strategy. This discrepancy in voting strategies disappears in the second period, which suggests that with time, the true ideology of the justice will emerge regardless of how her ideology was previously perceived. In other words, the evolution of perceived ideologies of new liberal and moderate justices will show differences at the beginning of their tenures, but will disappear close to their times of retirement.

But in which direction do extreme justices bias their *perceived* and *expected* ideologies? Both the bias direction of the perceived ideology and the bias direction of the expected ideology depend on the relative ideological position of the President and the Senate. The reason is simple: the position of the Senate determines the type of nomination game that the President and Senate will play in the second period if another justice retires. If the Senate's ideology is far left, then the new liberal justice anticipates a FC nomination game, in which the perceived ideology of the new justice will push the new median of the Court leftwards (the new ideology will

be $\frac{\alpha_{11^*}^{-FC} + \alpha_{j0}}{2}$). Hence, the new justice has an incentive to be perceived as more liberal. Instead,

if the Senate's ideology is far right, then the new justice anticipates a SC nomination game, in which the perceived ideology of the new justice will push the new median of the Court

rightwards (the new ideology will be $2\alpha_s - \frac{\alpha_{11^*}^{-SC} + \alpha_{j0}}{2}$). Hence, the new justice has an incentive

to be perceived as more conservative.

³¹ Recall that the characterization in the position of the new justice depends on the ideologies of the other justices.

In addition, the bias direction in the *perceived* ideology depends on the case-type. To see this, it is enough to go back to the expressions for $\bar{\alpha}_{11^+}^{-FC}(\theta_1|\Psi \geq 1)$ and $\bar{\alpha}_{11^+}^{-SC}(\theta_1|\Psi \geq 1)$, and compare them to $\bar{\alpha}_{11^+}^{-FC}(\theta_1|\Psi < 1)$ and $\bar{\alpha}_{11^+}^{-SC}(\theta_1|\Psi < 1)$. We notice then that for $\theta_1 < \min\{\bar{\theta}^{-FC}, \alpha_{11^-}\}$, the new justice will be perceived as more liberal,³² but for $\theta_1 > \min\{\bar{\theta}^{-FC}, \alpha_{11^-}\}$ she will be perceived as more conservative.³³ In the same way, for $\theta_1 > \max\{\bar{\theta}^{-SC}, \alpha_{11^-}\}$ the new justice will be perceived more conservative but for $\theta_1 < \max\{\bar{\theta}^{-SC}, \alpha_{11^-}\}$ she will be perceived as more liberal. It follows, as we show later, that from an ex-ante perspective and consistent with the motivations of the FC and SC voting strategies:

$$E\left[\bar{\alpha}_{11^+}^{-FC}(\theta_1|\Psi \geq 1)\right] \leq E\left[\bar{\alpha}_{11^+}^{-FC}(\theta_1|\Psi < 1)\right] = E\left[\bar{\alpha}_{11^+}^{-SC}(\theta_1|\Psi < 1)\right] = \bar{\alpha}_{11^-} \leq E\left[\bar{\alpha}_{11^+}^{-SC}(\theta_1|\Psi \geq 1)\right].$$

The bias direction in the *expected* ideology also depends on a second factor: the distance between the new justice's true ideology and her initially perceived ideology. The reason is intuitive. A new justice, who is initially perceived to be more liberal than she actually is, has different incentives to vote untruthfully than a new justice who is initially perceived to be more conservative than she actually is. This can be preliminarily seen from the fact that the FC voting strategy hinges on whether α_{11} is larger or smaller than $\bar{\theta}^{-FC} = \bar{\alpha}_{11^-} - \Delta(1 - \frac{2}{\Psi})$ and the SC voting strategy hinges on whether α_{11} is larger or smaller than $\bar{\theta}^{-SC} = \bar{\alpha}_{11^-} + \Delta(1 - \frac{2}{\Psi})$.

The next mathematical expressions, which correspond to the expected justice's ideological position at the end of the first period (after the first case is heard), capture the before-mentioned factors and allow us to identify the scenarios in which new liberal justices will be perceived as more liberal or conservative than initially, and how that compares to the evolution of the ideology of a moderate justice.

Moderate justice:

$$E\left[\bar{\alpha}_{21^+} \mid \alpha_{21}\right] = (1 - \Delta)\bar{\alpha}_{21^-} + \Delta\alpha_{21}$$

Liberal justice, fully constrained game:

³² In this range it is true that $\bar{\alpha}_{11^+}^{-FC}(\theta_1|\Psi \geq 1) \leq \bar{\alpha}_{11^+}^{-FC}(\theta_1|\Psi < 1)$.

³³ In this range it is true that $\bar{\alpha}_{11^+}^{-FC}(\theta_1|\Psi \geq 1) \geq \bar{\alpha}_{11^+}^{-FC}(\theta_1|\Psi < 1)$.

$$E[\alpha_{11}^{FC} | \alpha_{11}] = \begin{cases} \bar{\alpha}_{11} + (\frac{2\Delta}{\Psi} - \Delta)\Delta + \Delta^2(1 - \frac{1}{\Psi^2}) + \frac{2(\Psi - 1)\Delta^2}{\Psi} \ln(\frac{\Psi - 1}{\Psi}) & \text{if } \alpha_{11} > \bar{\theta}^{FC} \\ (1 - \Delta)\bar{\alpha}_{11} + \Delta\alpha_{11} + \Delta^2(1 - \frac{1}{\Psi^2}) + \frac{2(\Psi - 1)\Delta^2}{\Psi} \ln(\frac{\bar{\alpha}_{11} + \Delta - \alpha_{11}}{2\Delta}) & \text{if } \alpha_{11} \leq \bar{\theta}^{FC} \end{cases}$$

Liberal justice, semi-constrained game:

$$E[\alpha_{11}^{SC} | \alpha_{11}] = \begin{cases} \bar{\alpha}_{11} - (\frac{2\Delta}{\Psi} - \Delta)\Delta - \Delta^2(1 - \frac{1}{\Psi^2}) - \frac{2(\Psi - 1)\Delta^2}{\Psi} \ln(\frac{\Psi - 1}{\Psi}) & \text{if } \alpha_{11} < \bar{\theta}^{SC} \\ (1 - \Delta)\bar{\alpha}_{11} - \Delta\alpha_{11} - \Delta^2(1 - \frac{1}{\Psi^2}) - \frac{2(\Psi - 1)\Delta^2}{\Psi} \ln(\frac{\bar{\alpha}_{11} + \Delta - \alpha_{11}}{2\Delta}) & \text{if } \alpha_{11} \geq \bar{\theta}^{SC} \end{cases}$$

Direct calculations allows us to derive $E[\alpha_{11}^{FC}] = \bar{\alpha}_{11} - \frac{\Delta}{\Psi}(1 - \Delta)(1 - \frac{1}{\Psi}) < \bar{\alpha}_{11}$ and

$E[\alpha_{11}^{SC}] = \bar{\alpha}_{11} + \frac{\Delta}{\Psi}(1 - \Delta)(1 - \frac{1}{\Psi}) > \bar{\alpha}_{11}$ which corroborates the result that after the first period

the new liberal justice should be perceived as more liberal under a FC nomination game but as more conservative under a SC nomination game than she was initially seen. But how does the expected ideology at the end of the first period of a new liberal justice compare to the expected ideology of a new moderate justice? To answer that question, we compare $E[\alpha_{11}^{FC} | \alpha_{11}]$ and $E[\alpha_{11}^{SC} | \alpha_{11}]$ for the cases in which $\bar{\alpha}_{11} > \alpha_{11}$ and in which $\bar{\alpha}_{11} < \alpha_{11}$.³⁴

When the new liberal justice is more liberal than she was initially perceived to be

($\bar{\alpha}_{11} > \alpha_{11}$): Under a FC nomination game (when the Senate's and President's ideologies are opposed), we should expect to observe a slower convergence of the new justice's perceived ideology to her true ideology than that experienced by the moderate new justice. In addition, there exists $\Psi^* > 1$ such that for all $\Psi > \Psi^*$ after deciding the first case, the justice will be perceived as even more conservative than what she was initially believed to be, but later her perceived ideology will gradually become more liberal (as shown in the upper half of Figure 8A). Under a SC nomination game (when the Senate's and President's ideologies are semi-aligned), we expect to see either a slower or faster convergence than the one experienced by the moderate justice. More specifically, there exists Ψ^{**} such that for all $\Psi > \Psi^{**}$ the convergence is

³⁴ These expressions are calculated from the perspective of the new justice: When α_{11} is known.

slower, and for all $\Psi < \Psi^{**}$ the convergence is faster. The justice will never be perceived as more conservative than she was initially (as shown in the upper half of Figure 8B).

