



Columbia University

*Department of Economics
Discussion Paper Series*

**Storable Votes and Judicial Nominations in the
U.S. Senate**

Alessandra Casella Sébastien Turban Gregory Wawro

Discussion Paper No.: 1314-21

*Department of Economics
Columbia University
New York, NY 10027*

July 2014

Storable Votes and Judicial Nominations in the U.S. Senate *

Alessandra Casella[†] Sébastien Turban[‡] Gregory Wawro[§]

May 22, 2014

Abstract

We model a procedural reform aimed at restoring a proper role for the minority in the confirmation process of judicial nominations in the U.S. Senate. We propose that nominations to the same level court be collected in periodic lists and voted upon individually with Storable Votes, allowing each senator to allocate freely a fixed number of total votes. Although each nomination is decided by simple majority, storable votes make it possible for the minority to win occasionally, but only when the relative importance its members assign to a nomination is higher than the relative importance assigned by the majority. Numerical simulations, motivated by a game theoretic model, show that under plausible assumptions a minority of 45 senators would be able to block between 20 and 35 percent of nominees. For most parameter values, the possibility of minority victories increases aggregate welfare.

*Casella thanks the National Science Foundation for its support (SES-0617934), and the Straus Institute for its generosity and hospitality.

[†]Columbia University, Department of Economics; NBER, and CEPR, ac186@columbia.edu; 420 W. 118th St., New York, NY 10027; 212-854-2459.

[‡]California Institute of Technology, Division of the Humanities and Social Sciences, sturban@hss.caltech.edu.

[§]Columbia University, Department of Political Science, gjw10@columbia.edu; 420 W. 118th St., New York, NY 10027; 212-854-8540. Corresponding author.

1 Introduction

After a decade-long battle over the obstruction of nominees to the federal judiciary, a majority of the Senate, for the first time in the institution’s history, exercised a parliamentary maneuver on November 21, 2013 to impose majority cloture for all judicial nominations below the Supreme Court level. The maneuver—colloquially known as the *nuclear option*—had been threatened by alternating partisan majorities but had not been deployed previously, in part because of concerns about the fallout that would occur from imposing majority rule in an institution accustomed to rule by supermajorities, if not by consensus.

It is highly questionable whether the new procedure is the optimal way to address the obstruction of judicial nominees. First, other procedural prerogatives have been left intact, preserving some opportunities for the minority to obstruct nominations—a point vividly stressed by the current minority party.¹ Second, these procedures lack even the minimal transparency of filibuster battles. For example, prominent among them is the “blue slip”, an obscure, extra-institutional process through which a single senator can forestall indefinitely a vote on a nominee relevant to the senator’s home state. Third, and crucially, even if the majority had indeed found a way to prevail consistently in nomination battles, is this institutional solution desirable for the Senate and for the country as a whole? Stiglitz (2014) suggests that the move toward majority rule is likely to result in a more contentious Senate and a more polarized judiciary.

In line with a long literature (e.g. McGann 2004) this paper starts from the premise that the minority has a legitimate, in fact an important role in vetting nominations. Intensity of opposition once figured prominently in filibuster battles, and its expression was valued by the majority because it provided an informative signal about potential public opposition (Wawro and Schickler 2006). The puzzle is how to design transparent, formal institutions that balance the procedural rights of the minority with the majority’s right to rule.

We argue that a reform to Senate’s rules that should appeal to both majority and minority

¹For comments on the threat and reality of continuous minority obstruction after the November 2013 maneuver, see for example <http://www.cnn.com/2013/12/11/politics/senate-all-nighter/>, <http://www.theatlantic.com/politics/archive/2013/11/appointmentpalooza-in-the-senate-dont-bet-on-it/281880/>,

http://www.washingtonpost.com/opinions/dana-milbank-the-democrats-naked-power-grab/2013/11/21/60ef049a-5306-11e3-9e2c-e1d01116fd98_story.html

does exist and effectively institutionalizes the mode of conflict resolution that the Senate has embraced in the past. The reform we propose offers to the parties the possibility to partially reveal the salience of their relative preferences, and grants the minority the power to block some of those nominations where the strength of its disapproval trumps the majority's intensity of support.

Specifically, we suggest that the Senate use *storable votes* to confirm or reject nominees from slates that are periodically submitted to the chamber. Storable votes is a voting system that endows voters with a fixed number of total votes, but lets them distribute the votes freely over different decisions (Casella 2012). Each decision is then made according to the majority of votes cast. When applied to a slate of nominees, storable votes allow the minority to concentrate its votes on specific nominees, and thus make it possible for the minority to defeat a fraction of the slate, but only at the cost of casting fewer votes on the remaining names, and thus letting them be confirmed.

The idea of accepting the minority's objections to nominees in "exceptional cases" has been at the core of the bipartisan agreements that have defused the worst crises over the filibusters of nominations in recent years (namely, the 2005 Gang of Fourteen agreement and the compromise on executive nominations achieved in July 2013.) Implementing the reform through a transparent procedure shields agreements from the arbitrariness and volatility of political alliances and convenience. At the same time, a well-designed voting rule guarantees that the sincere ranking of priorities is incentive-compatible: neither party gains from misrepresenting its preferences.

Over the years, commentators have proposed various possible reforms to address problems associated with the filibuster, including requiring that filibustering senators actually take and hold the Senate floor, and changing the voting threshold required for invoking cloture over a sequence of votes (Committee on Rules and Administration 2010). The procedural innovation that we explore is similar in spirit to these proposals: blocking a nomination should be costly, and the willingness to bear that cost measures the intensity with which the defeat of a nominee is desired. But the cost should not be imposed on the full Senate, as would be the case with "talking filibusters," and the procedural rule should not depend on the size of the minority or on brinkmanship, as would happen necessarily with variable

voting thresholds. With storable votes, the cost of blocking a nomination is the number of votes withdrawn from other nominations; such cost is voluntary, since the votes could well be spread equally; and that cost is born exclusively by the minority². In addition, while storable votes allow the minority to prevail occasionally, they treat everyone equally, no matter the size or identity of the minority.

In the paper, we describe how storable votes could be implemented for confirmation of nominations to federal district and circuit courts. The essence of storable votes is the *intensity* with which different nominations are supported or opposed. Our simulations show that a higher correlation of intensities *within* a party—higher agreement on which nominations constitute a priority—results in more coordinated voting and favors the minority, whose smaller numerical size makes coordination essential. On the other hand, a stronger correlation in intensities *across* parties—when the nominees the majority most wants to confirm are those the minority most wants to block—favors the majority: when the two parties share the same priorities, the larger party tends to win. When both types of correlations are high, the case we consider most realistic for today’s Senate, our results show an expected share of successful minority blocks of about 35 percent. In line with previous results on storable votes, we find that minority victories can be welfare-increasing: because the minority prevails on nominations that it feels more strongly about and that the majority feels relatively weakly about, a simple measure of utilitarian efficiency is higher than in the absence of any minority blocking power.

A key point of concern is whether the slate of nominees can be manipulated to induce the opposing party to waste votes. Can a president belonging to the majority party, for example, name a nominee so strongly opposed by the minority that all its votes are concentrated on defeating him, guaranteeing that all other nominations are confirmed? We find that, indeed, placing on the slate one or more “decoy” nominees can be advantageous. When the agenda-setter shares the majority party’s preferences, in our simulations the expected share of minority successes falls to 20 percent. Decoys can only work, however, under two conditions. First, they cannot be too controversial. This is important not only because of the likely political cost of supporting extreme or unworthy nominees, but also because the

²Likewise, an additional majority vote is costly for the majority only because it comes at the expense of supporting another nominee.

opposing party can otherwise stop the nominee at little cost: few votes would be sufficient if the nominating party is unwilling to cast potentially difficult – “electorally costly” – votes in support of the nomination. Second, a decoy nominee can attract votes only if the remaining nominees are less polarizing. Together the two conditions exercise a moderating effect on the list of nominees.