When the new liberal justice is more conservative than she was initially perceived to be ($\bar{\alpha}_{1\Gamma} < \alpha_{11}$): Under a FC nomination game, we should expect to see either a slower or faster convergence than that experienced by the moderate justice. More specifically, there exists Ψ^{**} such that for all $\Psi > \Psi^{**}$ the convergence is slower, and for all $\Psi < \Psi^{**}$ the convergence is faster. The justice will never be perceived as more liberal than she was initially (as shown in the lower half of Figure 8A). Under a SC nomination game, we expect to observe a slower convergence of the new justice's perceived ideology to her true ideology than that experienced by the moderate new justice. In addition, there exists $\Psi^* > 1$ such that for all $\Psi > \Psi^*$ after deciding the first case, the justice will be perceived as even more liberal than she was initially believed to be, but later her perceived ideology will gradually become more conservative (as shown in the lower half of Figure 8B).

Figure 8A: Evolution expected ideology of a Liberal Justice under FC and $\Psi > 1$

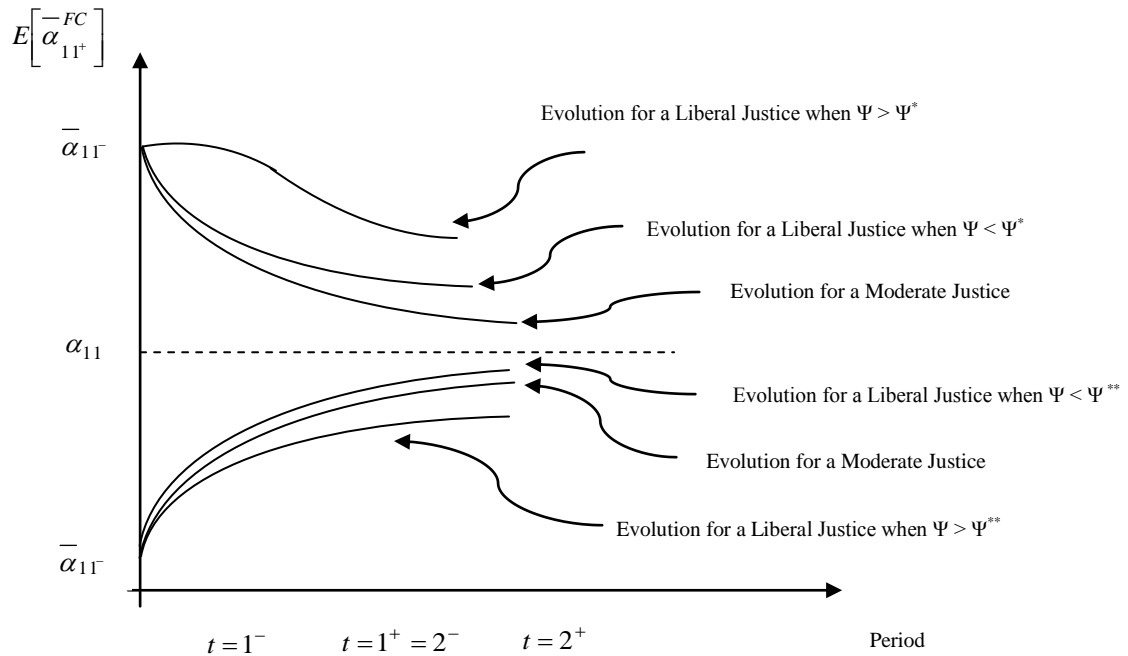
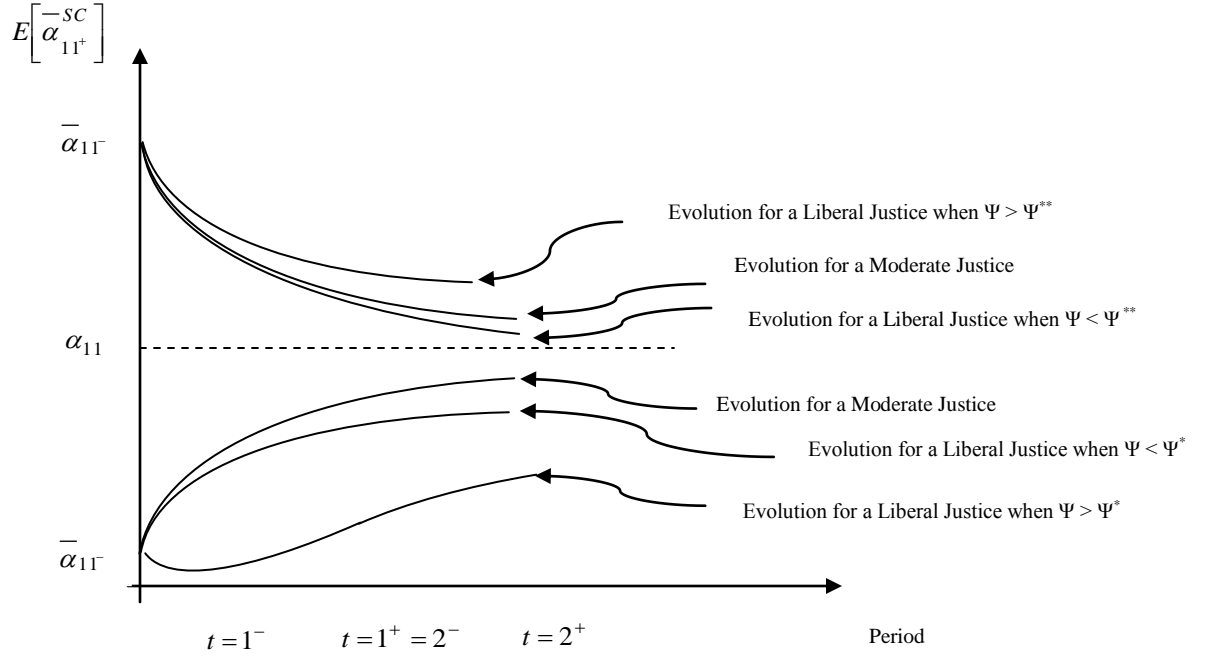


Figure 8B: Evolution expected ideology of a Liberal Justice under SC and $\Psi > 1$



The previous analysis is formalized in lemma 2 below.

Lemma 2: Evolution of Expected Ideologies:

Assuming $\alpha_{11} = \alpha_{21}$ and $\bar{\alpha}_{1\Gamma} = \bar{\alpha}_{2\Gamma}$:

i) When the Senate's and President's ideologies are opposed

$(\alpha_s < \frac{\theta_1 + \bar{\alpha}_{11} - \Delta + 2\alpha_{20}}{4})$: If $\alpha_{11} < \bar{\alpha}_{11}$ then $E[\bar{\alpha}_{11}^{FC} | \alpha_{11}] > E[\bar{\alpha}_{21} | \alpha_{21}]$ and there exists

$\Psi^* > 1$ such that for all $\Psi > \Psi^*$ it is true that $E[\bar{\alpha}_{11}^{FC} | \alpha_{11}] > \bar{\alpha}_{1\Gamma}$. If $\alpha_{11} > \bar{\alpha}_{11}$ then

$E[\bar{\alpha}_{11}^{FC} | \alpha_{11}] > \bar{\alpha}_{1\Gamma}$ and there exists $\Psi^{**} > 1$ such that $E[\bar{\alpha}_{11}^{FC} | \alpha_{21}] > E[\bar{\alpha}_{21} | \alpha_{21}]$ if and

only if $\Psi < \Psi^{**}$.

ii) When the Senate's and President's ideologies are semi-aligned

$(\alpha_s \in [\frac{\theta_1 + \bar{\alpha}_{11} + \Delta}{4} + \frac{2\alpha_{20}}{4}, \frac{\theta_1 + \bar{\alpha}_{11} + \Delta}{8} + \frac{3\alpha_{30}}{4}])$: If $\alpha_{11} < \bar{\alpha}_{11}$ then

$E\left[\bar{\alpha}_{11^+}^{SC}|\alpha_{11}\right] < \bar{\alpha}_{11^-}$ and there exists $\Psi^{**} > 1$ such that $E\left[\bar{\alpha}_{11^+}^{SC}|\alpha_{21}\right] > E\left[\bar{\alpha}_{21^+}|\alpha_{21}\right]$ if and only if $\Psi > \Psi^{**}$. If $\alpha_{11} > \bar{\alpha}_{11}$ then $E\left[\bar{\alpha}_{11^+}^{SC}|\alpha_{11}\right] < E\left[\bar{\alpha}_{21^+}|\alpha_{21}\right]$ and there exists $\Psi^* > 1$ such that for all $\Psi > \Psi^*$ it is true that $E\left[\bar{\alpha}_{11^+}^{SC}|\alpha_{11}\right] < \bar{\alpha}_{11^-}$.

Proof: See the Appendix.

Both Figures 8A-B and lemma 2 provide us with number of important insights. First, from the perspective of the new justice, her perceived ideology may be seen as more or less conservative under either FC or SC scenarios. Second, the larger is the parameter Ψ , the closer the new expected ideology is to the initial value $\bar{\alpha}_{11^-}$, because the larger Ψ is, the more frequently the new justice votes untruthfully and ergo the less informative her vote is;³⁵ (to see this, note that $\bar{\alpha}_{11^+}^{FC}(\theta_1|\Psi \geq 1) = \bar{\alpha}_{11^-}$ for all values of θ_1 as $\bar{\theta}^{FC}$ becomes $\bar{\alpha}_{11^-} - \Delta$ and the justice always votes L. The same logic applies for $\bar{\alpha}_{11^+}^{SC}(\theta_1|\Psi \geq 1) = \bar{\alpha}_{11^-}$). But the smaller the same parameter Ψ is, the closer her expected ideology gets to the expected ideology of a moderate justice, because the more likely it is that the justice will always vote truthfully (see that $E\left[\alpha_{11^+}^{FC}|\alpha_{11}\right]$ becomes $(1-\Delta)\bar{\alpha}_{11^-} + \Delta\alpha_{11}$ when $\alpha_{11} \leq \bar{\theta}^{FC}$, the same as $E\left[\alpha_{11^+}^{SC}|\alpha_{11}\right]$ when $\alpha_{11} \geq \bar{\theta}^{SC}$).

Third, in both the FC and SC scenarios, we observe asymmetries in the evolution of the expected ideology when we compare $\bar{\alpha}_{11^-}$ with α_{11} . Under FC, the extreme justice's updated ideology will be perceived as more liberal, relative to its initial ideology, when $\alpha_{11} > \bar{\alpha}_{11^-}$ than when $\alpha_{11} < \bar{\alpha}_{11^-}$, while under SC, the extreme justice's updated ideology will be perceived as more conservative, relative to its initial ideology, when $\alpha_{11} < \bar{\alpha}_{11^-}$ than when $\alpha_{11} > \bar{\alpha}_{11^-}$. The reason is that under FC, the larger α_{11} is, the more likely untruthful voting occurs (untruthful voting takes place in the interval $\left[\bar{\alpha}_{11^-} - \Delta, \alpha_{11}\right]$, with positive probability in the interval

³⁵ External observers will learn less about the new justice's true ideology.

$\left[\bar{\alpha}_{1\Gamma} - \Delta, \min\{\alpha_{11}, \bar{\theta}^{FC}\} \right]$ and with certainty in the interval $\left[\min\{\alpha_{11}, \bar{\theta}^{FC}\}, \alpha_{11} \right]$. Hence the larger α_{11} is, (the larger is the set of case-types under which voting is untruthful), the further the updated ideology moves left. The same logic, but with reversed parameters, takes place under SC: the smaller α_{11} is, the more likely untruthful voting is (untruthful voting takes place in the interval $\left[\alpha_{11}, \bar{\alpha}_{1\Gamma} + \Delta \right]$), which moves the updated ideology right.

Finally, why is it the case that in some FC scenarios a more liberal justice will be perceived as more conservative and in some SC scenarios as more liberal? After all, what the justice is seeking through untruthful voting is to be perceived as more liberal under a FC scenario and more conservative under a SC scenario. The answer is commitment. From an ex ante perspective, the new justice would prefer to vote truthfully all the time than to follow a FC or SC voting strategy. The expected utility is larger in the former than in the latter.³⁶ However, from an ex-post perspective, always truthful voting is not a credible strategy. As we showed in the solution of our model, the justice has incentives to vote untruthfully when certain cases take place. As such, the justice will be unable to convince external observers that her voting is truthful. This has direct costs: because the justice votes untruthfully in some cases, her truthful vote is informationally “diluted”. Take for example the case of $\alpha_{1\Gamma} < \theta_1$: the justice votes L both under the FC and the truthful voting strategies, but while in the latter case the new expected ideology is $\frac{\theta_1 + \bar{\alpha}_{11} - \Delta}{2}$, in the former it is $\bar{\alpha}_{11} > \frac{\theta_1 + \bar{\alpha}_{11} - \Delta}{2}$.³⁷

4.3. Strategic Retirement

Prior literature has shown that justices retire strategically, influenced by age, health, length of tenure, eligibility for pension benefits, and particularly relevant for our analysis,

³⁶ For example in the case that $\alpha_{11} < \theta^{FC}$, a FC voting strategy generates an expected benefit of

$$\int_{\bar{\alpha}_{1\Gamma} - \Delta}^{\alpha_{11}} (1 - p(\theta_1)) \left\{ \frac{\Delta}{2\Psi} \delta(u+d) - l \right\} \frac{d\theta_1}{2\Delta} = 0 \text{ but a positive expected cost } \int_{\alpha_{11}}^{\bar{\theta}^{FC}} \left\{ \frac{\Delta}{2} - \frac{\Delta}{2\Psi} \right\} \delta(u+d) \frac{d\theta_1}{2\Delta} +$$

$$\int_{\bar{\theta}^{FC}}^{\bar{\alpha}_{1\Gamma} - \Delta} \frac{\bar{\alpha}_{1\Gamma} - \theta_1 + \Delta}{4} \delta(u+d) \frac{d\theta_1}{2\Delta} = 0.$$

³⁷ The strategy defines an equilibrium because if the justice lies, the expected ideology becomes $\frac{\theta_1 + \bar{\alpha}_{11} + \Delta}{2}$, which is even worse than the cost of truthful voting.

ideological alignment with the nominating president (Stolzenberg and Lindgren, 2010). Here we show that three additional factors are important: the Senate’s ideological position, the benefits of an untruthful vote relative to its costs, and the initial ideological position of all the justices, with particular emphasis in the ideology of the retiring justice.

Our model allows us to explore the signals revealed by incumbent justices to Court newcomers. In our model, the actual decision of an existing justice, say J_2 or J_3 , to retire or not in the second period is irrelevant for the shaping of the Court’s ideology because in the second period all justices vote truthfully. In addition, if J_2 or J_3 were truthfully choosing their retirement strategies, they would prefer not to retire at all. In the case of J_2 , this is because the Court decision always corresponds to her own vote, so a replacement will never better impose her desired ideology. In the case of J_3 , this is because a replacement will always move the Court ideology farther left than the current Court.

However, it could be the case that J_2 or J_3 have already made their retirement decisions (for example due to health reasons). In that case, the retiring justices have incentives not to openly reveal that decision, but instead to signal a given retirement probability.³⁸ The reason is that the perceived probability of retirement, say p_2 or p_3 , will shape the future Court’s ideology in ways that we have already discussed. From lemmas 1 and 2, the retirement probabilities (imbedded in the parameter Ψ) will affect the likelihood of untruthful voting and consequently the evolution of the expected ideology of the new justice/Court.

In that situation the concrete question faced by the retiring justice is: what is the retirement probability that minimizes the distance between the expected nominee’s ideology and my own ideology? That is, what is the retirement probability that minimizes

$(\frac{E[\alpha_{11^+}] + \alpha_{g^-}}{2} - \alpha_{g0})^2$ if the expected nomination game is FC (i.e. the Senate is liberal enough)

and the retirement probability that minimizes $(2\alpha_s - \frac{E[\alpha_{11^+}] + \alpha_{g^-}}{2} - \alpha_{g0})^2$ if the expected

nomination game is SC (the Senate is adequately conservative)? We briefly discuss the four possible cases:

³⁸ Indeed, justices often have a lot of control over perceptions of their probabilities of retirement, for example by soliciting interviews to suggest the possibility of retirement, or failing to hire law clerks early in the season. See for example most recently in relation to Justice Stevens, Dahlia Lithwick, “High-Court Hamlet: Justice Stevens’s public pondering” *Newsweek* (April 08, 2010).