The paper is related to three separate strands of literature. For its subject matter, it is a contribution to the study of the filibuster in the Senate (Burdette 1940; Binder and Smith 1997; Wawro and Schickler 2006; Koger 2010, among many others). Our paper differs from this literature because it is not an analysis of the filibuster’s effects and causes; rather, it investigates how an alternative institutional design can better balance minority rights and majority rule. In addition, by focusing on minority victories and intensities, our approach offers a different perspective from past work on pivotal players in the confirmation process (Moraski and Shipan 1999; Johnson and Roberts 2005; Krehbiel 2007; Rohde and Shepsle 2007; Primo, Binder, and Maltzman 2008; Binder and Maltzman 2009). Standard spatial models that focus on pivotal players and assume complete information typically do not produce blocked nominees in equilibrium. In such models, it is known in advance that a certain type of nominee will not be confirmed and thus the nomination will not occur in the first place.³

In advocating the use of storable votes, we use insights from the study of the design of voting rules, and in particular from the design of rules aiming not only at protecting minorities but also at recognizing and giving weight to intensity of preferences. Thus our work is also related to the literature on institutions for minority representation (for example, Grofman, Handley, and Niemi 1992; Guinier 1994; Bowler, Donovan, and Brockington 2003; Dahl 2003, 1956; Buchanan and Tullock 1962) as well as to theoretical analyses of alternative allocation mechanisms or fair division (Brams and Taylor 1996; Moulin 2004; Jackson and Sonnenschein 2007; Hortala-Vallve 2012).

Finally, the paper employs the methodology of computational models and shares many of

³Recent experience with judicial nominations, attended by escalating delays and partisan disagreement on non-ideological appointments, suggests that there is room for an alternative approach. Note also that spatial models require specifying the policy outcomes produced by filling (or not) vacancies on the bench. In the case of district or appeals court judgeships, the task is extremely difficult and possibly quite arbitrary. See Stiglitz (2014).

the motivations for this approach outlined by De Marchi and Page (2008). The voting game at the heart of our approach is related to asymmetric, Colonel Blotto games, a famously difficult class of problems.⁴ If we want the model to be faithful to the large number of individuals in each party and, especially, to the possibility of different correlations in preferences within and across parties, identifying fully optimal strategies becomes very difficult, not only for the researchers but also for the agents represented in the model. Thus the choice is between imposing radically simplifying assumptions, losing the richness of the setting we want to study, or restricting possible behavior to a set of rules-of-thumb, disciplined by our understanding of simpler versions of the game. It is this second approach that we favor in this paper. Note an important benefit: the use of simple behavioral rules allows us to evaluate the sensitivity of the results to the different rules—that is, to a whole set of “reasonable behaviors”, a robustness check that seems critical in a study that seeks to make policy recommendations.

The paper proceeds as follows. The next section describes storable votes and discusses how they could be applied to judicial nominations. Section 3 presents the theoretical model underlying the numerical simulations. The simulations are then discussed in section 4. Section 5 discusses the endogenous composition of the slate of nominees and section 6 concludes. A short Appendix provides the proof for the Proposition stated in Section 3.

2 Storable Votes as an Alternative to the Filibuster

Storable votes are designed to grant each voter increased influence over decisions he considers priorities, at the cost of reduced influence over the others. The idea is analyzed at length in Casella (2012).⁵ In its application to judicial nominees, the scheme would work as follows.

Our focus is on nominations to federal district and circuit courts. The vetting of the nominees by the Senate Judiciary Committee remains unchanged. Once the committee decides to report nominees to the full Senate, however, this is done not as a single name at an arbitrary

⁴Blotto games refer to two military opponents choosing the distribution of their forces among different battlefields. They were introduced by Borel (1921). (See also Blackett 1954). Roberson (2006) presents the solution for the 2-player version with asymmetric budgets. Blotto games are constant-sum games of complete information; our game is not. In addition, our game is decentralized, allowing individual actions within each of the two opposite sides.

⁵See also Casella (2005); Casella, Palfrey, and Riezman (2008); Casella and Gelman (2008). Hortala-Vallve (2012) independently proposes a very similar idea.

time, but on a slate of several names, with slates presented at fixed intervals during the year. Each slate is comprised of nominees to the same level of the federal judiciary—either all nominees to district courts, or all nominees to circuit courts. For concreteness, suppose that circuit court lists include five nominees and are presented to the Senate twice during the year. Lists of nominees to district courts can be longer and presented more frequently: for example, they may include ten names and be presented every three months, from March to December. Each name is nominated for a specific court vacancy. As in the current system, the only question is whether or not each nominee should be confirmed. There is no competition among nominees.

Once a slate of nominees is reported to the full Senate, debate on all the nominees takes place. The length of debate over each nominee can be mandated beyond a specified minimum amount of time, but below a specified maximum, barring unanimous agreement to deviate. When debate on all nominees on the slate is concluded, the nominations are brought to the up-or-down vote on the floor.⁶ The innovation is the use of storable votes at this stage. Over the full slate of names, each senator has a total number of votes equal to the number of nominations. A senator can cast as many of those votes as desired on any individual nomination, either in favor or against, as long as the sum of votes cast is below the total number of votes at his disposal for this slate. A nominee is confirmed if the number of favorable votes is higher than the number of negative votes. If a nomination fails, it must be withdrawn and cannot be resubmitted. The senators vote on each nomination in turn. To avoid sequence effects, senators record their vote privately during the voting process, but individual votes are revealed after voting is complete.

The logic behind storable votes is transparent. First, by allowing a senator to concentrate his votes, storable votes can increase the senator's influence on nominations he considers priorities, at the cost of lower influence on nominations he cares less about. Second, by creating a distinction between the majority of *votes* and the majority of *voters*, storable votes allow the minority to win occasionally, but only on those nominations to which the

⁶A separate cloture vote held with simple majority, as currently in place, provides no voice to the minority. We streamline the procedure by considering a single vote on the nominations, the up-or-down vote held with storable votes. Some may complain that placing limits on debate in this way removes a key feature of filibusters. But modern day filibusters are rarely about debate to change views, since they do not typically involve senators taking to the floor to engage with each other.

minority assigns higher priority than the majority does, and only with a frequency that is correlated positively to the size of the minority group. Third, although storable votes make minority victories possible, they treat every individual identically: every senator, regardless of party, is granted the same number of votes, every senator has identical latitude over the votes' use, every vote is weighted equally, and every nominee is treated symmetrically. As a matter of principle, equal treatment corresponds to our ethical imperatives; as a matter of practice, it implies that the voting procedure need not be modified if the size or the party identity of the minority changes.