J₂ is considering retirement and a FC nomination game is played in the second period:

Without loss of generality, there is an interior solution given by

$$E[\alpha_{11^+}^{FC}] = \bar{\alpha}_{11^+} - \frac{\Delta}{\Psi} (1 - \Delta) \left(1 - \frac{1}{\Psi}\right) = 2\alpha_{20} - \alpha_{30}$$

in which, as before, $\Psi = \frac{\delta(u+d)\Delta(p_2 + p_3)}{2l}$. By imposing $p_3 = 0$ (because we deal with just

one retirement at a time) and plugging Ψ in, we find that the optimal retirement probability is

$$p_2 = \frac{l}{\delta(u+d)\Delta} \left[\frac{1 - \sqrt{1 - 4A}}{A} \right] \text{ in which } A = \frac{\bar{\alpha}_{11^+} + \alpha_{30} - 2\alpha_{20}}{\Delta(1 - \Delta)}.$$

That is, the less likely it is that the new justice will vote untruthfully because the costs of lying

are large relative to its benefits, or the more likely is that the new nominee ($\frac{E[\alpha_{11^+}^{FC}] + \alpha_{30}}{2}$) will

be too conservative, the larger will be the perceived probability of retirement. In both cases, the probability of retirement is operating as a smoother or balancer in the strong incentives of the new justice to be perceived conservatively.

J₂ is considering retirement and a SC nomination game is played in the second period:

The same steps as before except that

$$E[\alpha_{11^+}^{SC}] = \bar{\alpha}_{11^+} + \frac{\Delta}{\Psi} (1 - \Delta) \left(1 - \frac{1}{\Psi}\right) = 4\alpha_s - 2\alpha_{20} - \alpha_{30}$$

which implies that the optimal retirement probability is

$$p_2 = \frac{l}{\delta(u+d)\Delta} \left[\frac{1 - \sqrt{1 - 4A}}{A} \right] \text{ in which } A = \frac{4\alpha_s - \bar{\alpha}_{11^+} - \alpha_{30} - 2\alpha_{20}}{\Delta(1 - \Delta)}$$

As before, and for the same reasons, the less likely it is that the new justice will vote untruthfully

or the more likely it is that the new nominee ($2\alpha_s - \frac{E[\alpha_{11^+}^{SC}] + \alpha_{30}}{2}$) will be conservative, the

higher the perceived probability of retirement is.

J₃ is considering retirement and a FC nomination game is played in the second period:

Because in this case the new nominee cannot have J₃'s ideology ($\frac{E[\alpha_{11^+}^{FC}] + \alpha_{30}}{2} < \alpha_{20}$), the best

that the retiring justice can do is to push the expected ideology of the new justice as far right as possible. And because we know that:

$$\frac{\partial E[\alpha_{11}^{FC}]}{\partial \Psi} = \begin{cases} - & \text{if } \Psi \in [1,2] \\ + & \text{if } \Psi > 2 \end{cases}$$

we conclude that when $\Psi \in [1,2]$, the retiring justice should signal $p_3 = 0$, but when $\Psi > 2$ the retiring justice should signal $p_3 = 1$.

J₃ is considering retirement and a SC nomination game is played in the second period: as before the new nominee cannot have J₃'s ideology, hence the best that the retiring justice can do is to push the expected ideology of the new justice as far left as possible, which implies exactly the opposite result obtained in the case that justices expect a FC nomination game — remember that in this case the expected ideology of the Court is inversely related to the ideology of the new justice. That is when $\Psi \in [1,2]$ the retiring justice should signal $p_3 = 1$ but when $\Psi > 2$ the retiring justice should signal $p_3 = 0$.

5. Discussion and Conclusions

Uncertainty is inherent in judicial appointments — at judicial nomination hearings, nominees routinely refuse to answer many questions, on the basis that doing so would be improper, because the nominee may face the question subsequently as a justice. This uncertainty does not disappear once a nominee is confirmed; we have shown that justices may have an incentive to maintain ambiguity about their true preferences, resulting in untruthful voting by justices in some cases.

We see untruthful judicial voting because forward-looking judges anticipate that they can influence the selection of future members of the Court. The incentive for justices to be ambiguous about their preferences arises not only in order to shape a nominee's own confirmation process, but to influence subsequent nominations, since judicial votes affect the perceived ideology of the Court as a whole. The relative ideological position of the default median of the Court, the President and the Senate determine the viable position of the replacement justice. As such, it is intrinsic to the nomination process, as long as there is uncertainty about judicial preferences, that justices will vote untruthfully.

Our model provides the threshold requirements for untruthful voting to occur. Untruthful voting does not occur in an unconstrained game, because there is no point: the Senate will confirm a nominee at the President’s exact ideal point, so the behavior of the Court is irrelevant. Similarly, untruthful voting does not occur in the second period, since the second period represents the end of the game — this suggests that as justices approach retirement, their voting will be more representative of their true ideological preferences (more on this below). Moderate justices do not vote untruthfully, since doing so determines the outcome of the case contrary to the justice’s own preferences, which cannot be adequately compensated in the subsequent period. Untruthful voting only occurs for certain case types. In the case that the President and Senate play a constrained nomination game, cases must be informative and induce the new justice to vote against her overall ideological tendency. In the case that the President and Senate play a semi-constrained nomination game, cases must be informative and induce the new justice to vote in line with her ideological tendency.

Untruthful voting will take two forms: justices can either exaggerate or understate their preferences, as discussed. Over time, the justice’s expected ideology will converge with her actual ideology, though the pace of this evolution will vary with ψ , the relative costs and benefits of untruthful voting. The result that justices will understate their preferences explains the counter-intuitive apparent ideological movement of justices such as Chief Justice Rehnquist, as was illustrated in Figure 1 — something previously only explained by under-theorized intuitions, such as being a result of becoming (or anticipating becoming) Chief Justice. This result also suggests that later observed behavior is more informative of a justice’s true preferences than earlier voting behavior. This has three important implications for measurement of judicial ideology.

First, it suggests that prior analysis of judicial ideological movement may be overstated, to the extent that it claims that *actual* judicial preferences change, since our results suggest that even with static actual judicial preferences, apparent judicial preferences will vary. Second, it suggests that measures of judicial ideology will be more reliable when assessing later voting, and so should perhaps discount earlier voting as potentially unreliable. Third, two justices with the same actual ideology α who face different case fact distributions, or θ s, will appear to have quite different ideological preferences, or $\bar{\alpha}$ s.

Together, these three effects have serious implications for measures of judicial ideology that span multiple natural courts. One of the great advantages of scores such as Martin-Quinn is that they use each justice as a bridge, comparing each justice’s tendency to join majorities or dissents with other justices, and use the multiple crossovers between judicial tenures to compare justices from different eras. But Martin and Quinn are comparing $\bar{\alpha}$ s, not α s. Since justices sometimes vote untruthfully within their $[\bar{\alpha} - \Delta, \bar{\alpha} + \Delta]$ range, and since whether they will do so will depend in part on their positions relative to one another, scores of judicial ideology should only consider those votes that can be safely assumed to be truthful. Our model shows when apparent ideology converges with actual ideology: again, the speed of convergence crucially depends on parameter ψ .

What is more, because Martin-Quinn scores leverage the staggered nature of judicial retirement, as some justices facing the same θ s near retirement while others do not, Martin and Quinn are effectively comparing younger justices’ $\bar{\alpha}$ s to what will be close to older justices’ actual α s. For example in Figure 1, Blackmun ended his tenure at close to ideology of -2 and Rehnquist ended his tenure at 1.5, whereas Stevens and Scalia reached those ideological points, respectively, at the middle and beginning of their careers, then continued to change. Not only can we have less faith when each of those scores were achieved by Blackmun and Rehnquist; since each term’s scores are calculated based on every justice’s votes relative to one another, this increases the error of *even the more reliable scores*. Blackmun measured -2 in 1993 and Stevens measured -2 in 1991 on the Martin-Quinn scale — the scores were based on different θ s, and so cannot be assumed to be equivalent even if the justices had been at equivalent points in their careers. We do not conclude that our results undermine the considerable usefulness of the scores, only that our results have implications for how such scores should be calculated.

Our model also examines when justices will retire. This contributes to work showing that justices decide when to retire following both “instrumental rationality” — considering for example their pension eligibility — as well as “value rationality” — significantly accelerating their departure or prolonging their service, according to whether the sitting President is of the same party as the President who appointed the justice, and whether the President is in the first two years of his term, and thus most likely to be able to successfully nominate the justice’s replacement (Stolzenberg and Lindgren, 2010). Our model suggests that a relevant political

alignment factor that also contributes to the expectation that the replacement justice will reflect the sitting justice's ideological preferences is the ideological position of the Senate. The optimal time to retire — that which minimises this distance between the sitting justice and her expected replacement — depends upon which nomination game will be played for the replacement justice. This depends on not only the relative ideological alignment between the sitting justice and the nominating president, but also on the Senate's ideological position and the ideological position of the other sitting justices.