One clarification may be useful. By allowing voters to cast multiple votes on a single nominee, storable votes resemble *cumulative voting*, a voting system used by some corporate boards and local jurisdictions, and long advocated in the literature as providing effective protection of minorities.⁷ The difference is that cumulative voting applies to a slate of candidates who are *all* competing for the same positions—all positions are equivalent, and there are fewer positions than candidates. With storable votes, instead, each candidate is only being considered for a specific position and is not competing directly with the other candidates for that position. In the case of judicial nominations, there are as many positions as there are nominees, and any nominee is competing only against his own rejection. The nominations are collected on a single slate because they are linked by a fixed budget of votes: the total number of votes available to each senator. The difference has important consequences. First, cumulative voting *guarantees* that a cohesive minority of sufficient size concentrating all its votes on a single candidate will succeed in electing that candidate. No such guarantee applies to storable votes, because for each nominee the issue is the balance of positive and negative votes, regardless of the realized votes on other nominees. Second, contrary to storable votes, applying cumulative voting to judicial nominations would demand a radical change in the right to nominate candidates. Cumulative voting would require alternative lists of nominees, presumably presented by the majority and minority parties, from which the confirmed names would be chosen by voting. This would violate constitutional provisions requiring presidential nomination. Storable votes, on the other hand, fit quite naturally in the existing constitutional framework and could be adopted with relatively minor modifications

⁷Most prominently, Guinier (1994). Bowler et al. (2003) discuss the experience of cumulative voting in local elections.

of current procedures.

But what effect would such a system have in practice? Addressing this question requires the discipline of a formal model. Its precise definitions will help us design and interpret the numerical simulations that are the core of this paper. In particular, the equilibrium of the model in simplified scenarios will guide the choice of the rules-of-thumb that will be used in the simulations.

3 The Model

A legislature of N members decides on a set of T nominations, each of which can either be confirmed or not. Member i 's preferences over nomination t are summarized by a value $v_{it} \in [-1, 1]$. A positive value indicates that the member is in favor of the nomination, a negative value that he is against. If the outcome of the vote on nomination t is as member i desires, then i derives utility $u_{it} = |v_{it}|$; if the outcome is the opposite, then $u_{it} = -|v_{it}|$.⁸ Thus, preferences are summarized by both a direction (in favor or against) and the importance attributed to obtaining the preferred outcome. We call $v_{it} = |v_{it}|$ the *intensity* of i 's preferences. Preferences could be interpreted in spatial terms, normalizing at $v_{it} = 1$ ($v_{it} = -1$) the utility from confirming a member's ideal (worst) nominee. As the distance of the nominee from the member's ideal point increases, v_{it} declines, eventually becoming negative, at which point the member opposes the nomination.⁹

Preferences are separable across nominations, and i 's utility over the full set of nominations is given by $U_i = \sum_t u_{it}$. We call welfare (W) the sum of realized utilities, over all members and all nominations: $W = \sum_i U_i$. Maximal possible welfare (W^*) corresponds to the sum of utilities when each nomination is decided in the direction preferred by the side with higher aggregate intensity. The efficiency measure we will report (Ω , which we call the *welfare index*) allows comparisons across different scenarios and equals the ratio of realized to maximal possible welfare: $\Omega = W/W^*$.¹⁰

⁸What matters is the *differential* utility from winning or losing the fight over a nomination, here $v_{it} - (-v_{it}) = 2v_{it}$. Alternative normalizations are fully equivalent.

⁹More precisely, the intensity is the importance attributed to the outcome, and thus conflates the strength of a member's support or opposition to a specific nominee, and the weight given to the particular court and seat.

¹⁰We normalize both numerator and denominator by minimal welfare: welfare if the side with lower total

The legislature is composed of two groups of different sizes, the majority, of size M , and the minority, of size $m < M$. We will use M and m to indicate both the labels and the sizes of the two groups. In what follows we will report welfare measures for each party. As is the case for the whole legislature, the welfare index for party $p \in \{m, M\}$ is given by $\Omega_p \equiv \left(\sum_{i \in p} U_i \right) / W_p^*$ where W_p^* is the maximal possible welfare for party p , i.e. its total utility if it won all nominations, or $W_p^* = \sum_{i \in p} \sum_t v_{it}$.

The two groups m and M differ systematically in their preferences. We use as a default scenario the case in which the majority corresponds to the president’s party, and suppose that all majority members are in favor of all nominations, while all minority members are opposed: $v_{it} < 0$ for all $i \in m$, and $v_{it} > 0$ for all $i \in M$. The assumption of complete polarization is extreme, but will not affect the results if we assume that a senator who agrees with the opposite party would typically abstain rather than use his votes against his own party.¹¹

The direction of preferences is thus publicly known. Intensities, on the other hand, are private information. What are commonly known are their stochastic properties: members’ intensities are independent across nominations, and for each nomination t , the members’ profile of intensities $v_t = \{v_{it}\}_{i=1 \dots N}$ is a random variable distributed according to the distribution $\Gamma_t(v)$ (the individual marginals are denoted $\Gamma_{it}(v_i)$). For most of the analysis, we assume that intensities are identically distributed across nominations: $\Gamma_t = \Gamma$, and for each nomination, we denote by Σ the covariance matrix of members’ intensities.¹²

With a simple majority voting rule, the majority cannot be defeated. The minority, however, can block a nomination if the vote is held with storable votes. Each member holds a total of T votes and can cast as many of these votes as he wishes for or against any nomination. Members record their votes privately over all nominations; when voting is

intensity won each nomination. The normalization ensures that the lower bound on welfare is correctly measured, as opposed to being assigned an arbitrary value of zero, and again corrects for possible systematic differences across scenarios.

¹¹In a previous version of the paper, we allowed for the possibility of “centrist” senators, implemented through the probability of drawing a 0 value, independently across senators. The number of nominations blocked by the minority was not sensitive to such an extension of the model. That said, as a large and growing literature indicates, the assumption of complete polarization is empirically defensible (see McCarty, Poole, and Rosenthal 2006 and Theriault 2008, among many others.)

¹²Throughout the paper, we maintain the assumption of independence of intensities across nominations. The slate of nominations reflects the vacancies to be filled, with no prior reason to expect correlation in the importance attributed to different posts or different nominees.

concluded the outcomes as well as the individual votes are made public. Each nomination is decided according to the majority of votes cast; in case of a tie, the nomination is approved.¹³

No voter can gain from casting votes against his preferred direction, and thus we assume that voters vote sincerely. The strategic question that every member i faces is the number of votes to cast on any individual nomination t , a variable we denote by x_{it} where $x_{it} \geq 0$ and $\sum_t x_{it} = T$. Formally, the equilibrium concept is Bayesian Nash equilibrium. We denote the equilibrium vector of votes cast by i as $x_i^* = [x_{i1}^*, x_{i2}^*, \dots, x_{iT}^*]$; \mathbf{x}_{-i}^* denotes the equilibrium matrix of votes cast by all other voters; EU_i indicates i 's expected utility. Then $x_i^*(v_i, m, M, T, \Gamma) = \arg \max_{x_i} EU_i(x_i, \mathbf{x}_{-i}^*, m, M, T, \Gamma)$ for all i .

The properties of the equilibrium depend strongly on $\Gamma(v)$, the joint distribution of intensities, and more precisely on its covariance matrix Σ . If intensities are independent across members, and the distribution of each member's intensity, $\Gamma_i(v)$, is atomless, then we know that an equilibrium exists.¹⁴ Equilibrium strategies, however, are not easy to characterize: each individual strategy is T -dimensional, and the different sizes of the two parties make the game asymmetrical. Most importantly, the independence assumption is not well-suited to our context. We want to allow different courts to be considered more or less important, and different nominees more or less polarizing—realistic assumptions that are captured in the model by correlation in intensities.

Correlation, however, substantially complicates the model, because the incentive to cast multiple votes on a single nominee depends on the number of votes other members are expected to cast. In this section, we limit ourselves to two special cases, with the goal of providing an intuitive understanding of the equilibrium strategies. We will allow for an arbitrary pattern of correlations in our numerical simulations.

Suppose, then, that intensities are: (i) independent across the two parties, and (ii) either independent (model I) or fully correlated (model C) within each party. Recall in addition that intensities are independent across nominations.

In model C , members' interests within each party are perfectly aligned; if each party

¹³The Constitution gives the vice president the power to break ties. In the default scenario the vice president belongs to the majority and favors all nominations.

¹⁴The model satisfies the sufficient conditions for equilibrium existence in Milgrom and Weber (1982): the action space is finite, and the types (here, the values) are independent. In fact, as Milgrom and Weber show, an equilibrium exists in pure strategies.

coordinates its strategy so as to maximize the party's aggregate payoff, given the coordinated strategy of the other party, then no individual member can gain from deviating.¹⁵ Thus we can represent the n -person game described by model C through a simpler 2-person game where the players are the two parties. We label this game as $C2$ and denote the strategies by x_M and x_m . As shown in Casella et al. (2008), there is a simple equivalence between the equilibrium strategies of the $C2$ game and the equilibrium strategies of the original C model. In particular, there exist equilibrium strategies of model C such that for all t , $\sum_{i \in m} x_{it}^*(v_{it}, M, m, T, \Gamma) = x_{mt}^*(v_m, M, m, T, \Gamma)$ and $\sum_{i \in M} x_{it}^*(v_{it}, M, m, T, \Gamma) = x_{Mt}^*(v_M, M, m, T, \Gamma)$: model C has an equilibrium such that the aggregate number of votes cast by all members of a group over each nomination equals the number of votes that each group leader casts in equilibrium in the 2-person game. We can thus call *equilibrium group strategies* of model C the equilibrium individual strategies of the $C2$ game. We can state the following result:

Proposition: Monotonicity. *We call a strategy monotonic if x_{it} , the number of votes cast by i on nomination t , is monotonically increasing in v_{it} . For any N, M, m, T , and Γ , model I has an equilibrium in monotonic individual strategies; model C has an equilibrium in monotonic groups strategies.*

The proposition is proved in the Appendix. It highlights the role of monotonicity, a property at the heart of storable votes' intuitive appeal. Monotonicity states that a voter—or, in the case of model C , a party—will cast more votes on decisions the voter or party considers higher priorities. The following example makes clear how it applies.

Example. Suppose $M = 3$, $m = 2$ and $T = 2$. For each nomination and all voters, the marginal distribution $\Gamma_{it}(v_i)$ is Uniform over the support $[0, 1]$ Call \bar{v}_i (\underline{v}_i) the highest (lowest) of the two realized intensities for voter i , and \bar{v}_g (\underline{v}_g) the highest (lowest) of the two realized intensities for group $g \in \{m, M\}$.

(i). In model I there is an equilibrium where each minority member i casts both votes on \bar{v}_i if $\bar{v}_i \geq 1.36\underline{v}_i$, and casts one vote on each nomination otherwise; each majority member j casts both votes on \bar{v}_j if $\bar{v}_j \geq 1.05\underline{v}_j$, and casts one vote on each nomination otherwise. The two nominations pass with 54 percent probability, and each nomination is blocked (while the

¹⁵This is the logic exploited by McLennan (1998).

other passes) with 23 percent probability. Realized efficiency as a share of maximal efficiency, Ω , is 89 percent.¹⁶ By way of comparison, with simple majority voting, both nominations always pass and the share of maximal efficiency is 88 percent.

(ii). In model C there is an equilibrium where the majority casts four votes on \bar{v}_M , and two votes on \underline{v}_M ; the minority casts all its four votes on \bar{v}_m . Thus, with 50 percent probability one nomination is blocked and with 50 percent probability both pass. The efficiency share Ω is 85 percent (versus 77 percent with majority voting).

The voting patterns in the example are intuitive: in both models, voters concentrate their votes on the nomination to which they assign higher intensity. In model I , concentration requires that the wedge in intensities be large enough; in model C , concentration always occurs, although the majority never needs to concentrate *all* of its votes.

Monotonicity is a simple, intuitive result but has important implications. The minority can stop a nomination by concentrating its votes but is able to win only if its size is not too small, if its members agree on the nomination's importance, and if they consider it a higher priority than majority members do.¹⁷ Thus, while the voting scheme makes minority victories possible, they remain constrained in number and in scope. When they do occur, however, they concern instances in which the minority's strong preferences are matched by more ambivalence on the majority's side, and thus both equity and efficiency arguments support occasional minority victories. These conclusions are similar to those reached in studies of storable votes in small committees.¹⁸ In the remainder of the paper we explore whether these conclusions still obtain when we build in additional complexities that are central to the Senate confirmation process.

¹⁶We computed this share by simulating one million random value draws.

¹⁷Note that what matters for equilibrium strategies is not v_{it} (v_{gt}) alone, but the ratio of intensities, $\bar{v}_i/\underline{v}_i$ ($\bar{v}_g/\underline{v}_g$). This is why we talk of *priorities*, judgements of relative importance.

¹⁸Casella et al. (2008) show that in their set-up there is always an equilibrium of model C such that expected welfare is higher with storable votes than with simple majority. The result need not hold in model I but in numerical simulations welfare costs from equilibrium minority victories are observed only at small committee sizes, and when present tend to be small.

4 Simulating Storable Votes in the Senate

In what follows, we parametrize the model with the goal of approximating the composition of the 113th Senate. There are 100 senators ($N = 100$), 55 in the majority party, and 45 in the minority party ($M = 55, m = 45$). We suppose that senators vote on a slate of 5 judges ($T = 5$). Ex ante, before specific nominations are put forth, the intensity of each senator’s preference over each nomination is distributed uniformly over $[0, 1]$.¹⁹ Each senator’s intensities are independent across nominations. For each nomination, we allow for arbitrary correlation among the intensities of different senators, within and across parties. We describe below our methodology and then our results as we increase the complexity of the environment.

4.1 Rules of thumb

In the example described above, strong simplifying assumptions allowed us to characterize the equilibrium of the voting game. However, understanding how storable votes would work in a body like the Senate requires a more sophisticated approach.²⁰ We propose to model the senators’ behavior through a restricted set of reasonable and practicable rules-of-thumb in the allocation of votes to nominations.²¹

We specify a number of requirements. First, we impose monotonicity—more votes are cast on higher-intensity nominations—in line with the broad intuition behind storable votes. Second, we suppose that the number of votes cast depends, for each voter, exclusively on the ranks of the voter’s realized intensities as opposed to their precise cardinal values. Thus, we ignore the possible importance of the exact wedge between intensities that emerges in the example above, in the case of model *I*. Third, we suppose that all voters in the same party adopt the same rule, stressing that following the same rule does not amount to choosing the

¹⁹In the terminology of the model, $\Gamma_{it}(v_i)$ is uniform over $[0, 1]$, identical for all i and, except for the last section of the paper, for all t .

²⁰We could simplify the analysis by considering a chamber of 100 voters large enough for asymptotic results, but laws of large numbers would only apply if the intensities were independent or exchangeable (Casella and Gelman 2008).

²¹Previous experimental studies of storable votes (e.g. Casella, Gelman, and Palfrey 2006) have shown that subjects had difficulties identifying the fully rational strategy even in the simplest scenarios. And yet, the rules-of-thumb observed in the laboratory yielded results that were close approximations of the theoretical predictions under optimal strategies.

same action.²² Given these requirements, we identify rules that are mutual best responses at the party level: all members of a party choose the rule that maximizes the party’s aggregate welfare, given the rule chosen by members of the opposite party.²³

With five nominations and five votes, there are seven possible monotonic, ordinal rules, ranging from casting one vote on each nominee to concentrating all five votes on the nominee to whom the voter attaches the highest intensity. We represent them in Figure 1 in order of increasing vote concentration. The horizontal axis is the ordered rank of intensities for an individual member using the rule, starting with the highest: 1 corresponds to the nomination to which the senator attaches the highest value. The vertical axis indicates the number of votes cast for each nomination.