Future empirical work can take account of these additional factors. Meanwhile, our theory provides a new explanation for an empirical phenomenon already observed: drift in judicial expression of preferences.

Finally, we note two potential extensions of our model. First, it would be possible to extend further beyond the Moraski-Shipan model by allowing not only the justice but also the Senate and the President to be non-myopic. This would make the already complex calculations of this model considerably more convoluted, but would further increase the realism of the game. Second, we could adjust the relative power between the Senate and President. Based on some preliminary analysis in these lines, we conjecture that even when the quantitative results may change, when adding relative bargaining power, we would still find that justices some times vote untruthfully in order to shape the future ideological make up of the Court.

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Appendix – Mathematical Proofs:

FC voting strategy when the new justice is liberal: As explained in the paper, we know that $v_{11}(\theta_1) = L$ when $\theta_1 > \alpha_{11}$. In addition we know that $v_{11}(\theta_1) = L$ when $\theta_1 < \alpha_{11}$ if and only if:

$$\delta(u+d) \left(\frac{\frac{-T}{\alpha_{11^+}} - \frac{-U}{\alpha_{11^+}}}{2} \right) > l \Leftrightarrow \delta(u+d) \left(\frac{\frac{\theta_1 + \bar{\alpha}_{11\Gamma} + \Delta}{2} - \bar{\alpha}_{11\Gamma}}{2} \right) > l \quad (\text{A1})$$

$$\theta_1 > \frac{4l}{\delta(u+d)} + \bar{\alpha}_{11\Gamma} - \Delta = \bar{\theta}^{FC} \quad (\text{A2})$$

On the flipside, we know that for $\theta_1 < \min\{\alpha_{11}, \bar{\theta}^{FC}\}$ there is a pure strategy equilibrium if and only if $\frac{l}{\delta(u+d)}$ is

large enough. To see this, the justice votes C if and only:

$$\delta(u+d) \left(\frac{\frac{-T}{\alpha_{11} - \alpha_{11}}}{2} \right) < l \Leftrightarrow \delta(u+d) \left(\frac{\left(\frac{\theta_1 + \bar{\alpha}_{11\Gamma} + \Delta}{2} + \alpha_{30} \right) - \left(\frac{\theta_1 + \bar{\alpha}_{11\Gamma} - \Delta}{2} + \alpha_{30} \right)}{2} \right) < l$$

$$\delta(u+d) \left(\frac{\Delta}{2} \right) < l \quad (\text{A3})$$

Which implies that the justice votes truthfully for all values of α_{11} and θ_1 because $\bar{\theta}_L > \bar{\alpha}_{11\Gamma} + \Delta$ and

$\min\{\alpha_{11}, \bar{\theta}^{FC}\} = \alpha_{11}$. But when $\delta(u+d) \left(\frac{\Delta}{2} \right) > l$, the justice should vote L given that $\theta_1 < \min\{\alpha_{11}, \bar{\theta}^{FC}\}$, which

is not consistent with (A2). Hence, the only equilibrium is a mixed strategy where:

$$E[\alpha_{11} | v_{11}(\theta_1) = C, \theta_1 < \bar{\theta}^{FC}] = \frac{\theta_1 + \bar{\alpha}_{11\Gamma} + \Delta}{2}$$

$$E[\alpha_{11} | v_{11}(\theta_1) = L, \theta_1 > \bar{\theta}^{FC}] = \bar{\alpha}_{11\Gamma}$$

$$E[\alpha_{11} | v_{11}(\theta_1) = L, \theta_1 < \bar{\theta}^{FC}] = \begin{cases} E[\alpha_{11} | v_{11}(\theta_1) = L, \theta_1 < \bar{\theta}^{FC}, \bar{\alpha}_{11\Gamma} - \Delta < \alpha_{11} < \theta_1] Pbb[\bar{\alpha}_{11\Gamma} - \Delta < \alpha_{11} < \theta_1 | v_{11}(\theta_1) = L] + \\ E[\alpha_{11} | v_{11}(\theta_1) = L, \theta_1 < \bar{\theta}^{FC}, \bar{\alpha}_{11\Gamma} + \Delta > \alpha_{11} > \theta_1] Pbb[\bar{\alpha}_{11\Gamma} + \Delta > \alpha_{11} > \theta_1 | v_{11}(\theta_1) = L] \end{cases}$$

where

$$E[\alpha_{11} | v_{11}(\theta_1) = L, \theta_1 < \bar{\theta}^{FC}] = \frac{\theta_1 + \bar{\alpha}_{11\Gamma} - \Delta}{2} Pbb(\alpha_{11} < \theta_1 | v_{11}(\theta_1) = L) + \frac{\theta_1 + \bar{\alpha}_{11\Gamma} + \Delta}{2} Pbb(\alpha_{11} > \theta_1 | v_{11}(\theta_1) = L)$$

with

$$Pbb(\alpha_{11} < \theta_1 | v_{11}(\theta_1) = L) = \frac{Pbb(v_{11}(\theta_1) = L | \alpha_{11} < \theta_1) Pbb(\alpha_{11} < \theta_1)}{Pbb(v_{11}(\theta_1) = L | \alpha_{11} < \theta_1) Pbb(\alpha_{11} < \theta_1) + Pbb(v_{11}(\theta_1) = L | \alpha_{11} > \theta_1) Pbb(\alpha_{11} > \theta_1)}$$

$$= \frac{\frac{\theta_1 - (\bar{\alpha}_{11} - \Delta)}{2\Delta}}{\frac{\theta_1 - (\bar{\alpha}_{11} - \Delta)}{2\Delta} + (1-p) \frac{(\bar{\alpha}_{11} + \Delta) - \theta_1}{2\Delta}}$$

Hence

$$E[\alpha_{11} | v_{11}(\theta_1) = L, \theta_1 < \bar{\theta}^{FC}] = \left\{ \begin{array}{l} \frac{\theta_1 + \bar{\alpha}_{11} - \Delta}{2} \frac{\frac{\theta_1 - (\bar{\alpha}_{11} - \Delta)}{2\Delta}}{\frac{\theta_1 - (\bar{\alpha}_{11} - \Delta)}{2\Delta} + (1-p) \frac{(\bar{\alpha}_{11} + \Delta) - \theta_1}{2\Delta}} + \\ \frac{\theta_1 + \bar{\alpha}_{11} + \Delta}{2} \frac{(1-p) \frac{(\bar{\alpha}_{11} + \Delta) - \theta_1}{2\Delta}}{\frac{\theta_1 - (\bar{\alpha}_{11} - \Delta)}{2\Delta} + (1-p) \frac{(\bar{\alpha}_{11} + \Delta) - \theta_1}{2\Delta}} \end{array} \right\}$$

For a mixed strategy solution to hold, it must be true that:

$$\frac{\delta(u+d)}{2} \left(\frac{\theta_1 + \bar{\alpha}_{11} + \Delta}{2} - E[\alpha_{11} | v_{11}(\theta_1) = L, \theta_1 < \bar{\theta}^{FC}] \right) = l$$

$$\frac{\delta(u+d)\Delta}{2} \frac{\frac{\theta_1 - (\bar{\alpha}_{11} - \Delta)}{2\Delta}}{\frac{\theta_1 - (\bar{\alpha}_{11} - \Delta)}{2\Delta} + (1-p) \frac{(\bar{\alpha}_{11} + \Delta) - \theta_1}{2\Delta}} = l$$

which finally implies that:

$$1 - p(\theta_1) = \frac{\left[\frac{\delta(u+d)\Delta}{2l} - 1 \right]}{(\bar{\alpha}_{11} + \Delta - \theta_1)} (\theta_1 - (\bar{\alpha}_{11} - \Delta))$$

SFC voting strategy when the new justice is liberal:

$$v_{11}^{SFC_1}(\theta_1) = \begin{cases} C & \text{if } \theta_1 < \max\{\bar{\theta}^{SFC_1}, \alpha_{11}\} \\ L & \text{with probability } p(\theta_1) \text{ if } \theta_1 \in \left[\max\{\bar{\theta}^{SFC_1}, \alpha_{11}\}, \bar{\alpha}_{11} + \Delta \right] \\ L & \text{if } \theta_1 > \bar{\alpha}_{11} + \Delta \end{cases}$$

$$\text{and } \bar{\alpha}_{11^+}^{-SFC_1}(\theta_1 | \Psi \geq 1) = \begin{cases} \bar{\alpha}_{11^-} & \text{if } v_{11}(\theta_1) = C \text{ and } \theta_1 < \bar{\theta}^{SFC_1} \\ \frac{\theta_1 + \bar{\alpha}_{11^-} - \Delta}{2} & \text{if } v_{11}(\theta_1) = L \text{ and } \theta_1 > \bar{\theta}^{SFC_1} \\ \frac{\theta_1 + \bar{\alpha}_{11^-} + \Delta(2/\Psi - 1)}{2} & \text{if } v_{11}(\theta_1) = C \text{ and } \theta_1 > \bar{\theta}^{SFC_1} \end{cases} \quad \text{with}$$