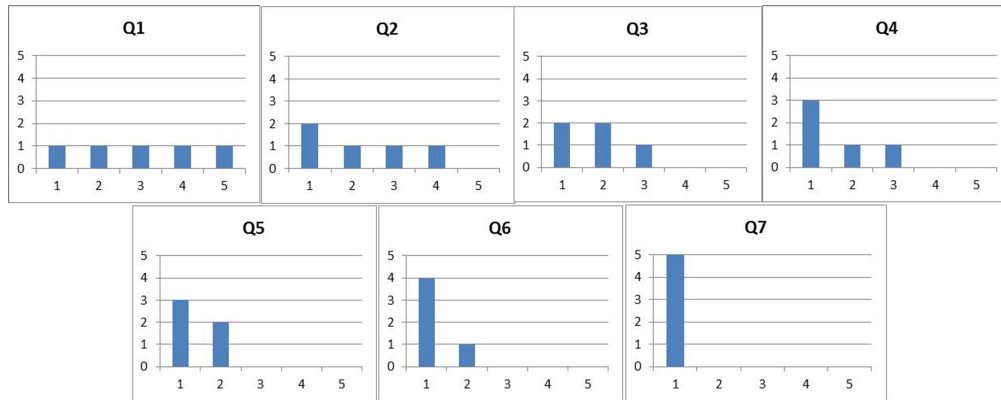


Figure 1: *Behavioral rules*. Individual voting rules, as a function of value ranks.

In what follows, we simulate the results of adopting these different rules party-wise. We begin by specifying assumptions on the correlation of senators’ values. Then we randomly generate 45 vectors of five values for the minority and 55 vectors of five values for the majority from the relevant joint distribution. We then compute the voting results, assuming that all senators within a party adopt one of the rules-of-thumb described above. In each case, we calculate the number of successful minority blocks, and each party’s welfare index.

We replicate this procedure 1000 times, simulating 1000 different slates of five nominations—i.e. 1000 different value draws. The average number of minority blocks and the average welfare index for each party are then a reliable estimate of the expected effect of storable

²²For example, “cast all votes on the highest priority” will induce senators of the same party to concentrate their votes on different nominations, as long as they disagree on which nomination is their highest individual priority.

²³One justification for this assumption is the dramatic rise in party unity over the past several decades.

votes for each behavioral rule. Among the different rules, we then focus on those that are mutual best responses: each party’s rule is a best response to the opposite party’s rule.²⁴

One last comment is in order. We assume that the marginal distribution of intensities is uniform. Because voting rules depend exclusively on rank, however, the exact shape of each voter’s probability distribution of values plays a limited role in determining voting behavior and the number of nominations the minority succeeds in blocking. What matters is not whether an individual voter’s intensity draws are more or less similar, but whether draws are more or less similar across individuals within a party and across parties.²⁵

4.2 The frequency of minority blocks

Given the nature of storable votes, the results will be sensitive to the extent of coordination in voting that each party achieves. To build intuition for the model, consider first the case in which intensities are fully independent across senators, both between and within each party. The assumption is unrealistic, but its simplicity provides a benchmark for helping us understand the effects of the different rules-of-thumb.

With full independence, two members of the same party will typically have different intensity rankings over the nominations. This dispersion must make minority blocks relatively rare: it is difficult for the minority to achieve the level of coordination that would allow it to overcome the numerical superiority of the majority. How likely this is to occur depends on the rules-of-thumb followed in casting votes.

Figure 2 plots the expected number of minority blocks—the expected number of nominations prevented from proceeding out of the five presented to the Senate—depending on the voting rules used by the two parties. Rules are denoted with an upper-case for the majority, and a lower-case for the minority, and are ordered so as to make the figure easy to read across the different cases considered in this section. Recall that higher-numbered rules indicate higher concentration; thus, concentration is highest, for both parties, in the lower-right corner, and lowest in the back-left corner. Again to keep the figure easy to read,

²⁴In all cases discussed in this section, mutual best responses are unique and, for each party, involve choosing a specified rule with probability one. The simulations allow for mutual best responses that are probabilistic, i.e. include mixing between different rules.

²⁵The shape of the distribution of intensities does play a role in translating a given number of minority blocks into welfare effects and into the choice of mutual best response rules.

we do not report results from two rules that are strictly dominated for each party (i.e., the rules that correspond to maximal concentration for the majority ($Q6$ and $Q7$) and minimal concentration for the minority ($q1$ and $q2$)).

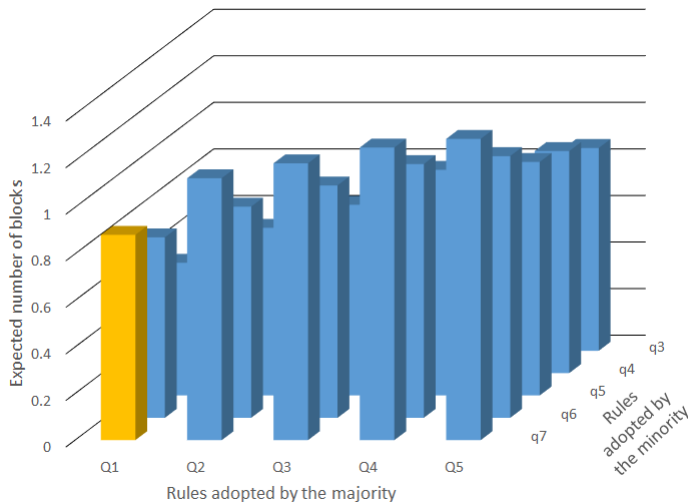


Figure 2: *Expected number of minority blocks*, as a function of the voting rules used by the two parties. Intensities are independent across nominations, across senators within a party, and across parties.

For any rule adopted by the majority, minority senators have higher success in blocking nominations if they concentrate their votes fully (following rule $q7$). The minority can then achieve an expected number of blocks between 0.9 and 1.3 (i.e. between 18 and 26 percent of all nominations), depending on the rule followed by the majority. For any rule followed by the minority, majority senators minimize the expected number of blocks by spreading their votes (following rule $Q1$), and benefiting from the majority’s larger size. The majority can then restrict the expected number of minority blocks between 4 and 18 percent of all nominations, depending on the minority’s rule. The highlighted column corresponds to expected minority blocks when each party adopts the rule that yields its highest expected welfare, given the rule chosen by the opposite party, here $Q1$ for the majority and $q7$ for the minority. The expected number of minority blocks in that case is 0.9, or 18 percent.

Consider now a more realistic scenario where we relax the assumption that intensities are independent within parties. If party members agree on their priorities, they can succeed in concentrating votes without each individual senator having to cast all his own votes on a single nomination. Thus, minority senators will be able to choose more dispersed voting

rules, while forcing the majority to concentrate its own votes more.

Formally, call ρ the linear correlation in values within each party, and to be concrete, suppose $\rho = 0.5$. Across parties and across nominations, values continue to be independent.²⁶ Figure 3 reports minority blocks for the different rules-of-thumb (again omitting, for ease of reading, rules $Q6$ and $Q7$, for the majority, and $q1$ and $q2$ for the minority). The highlighted column corresponds to the mutual best response rules.