$\bar{\theta}^{SFC_1} = 8\alpha_S - (3\bar{\alpha}_{11^-} + 4\alpha_{30}) + \Delta(1 - \frac{2}{\Psi})$. Analogously, in the case of SFC₂, the new justice uses the following

strategy

$$v_{11}^{SFC_2}(\theta_1) = \begin{cases} C & \text{if } \theta_1 < \bar{\alpha}_{11^-} - \Delta \\ C \text{ with probability } p(\theta_1) & \text{if } \theta_1 \in [\bar{\alpha}_{11^-} - \Delta, \min\{\bar{\theta}^{SFC_2}, \alpha_{11}\}] \\ L & \text{if } \theta_1 > \min\{\bar{\theta}^{SFC_2}, \alpha_{11}\} \end{cases}$$

$$\text{and } \bar{\alpha}_{11^+}^{-SFC_2}(\theta_1 | \Psi \geq 1) = \begin{cases} \frac{\theta_1 + \bar{\alpha}_{11^-} + \Delta}{2} & \text{if } v_{11}(\theta_1) = C \text{ and } \theta_1 < \bar{\theta}^{SFC_2} \\ \bar{\alpha}_{11^-} & \text{if } v_{11}(\theta_1) = L \text{ and } \theta_1 > \bar{\theta}_L^{SFC_2} \\ \frac{\theta_1 + \bar{\alpha}_{11^-} + \Delta(1 - 2/\Psi)}{2} & \text{if } v_{11}(\theta_1) = L \text{ and } \theta_1 < \bar{\theta}^{SFC_2} \end{cases} \quad \text{with}$$

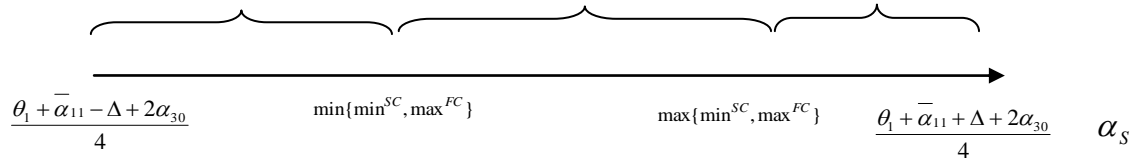
$\bar{\theta}^{SFC_2} = 8\alpha_S - (3\bar{\alpha}_{11^-} + 4\alpha_{30}) + \Delta(\frac{2}{\Psi} - 1)$. Notice that $v_{11}^{SFC_1}(\theta_1)$ is equivalent to $v_{11}^{SC}(\theta_1)$, except that $\bar{\theta}^{SC}$ has

been replaced by $\bar{\theta}^{SFC_1}$ and $v_{11}^{SFC_2}(\theta_1)$ is equivalent to $v_{11}^{FC}(\theta_1)$, but with $\bar{\theta}^{FC}$ replaced by $\bar{\theta}^{SFC_2}$. Also notice that

$$\bar{\theta}^{SFC_2} \left(\frac{\bar{\alpha}_{11^-} + \alpha_{30}}{2} \right) = \bar{\theta}^{FC} \quad \text{and} \quad \bar{\theta}^{SFC_2} \left(\frac{\bar{\alpha}_{11^-} + \alpha_{30}}{2} \right) = \bar{\theta}^{SC}.$$

Figure A: Voting Strategy for a Liberal justice under SFC when $I/(u+d)$ is low

randomizes $v_{11}^{FC}(\theta_1)$ & $v_{11}^{SFC_1}(\theta_1)$ randomizes $v_{11}^{SFC_1}(\theta_1)$ & $v_{11}^{SFC_2}(\theta_1)$ randomizes $v_{11}^{SFC_2}(\theta_1)$ & $v_{11}^{SC}(\theta_1)$



As shown in Figure A, within the range of the SFC nomination games, the new justice randomizes between FC and

SFC₁ when $\alpha_S \in \left[\frac{\theta_1 + \bar{\alpha}_{11^-} - \Delta}{4} + \frac{\alpha_{30}}{2}, \min\{\min^{SC}, \max^{FC}\} \right]$, randomizes between SFC₁ and SFC₂ when

$\alpha_S \in [\min\{\min^{SC}, \max^{FC}\}, \max\{\min^{SC}, \max^{FC}\}]$, randomizes between SFC_2 and SC when

$$\alpha_S \in \left[\max\{\min^{SC}, \max^{FC}\}, \frac{\theta_1 + \bar{\alpha}_{11} + \Delta}{4} + \frac{\alpha_{30}}{2} \right].$$

Table 1 shows the values of $\min\{\min^{SC}, \max^{FC}\}$ and $\max\{\min^{SC}, \max^{FC}\}$ distinguishing by the values taken by the parameters θ_1 and Ψ .

Table 1			
When $\Psi \in [1, 2]$	$\theta_1 < \bar{\theta}^{SC}$	$\theta_1 \in [\bar{\theta}^{SC}, \bar{\theta}^{FC}]$	$\theta_1 > \bar{\theta}^{FC}$
$\min\{\min^{SC}, \max^{FC}\}$	$2\alpha_S - \frac{\bar{\alpha}_{11} + \alpha_{30}}{2}$	$2\alpha_S - \frac{(\theta_1 + \bar{\alpha}_{11} + \Delta(2/\Psi - 1))/2 + \alpha_{30}}{2}$	
$\max\{\min^{SC}, \max^{FC}\}$	$\frac{\theta_1 + \bar{\alpha}_{11} + \Delta + 2\alpha_{30}}{4}$		
When $\Psi > 2$	$\theta_1 < \bar{\theta}^{FC}$	$\theta_1 \in [\bar{\theta}^{FC}, \bar{\theta}^{SC}]$	$\theta_1 > \bar{\theta}^{SC}$
$\min\{\min^{SC}, \max^{FC}\}$	$2\alpha_S - \frac{\bar{\alpha}_{11} + \alpha_{30}}{2}$		$\frac{\theta_1 + \bar{\alpha}_{11} + \Delta + 2\alpha_{30}}{4}$
$\max\{\min^{SC}, \max^{FC}\}$	$\frac{\theta_1 + \bar{\alpha}_{11} + \Delta + 2\alpha_{30}}{4}$	$2\alpha_S - \frac{(\theta_1 + \bar{\alpha}_{11} + \Delta(2/\Psi - 1))/2 + \alpha_{30}}{2}$	

Evolution of preferences (moderate justice): At $t = 1^-$, the expected ideology is $\bar{\alpha}_{21\Gamma}$. After the first case takes place, conditional on the justice always voting truthfully, her expected ideology is updated to

$$\int_0^{\bar{\alpha}_{21\Gamma} - \Delta} \bar{\alpha}_{21\Gamma} d\theta_1 + \int_{\bar{\alpha}_{21\Gamma} - \Delta}^{\alpha_{21}} \frac{\theta_1 + \bar{\alpha}_{21\Gamma} + \Delta}{2} d\theta_1 + \int_{\alpha_{21}}^{\bar{\alpha}_{21\Gamma} + \Delta} \frac{\theta_1 + \bar{\alpha}_{21\Gamma} - \Delta}{2} d\theta_1 + \int_{\bar{\alpha}_{21\Gamma} + \Delta}^1 \bar{\alpha}_{21\Gamma} d\theta_1, \text{ which is equal}$$

to $(1 - 2\Delta)\bar{\alpha}_{21\Gamma} + \Delta(\bar{\alpha}_{21\Gamma} + \alpha_{21})$.

Evolution of preferences (liberal justice): At $t = 1^-$, the expected ideology is $\bar{\alpha}_{11\Gamma}$. After the first case takes place, the justice's expected ideology is updated to

$$\int_0^{\bar{\alpha}_{11\Gamma} - \Delta} \bar{\alpha}_{11\Gamma} d\theta_1 + \int_{\bar{\alpha}_{11\Gamma} - \Delta}^{\min\{\alpha_{11}, \bar{\theta}_L\}} \left\{ (1 - p(\theta_1)) \left[\left(\frac{\theta_1 + \bar{\alpha}_{11\Gamma} - \Delta}{2} \right) \frac{1}{\Psi} + \left(\frac{\theta_1 + \bar{\alpha}_{11\Gamma} + \Delta}{2} \right) \left(1 - \frac{1}{\Psi} \right) \right] + p(\theta_1) \frac{\theta_1 + \bar{\alpha}_{11\Gamma} + \Delta}{2} \right\} d\theta_1 + \int_{\max\{\alpha_{11}, \bar{\theta}^{FC}\}}^1 \bar{\alpha}_{11\Gamma} d\theta_1 + \int_{\min\{\alpha_{11}, \bar{\theta}^{FC}\}}^{\max\{\alpha_{11}, \bar{\theta}^{FC}\}} E[\alpha_{11} | v_{11}(\theta_1) = L, \theta_1 < \max\{\alpha_{11}, \bar{\theta}^{FC}\}] d\theta_1 +$$

$$\text{Which is } E[\bar{\alpha}_{11^+}] = \begin{cases} \bar{\alpha}_{11^+} + \frac{\Delta^2}{\Psi} \left(2 - \frac{1}{\Psi}\right) + \frac{2(\Psi-1)\Delta^2}{\Psi} \ln\left(\frac{\Psi-1}{\Psi}\right) & \text{if } \alpha_{11} > \bar{\theta}^{FC} \\ \bar{\alpha}_{11^+} + (\alpha_{11} - \bar{\alpha}_{11^+})\Delta + \Delta^2 \left(1 - \frac{1}{\Psi^2}\right) + \frac{2(\Psi-1)\Delta^2}{\Psi} \ln\left(\frac{\bar{\alpha}_{11^+} + \Delta - \alpha_{11}}{2\Delta}\right) & \text{if } \alpha_{11} < \bar{\theta}^{FC} \end{cases} .$$

Proof Lemma 1: i) is direct from the discussion in Section 3.1 of the case = 2; ii) is direct from the discussion in Section 3.1 of the solution of the game at t = 2; iii) - v) we have rewritten the “probabilities of untruthful vote” associated to $v_{11}^{FC}(\theta_1)$ and $v_{11}^{SC}(\theta_1)$ as they appear in the main text. In addition, for iv) we have considered that the “probabilities of untruthful vote” associated to $v_{11}^{SFC}(\theta_1)$ are random strategies described by figures 7 and A ; vi) is direct from the fact that $v_{11}^{UC}(\theta_1)$ is a truthful vote for all values of θ_1 ; vii) a) and b), it is enough to notice that the range of case-types for which the new justice votes untruthfully under $v_{11}^{FC}(\theta_1)$ and $v_{11}^{SC}(\theta_1)$ increases with Ψ . To see this, notice that $\left[\min\{\bar{\theta}^{FC}, \alpha_{11^+}\}, \alpha_{11^+}\right]$ and $\left[\alpha_{11^+}, \max\{\bar{\theta}^{SC}, \alpha_{11^+}\}\right]$ increase with Ψ because $\bar{\theta}^{FC}$ decreases while $\bar{\theta}^{SC}$ increases with that same parameter. In addition, both $1 - p^{FC}(\theta_1)$ and $1 - p^{SC}(\theta_1)$, which are the probabilities with which the justice votes untruthfully, are proportional to $\Psi - 1$. c) it is enough to notice that $1 - p^{FC}(\theta_1)$ is increasing in θ_1 while $1 - p^{SC}(\theta_1)$ is decreasing in the same parameter; viii) impose that $\Psi \in [1, 2]$

and take the case that $\bar{\theta}^{FC} < \alpha_{11} < \theta_1 < \bar{\theta}^{SC}$ then if $\alpha_S > \frac{\theta_1 + \bar{\alpha}_{11} + \Delta}{8} + \frac{3\alpha_{30}}{4}$ the justice truthfully votes L, if

$$\alpha_S \in \left[\frac{\theta_1 + \bar{\alpha}_{11} + \Delta}{4} + \frac{2\alpha_{30}}{4}, \frac{\theta_1 + \bar{\alpha}_{11} + \Delta}{8} + \frac{3\alpha_{30}}{4} \right] \text{ the justice untruthfully votes C, but if}$$

$$\alpha_S < \frac{\theta_1 + \bar{\alpha}_{11} - \Delta + 2\alpha_{20}}{4} \text{ then the justice truthfully votes L again.}$$

End of Proof.

Proof Lemma 2:

We show that if $\bar{\alpha}_{11^+} > \alpha_{11}$ then it is true that

$$\begin{aligned} 1) E[\alpha_{11^+} | \alpha_{11}]^{Liberal} > \bar{\alpha}_{11^+} \text{ if } \alpha_{11} > \bar{\theta}^{FC} &\Leftrightarrow \Psi > \frac{2\Delta}{\alpha_{11} - (\bar{\alpha}_{11^+} - \Delta)} : \text{Notice that} \\ E[\alpha_{11^+} | \alpha_{11}]^{Liberal} > \bar{\alpha}_{11^+} &\Leftrightarrow 0 < \Delta^2 \left(\frac{2}{\Psi} - \frac{1}{\Psi^2} \right) + 2 \left(\frac{\Psi-1}{\Psi} \right) \Delta^2 \ln \left(\frac{\Psi-1}{\Psi} \right) \\ &\Leftrightarrow 0 < \left[\frac{2\Psi-1}{\Psi} + 2(\Psi-1) \ln \left(\frac{\Psi-1}{\Psi} \right) \right] = H(\Psi) \end{aligned}$$

But that follows directly because when $\bar{\alpha}_{11^+} > \alpha_{11}$ it is the case that $\Psi \in [2, \infty]$. In addition $H(2) = 0.37$,

$$\lim_{\Psi \rightarrow \infty} H(\Psi) = 0 \text{ and } \frac{\partial H(\Psi)}{\partial \Psi} = \frac{2}{\Psi} + \frac{1}{\Psi^2} + 2 \ln \left(\frac{\Psi-1}{\Psi} \right) < 0 \text{ for all } \Psi \in [2, \infty].$$

2) $E[\alpha_{11^+} | \alpha_{11}]^{Moderate} < E[\alpha_{11^+} | \alpha_{11}]^{Liberal}$ if $\alpha_{11} < \bar{\theta}^{FC} \Leftrightarrow \Psi < \frac{2\Delta}{\alpha_{11} - (\bar{\alpha}_{11\Gamma} - \Delta)}$: Notice that

$$\begin{aligned} & E[\alpha_{11^+} | \alpha_{11}]^{Moderate} < E[\alpha_{11^+} | \alpha_{11}]^{Liberal} \\ \Leftrightarrow & (1-\Delta)\bar{\alpha}_{11\Gamma} + \Delta\alpha_{11} < (1-\Delta)\bar{\alpha}_{11\Gamma} + \Delta\alpha_{11} + \Delta^2\left(1 - \frac{1}{\Psi^2}\right) + 2\left(\frac{\Psi-1}{\Psi}\right)\Delta^2 \ln\left(\frac{\bar{\alpha}_{11\Gamma} + \Delta - \alpha_{11}}{2\Delta}\right) \\ \Leftrightarrow & 0 < \left[\frac{\Psi+1}{\Psi} + 2\ln\left(\frac{\bar{\alpha}_{11\Gamma} + \Delta - \alpha_{11}}{2\Delta}\right)\right] = H(\Psi) \\ \Leftrightarrow & 0 < \left[\frac{\Psi+1}{\Psi} + 2\ln(A)\right] = H(\Psi) \text{ where } A = \frac{\bar{\alpha}_{11\Gamma} + \Delta - \alpha_{11}}{2\Delta} \end{aligned}$$

But that follows directly because when $\bar{\alpha}_{11\Gamma} > \alpha_{11}$ it is the case that $\Psi \in \left[1, \frac{1}{1-A}\right]$ and it is true that $H(\Psi) > 0$ for all values of $A \in [0.5, 1]$.