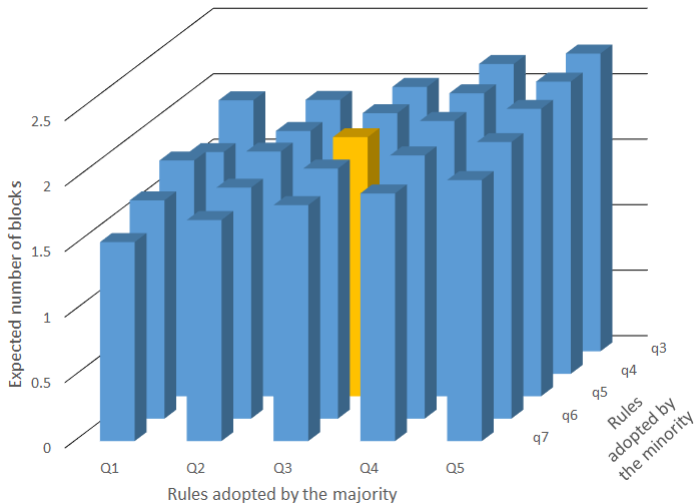


Figure 3: *Expected number of minority blocks*, as a function of the voting rules used by the two parties. Intensities are independent across nominations and across parties, but are correlated across senators within a party: $\rho = .5$.

A comparison with Figure 2 highlights two facts. First, for all combinations of voting rules the number of minority blocks is now higher: several columns reach beyond 2 and none is below 1. Second, the incentive to concentrate votes, for the minority, or to disperse them, for the majority, is more muted: successful blocks do not monotonically decline when moving away from the front-right corner. When the two parties best respond to each other, the minority follows the third most concentrated rule ($q5$), and the majority follows the third most diffuse rule ($Q3$). As expected, by achieving concentration in votes through preferences alone, intraparty correlation reduces the divergence in the two parties' strategies. The expected number of minority blocks is just below 2 (1.98), an expected frequency of 40 percent, more than double the number in the independent case. Correlation in values helps

²⁶In principle of course ρ could differ in the two parties. Lacking strong arguments for setting $\rho_M \leq \rho_m$, we report results for the case $\rho_M = \rho_m = \rho$. We generate the samples of correlated values by applying the method in Phoon, Quek, and Huang (2004). Details are available in the online appendix.

coordination and benefits the minority.

It seems clear, however, that correlation in intensities *between* parties cannot be ignored: some of the nominations eliciting strong support by the majority are likely to be those that the minority considers important to stop. In our third case we introduce inter-party correlation (denoted by ρ_{inter}). Note that the two correlations are logically linked and cannot be set independently: given ρ , ρ_{inter} cannot be too high, and for large M and m , as here, $\rho_{inter} \leq \rho$.²⁷ We conjecture that correlation is stronger within a party than across parties and set the two values at $\rho = 0.5$, as above, and $\rho_{inter} = 0.3$. Although this remains clearly an example, we consider it our reference case. To provide a concrete sense of what these correlation values imply, Figure 4 reproduces the random draws from one of our samples. Each panel corresponds to one nomination and a distribution of values for the 100 senators. Positive values, in blue, denote the majority and negative values, in red, the minority. Draws are collected in twenty bins of size 0.05, ranging from -1 to 1 and are ordered on the horizontal axis. The vertical axis is the number of draws in each bin, summing up to 45 for the minority and to 55 for the majority.²⁸

For each nomination, the figure highlights the correlation both within parties (each party’s subpanel shows concentration over a subinterval of the support) and across parties (there are similarities across the two parties’ distributions within each panel). The first and last panels are good examples. In both, draws appear concentrated at the party level, and with a similar pattern across the two parties: they represent nominations eliciting, respectively, strong and weak preferences in both parties. Note that dispersion both within and across the two sides remains possible: the second nomination tends to have low support within the majority, and more dispersed but on average higher opposition within the minority; the fourth nomination has on average high support within the majority, and weak opposition within the minority.

Figure 5 shows the number of minority blocks corresponding to each combination of

²⁷We discuss this dependency and the constraint it imposes in the online appendix. Briefly, the covariance matrix Σ is positive definite only if:

$$\rho_{inter}^2 \leq \frac{[1 + (M - 1)\rho][1 + (m - 1)\rho]}{Mm}$$

For large M and m , the right-hand side converges to ρ^2 .

²⁸For clarity, the data are generated as 100 five-number vectors, one per senator, with each vector corresponding to a senator’s values over one full slate.

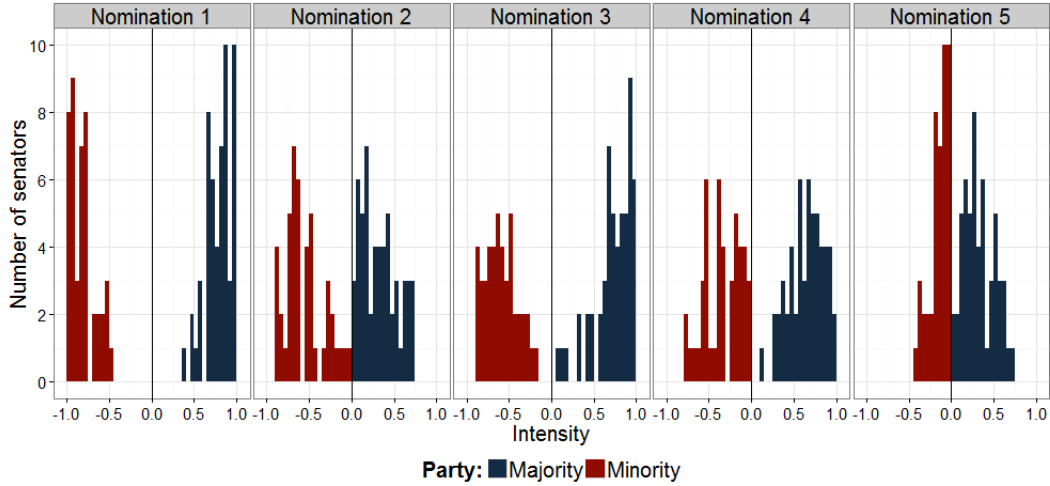


Figure 4: Example of value draws' histogram for $\rho = .5$ and $\rho_{inter} = .3$: number of values within bins of .05.

rules-of-thumb. Again, we reproduce the results for five rules for each party.

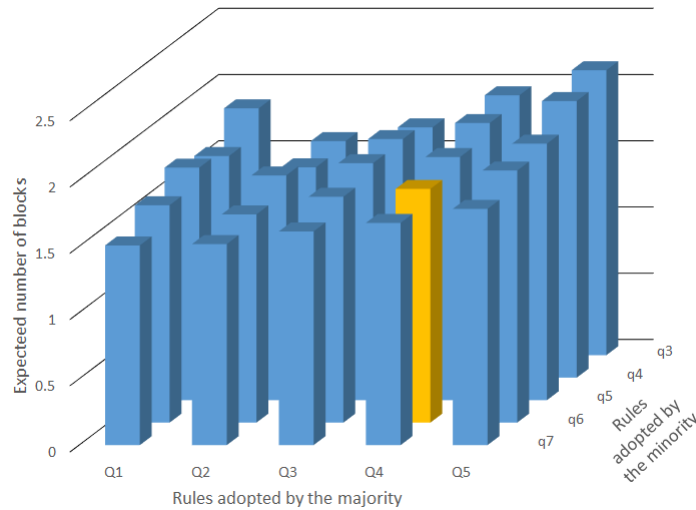


Figure 5: *Expected number of minority blocks*, as a function of the voting rules used by the two parties. Intensities are independent across nominations but correlated within each party and across parties: $\rho = .5$, $\rho_{inter} = .3$.