3) There exists Ψ^* such that $\bar{\alpha}_{11\Gamma} < E[\alpha_{11^+} | \alpha_{11}]^{Liberal}$ if $\alpha_{11} < \bar{\theta}^{FC}$ and $1 < \Psi < \Psi^*$ and $E[\alpha_{11^+} | \alpha_{11}]^{Liberal} < \bar{\alpha}_{11\Gamma}$ if $\alpha_{11} < \bar{\theta}^{FC}$ and $\Psi^* < \Psi < \frac{2\Delta}{\alpha_{11} - (\bar{\alpha}_{11\Gamma} - \Delta)}$: To see that

$$\begin{aligned} \bar{\alpha}_{11\Gamma} < E[\alpha_{11^+} | \alpha_{11}]^{Liberal} & \Leftrightarrow \bar{\alpha}_{11\Gamma} < (1-\Delta)\bar{\alpha}_{11\Gamma} + \Delta\alpha_{11} + \Delta^2\left(1 - \frac{1}{\Psi^2}\right) + 2\left(\frac{\Psi-1}{\Psi}\right)\Delta^2 \ln\left(\frac{\bar{\alpha}_{11\Gamma} + \Delta - \alpha_{11}}{2\Delta}\right) \\ \Leftrightarrow \Delta(\bar{\alpha}_{11\Gamma} - \alpha_{11}) & < \frac{\Psi-1}{\Psi} \left[\frac{\Psi+1}{\Psi} + 2\ln\left(\frac{\bar{\alpha}_{11\Gamma} + \Delta - \alpha_{11}}{2\Delta}\right)\right] = H(\Psi) \\ \Leftrightarrow \Delta(\bar{\alpha}_{11\Gamma} - \alpha_{11}) & < \frac{\Psi-1}{\Psi} \left[\frac{\Psi+1}{\Psi} + 2\ln(A)\right] = \frac{\Psi-1}{\Psi} H(\Psi) = H'(\Psi) \text{ where } A = \frac{\bar{\alpha}_{11\Gamma} + \Delta - \alpha_{11}}{2\Delta} \end{aligned}$$

Notice that for a given A, $H(\Psi)$ is a decreasing function. In addition, we are interested in analyzing the sign of $H(\Psi)$ when $\bar{\alpha}_{11\Gamma} > \alpha_{11}$ and $\Psi < \frac{2\Delta}{\alpha_{11} - (\bar{\alpha}_{11\Gamma} - \Delta)}$, which implies that the values of A and Ψ

satisfy $\Psi \in \left[1, \frac{1}{1-A}\right]$ and $A \in [0.5, 1]$. It is easy to show that $H'(\Psi)$ is strictly concave with

$H'(1) = \lim_{\Psi \rightarrow \infty} H'(\Psi) = 0$, which means that unless A is very small ($\bar{\alpha}_{11\Gamma}$ is not close enough to α_{11}), there

exists Ψ^* such that $\Delta(\bar{\alpha}_{11\Gamma} - \alpha_{11}) < H'(\Psi) \Leftrightarrow \bar{\alpha}_{11\Gamma} > E[\alpha_{11^+} | \alpha_{11}]^{Liberal}$ if $\Psi > \Psi^*$ and

$\Delta(\bar{\alpha}_{11\Gamma} - \alpha_{11}) > H'(\Psi) \Leftrightarrow \bar{\alpha}_{11\Gamma} < E[\alpha_{11^+} | \alpha_{11}]^{Liberal}$ if $\Psi \leq \Psi^*$.

We show that if $\bar{\alpha}_{1\Gamma} < \alpha_{11}$, then it is true that

$$1) E[\alpha_{11^+} | \alpha_{11}]^{Moderate} > E[\alpha_{11^+} | \alpha_{11}]^{Liberal} > \bar{\alpha}_{1\Gamma} \text{ if } \alpha_{11} > \bar{\theta}^{FC} \Leftrightarrow \Psi > \frac{2\Delta}{\alpha_{11} - (\bar{\alpha}_{1\Gamma} - \Delta)} : \text{Notice that}$$

$$\begin{aligned} E[\alpha_{11^+} | \alpha_{11}]^{Liberal} > \bar{\alpha}_{1\Gamma} &\Leftrightarrow 0 < \Delta^2 \left(\frac{2}{\Psi} - \frac{1}{\Psi^2} \right) + 2 \left(\frac{\Psi-1}{\Psi} \right) \Delta^2 \ln \left(\frac{\Psi-1}{\Psi} \right) \\ &\Leftrightarrow 0 < \left[\frac{2\Psi-1}{\Psi} + 2(\Psi-1) \ln \left(\frac{\Psi-1}{\Psi} \right) \right] = H(\Psi) \end{aligned}$$

But that follows directly because when $\bar{\alpha}_{1\Gamma} > \alpha_{11}$, it is the case that $\Psi \in [1, \infty]$. In addition, $H(1) = 1$,

$$\lim_{\Psi \rightarrow \infty} H(\Psi) = 0 \text{ and } \frac{\partial H(\Psi)}{\partial \Psi} = \frac{2}{\Psi} + \frac{1}{\Psi^2} + 2 \ln \left(\frac{\Psi-1}{\Psi} \right) < 0 \text{ for all } \Psi \in [1, \infty]. \text{ In addition,}$$

$$E[\alpha_{11^+} | \alpha_{11}]^{Moderate} > E[\alpha_{11^+} | \alpha_{11}]^{Liberal} \Leftrightarrow \frac{\Psi(\alpha_{11} - \bar{\alpha}_{1\Gamma})}{\Delta} > \left[\left(\frac{2\Psi-1}{\Psi} \right) + 2(\Psi-1) \Delta^2 \ln \left(\frac{\Psi-1}{\Psi} \right) \right] = H(\Psi)$$

and that is always satisfied, as we know that

$$\frac{\Psi(\alpha_{11} - \bar{\alpha}_{1\Gamma})}{\Delta} > 2 - \Psi > H(\Psi).$$

2) There exists Ψ^{**} such that $\bar{\alpha}_{1\Gamma} < E[\alpha_{11^+} | \alpha_{11}]^{Moderate} < E[\alpha_{11^+} | \alpha_{11}]^{Liberal}$ if $\alpha_{11} < \bar{\theta}^{FC}$ and $1 < \Psi < \Psi^{**}$ and

$$\bar{\alpha}_{1\Gamma} < E[\alpha_{11^+} | \alpha_{11}]^{Liberal} < E[\alpha_{11^+} | \alpha_{11}]^{Moderate} \text{ if } \alpha_{11} < \bar{\theta}^{FC} \text{ and } \Psi^{**} < \Psi < \frac{2\Delta}{\alpha_{11} - (\bar{\alpha}_{1\Gamma} - \Delta)} : \text{To see that}$$

$$\begin{aligned} E[\alpha_{11^+} | \alpha_{11}]^{Moderate} < E[\alpha_{11^+} | \alpha_{11}]^{Liberal} \\ \Leftrightarrow (1-\Delta)\bar{\alpha}_{1\Gamma} + \Delta\alpha_{11} < (1-\Delta)\bar{\alpha}_{1\Gamma} + \Delta\alpha_{11} + \Delta^2 \left(1 - \frac{1}{\Psi^2} \right) + 2 \left(\frac{\Psi-1}{\Psi} \right) \Delta^2 \ln \left(\frac{\bar{\alpha}_{1\Gamma} + \Delta - \alpha_{11}}{2\Delta} \right) \\ \Leftrightarrow 0 < \left[\frac{\Psi+1}{\Psi} + 2 \ln \left(\frac{\bar{\alpha}_{1\Gamma} + \Delta - \alpha_{11}}{2\Delta} \right) \right] = H(\Psi) \\ \Leftrightarrow 0 < \left[\frac{\Psi+1}{\Psi} + 2 \ln(A) \right] = H(\Psi) \text{ where } A = \frac{\bar{\alpha}_{1\Gamma} + \Delta - \alpha_{11}}{2\Delta} \end{aligned}$$

Notice that for a given A, $H(\Psi)$ is a decreasing function. In addition, we are interested in analyzing the sign of

$$H(\Psi) \text{ when } \bar{\alpha}_{1\Gamma} < \alpha_{11} \text{ and } \Psi < \frac{2\Delta}{\alpha_{11} - (\bar{\alpha}_{1\Gamma} - \Delta)} \text{ which implies that the values of A and } \Psi \text{ satisfy } \frac{1}{1-A} > \Psi > 1$$

and $\Psi \in [1, 2]$, $A \in [0, 0.5]$. It is easy to show that unless A is small enough ($\bar{\alpha}_{1\Gamma}$ is not close enough to α_{11}),

there exists Ψ^{**} such that $H(\Psi) > 0$ if and only if $\Psi < \Psi^{**}$. On the

$$\text{flipside: } \bar{\alpha}_{1\Gamma} < E[\alpha_{11^+} | \alpha_{11}]^{Liberal} \text{ when } \alpha_{11} < \bar{\theta}^{FC} \text{ and } \Psi^{**} < \Psi < \frac{2\Delta}{\alpha_{11} - (\bar{\alpha}_{1\Gamma} - \Delta)}.$$

End of Proof.