The highlighted column, identifying the mutual best response rules, is at q_6 , the second most concentrated rule for the minority, and Q_4 , the median rule for the majority. The expected number of minority blocks is 1.76, or 35 percent. Agreement on priorities across parties leads senators of both sides to concentrate their votes more. The result is that fewer minority victories are possible relative to the case without interparty correlation.

The online appendix presents an overview of the simulations' results with $\rho \in [0, 0.9]$ and

$\rho_{inter} \in [0, \rho]$, in intervals of 0.1. Here our goal is not to put all weight on specific correlation values but to understand the effects of changes in these values.

Consider first the adopted voting rules. For intraparty correlation $\rho = 0.5$, Figure 6 summarizes for both minority and majority senators the number of expected votes per nomination rank (1 being the highest) corresponding to the mutual best response rules. We consider three alternative values for inter-party correlation: $\rho_{inter} \in \{0, 0.3, 0.5\}$, with a darker shade representing a higher correlation. The figure captures the logic of storable votes and shows patterns that remain qualitatively true at different parameter values.

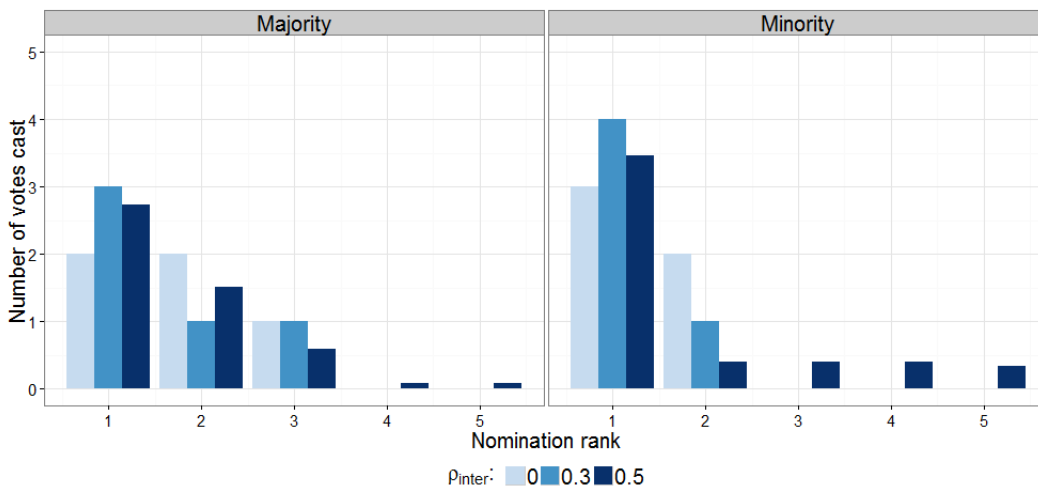


Figure 6: *Expected votes cast* on different priority nominations at the mutual best response rules, for $\rho_{inter} \in \{0, .3, .5\}$, $\rho = .5$

The two panels highlight how their party’s smaller size induces minority senators to concentrate their votes more than majority senators. This is true whether priorities are independent across parties or strongly correlated. In both parties, the incentive to concentrate votes is not monotonic in inter-party correlation: concentration increases as ρ_{inter} moves from 0 to 0.3, but then declines as ρ_{inter} reaches 0.5. At maximal ρ_{inter} , the minority gains less from concentrating votes because the majority shares the same priorities and possesses more aggregate votes. Some victories can be achieved by opposing less contentious nominations. As a result the mutual best response rules show a decline in concentration in both parties.

The voting patterns translate into an expected number of successful minority blocks. Figure 7 shows the average number of minority blocks over 1000 simulations, for each value of ρ_{inter} between 0 and 0.5, in increments of 0.05; holding ρ fixed at 0.5. The thickness of the

line was set to reflect the 95 percent confidence interval ($+/-$ two standard deviations from the average), but such thickness is barely noticeable, indicating the small sample variability over the 1000 simulations.

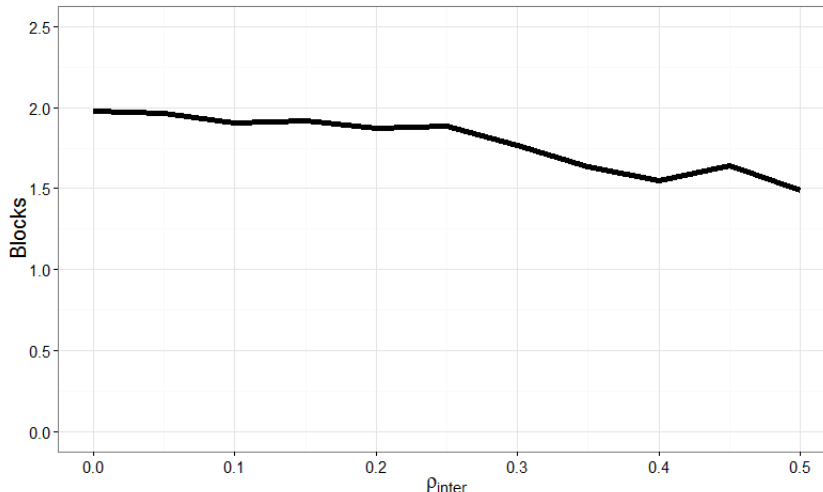


Figure 7: *Expected number of minority blocks* when each party follows the mutual best response rule, $\rho = .5$, $\rho_{inter} \in [0, 0.5]$ in increments of 0.05.

The number of blocks falls almost monotonically from 2 (or 40 percent), when the two parties' priorities are independent, to 1.5 (or 30 percent) when the inter-party correlation is at its maximum. Not surprisingly, the minority is less successful when the parties share the same priorities.

We have focused so far on the number of blocks as a summary measure of minority power. But what matters to both parties is not only the number of blocks, but also the importance assigned to the blocked nominations. The parties' welfare indices captures both variables. For $\rho = 0.5$, it is reported in Figure 8 as function of ρ_{inter} along with 95% confidence intervals.

The majority's larger size protects it: welfare is approximately constant and hovers close to 70 percent of maximal potential welfare. For the minority, on the other hand, the increase in interparty correlation is sharply welfare-decreasing: the combination of fewer successful blocks and less salient blocks means that its realized share of potential welfare falls from 50 percent (at $\rho_I = 0$) to less than 30 percent (at $\rho_{inter} = 0.5$).

The results for the parties are intuitive. What we ultimately want to know, though, is not only how each party fares but whether a move from simple majority voting—the default comparison after November 2013—to storable votes is desirable on social welfare grounds.

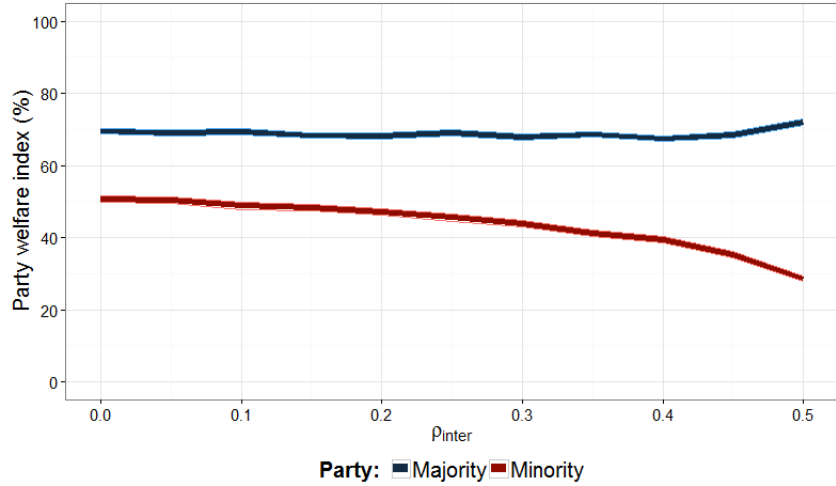


Figure 8: *Expected welfare (as fraction of maximal potential welfare)* when each party follows the mutual best response rule, $\rho = .5$, $\rho_{inter} \in [0, 0.5]$ in increments of 0.05. 95% confidence interval represented with thin, lighter lines.

Figure 9 reports our calculations of Ω , the efficiency measure defined in Section 3—total appropriated welfare as share of maximal possible total welfare. As before, we compute Ω with $\rho = 0.5$ as a function of ρ_{inter} for the two voting rules: the black band is the share of efficiency achieved with storable votes, the green band is the share achieved with simple majority voting.

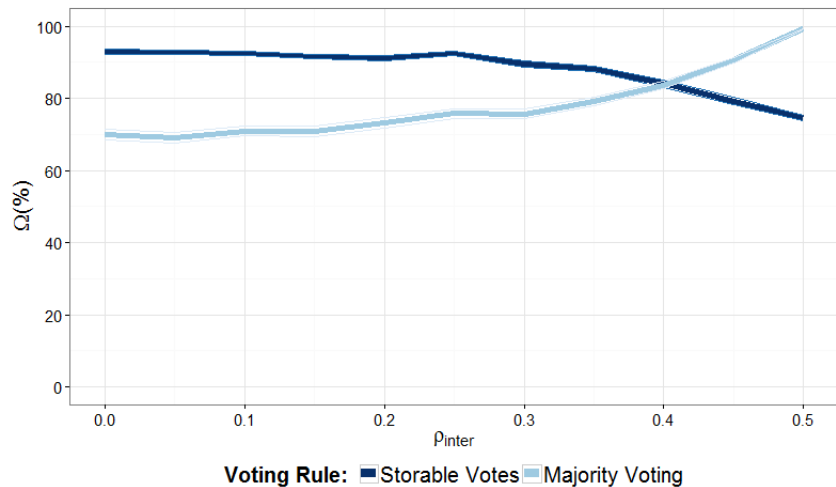


Figure 9: *Expected total realized welfare (as fraction of maximal potential welfare)* when each party follows the mutual best response rule, $\rho = .5$, $\rho_{inter} \in [0, 0.5]$ in increments of 0.05. 95% confidence interval represented with thin, lighter lines.

For most of the interparty correlation values covered by the figure, storable votes yield

higher expected welfare than simple majority rule. This reflects, again, the basic logic behind storable votes: the minority concentrates its votes so as to win some high priority nominations; as long as priorities are not shared, minority victories are more frequent on nominations the majority party considers less crucial to defend. As a result, the minority experiences large welfare gains while the majority experiences small losses. In total, welfare increases.

How robust is such a result? Increased interparty correlation means that, when minority victories occur, per capita minority gains and majority losses become more similar. And since the majority is larger, majority losses become more costly, in total welfare terms, as ρ_{inter} increases. In the figure, the efficiency of majority voting increases and the efficiency of storable votes decreases with ρ_{inter} , eventually reversing orders, as ρ_{inter} approaches the maximum possible value.

For the results presented in the figures, we hold intraparty correlation (ρ) constant. Instead, we could hold ρ_{inter} constant and increase ρ , respecting the constraint $\rho \geq \rho_{inter}$. In general, for given inter-party correlation, storable votes perform better the higher the intraparty correlation, and thus the higher is the aggregate minority value on nominations the nominations the minority wins. Simulation results that explore a richer set of correlations (reported in the online appendix) confirm these tendencies.

The final conclusion is straightforward: if priorities tend to be more similar within each party than across parties, then there is scope for improving aggregate welfare through storable votes. If the opposite is true, then storable votes will typically be less attractive because minority victories will be difficult to achieve; if achieved, they would not be expected to increase aggregate utilitarian welfare. The choice of adopting storable votes would then rely on fairness or legitimacy grounds more than on a pure efficiency criterion.

5 Endogenous Composition of the Nomination Slates

The analysis described so far studies the effects of storable votes, *given* a slate of nominees. In the real world, however, the slate of nominees would not be given exogenously. With storable votes, all names on a slate are linked by the common votes' budget, and the likelihood of a successful minority block depends on the properties of the preferences over *all* nominees: how polarizing nominee A is will affect the chances that B is blocked. Thus the composition

of the slate can be used strategically. We explore in this section how results are modified if we endogenize the selection of slates.

The set of nominees is chosen by the president. We assume that the president’s objectives are well captured by the welfare of the party he belongs to. If the president belongs to the majority party, the model is unchanged, and the optimal slate is simply the slate that maximizes the majority’s welfare, taking into account that voting rules are mutual best responses. If the president’s preferences are aligned with the minority party, the model again can be applied directly, with a simple inversion of signs for the values v_i : all minority members are then in favor of all nominations, all majority members opposed, and minority blocks are instead minority victories, i.e. instances of minority’s success in overcoming potential majority blocks. Given this reinterpretation, the model remains unchanged. We can identify the optimal slate, for a minority president, as the slate that maximizes the minority’s welfare.

A plausible concern is that the slate may be constructed to contain some names known to be unacceptable to the opposition party, thus draining the opposition’s votes. Capturing this scenario requires allowing differences across nominees in the distributions of intensities that represent senators’ preferences.

When nominating a candidate, the agenda-setter will be able to discriminate across possible names on the basis of the distributions of intensities capturing each senator’s probable reactions. Distributions with high (low) probability mass at high values correspond then to nominations likely to elicit strong (weak) support or opposition. We can think of the distributions as the agenda-setter’s prior beliefs on the senators’ reactions. The question is how best to assemble a slate, combining nominees associated with different distributions of intensities, taking into account that the voting rules will reflect the characteristics of the full slate.

We have assumed so far that $\Gamma_t(v) = \Gamma(v)$ for all nominations and that the individual marginals of Γ were uniform, a diffused prior on intensities. In the simulations described in this section, we allow those marginals, $\Gamma_{it}(v|t)$ to vary across nominations t and across parties ($\Gamma_{it}(v) = \Gamma_{mt}(v)$ for all $i \in m$, and $\Gamma_{jt}(v) = \Gamma_{Mt}(v)$ for all $j \in M$). For each t and for each party m, M , the agenda-setter can choose a nominee represented by one of three possible distributions: a uniform distribution, as before, and two Beta’s capturing contrasting priors.

Beta (5,2) has a peak at 0.8, and more than 75 percent of its probability mass is above 0.6—it corresponds to a nomination likely to elicit strong reactions. Beta (2,5) is the converse: it has a peak at 0.2, and more than 75 percent of its probability mass is below 0.4—it corresponds to a nomination likely to elicit weak reactions.

Each nominee is characterized by one pair of distributions, one for each party, and each pair can be any combination of two out of the three distributions just described. There are nine possible such pairs, and thus nine “types” of nominees. A slate is a list of nominees whose types have been chosen by the agenda setter. In the simulations, we construct all possible slates and obtain each party’s welfare and the number of minority blocks when the two parties’ voting rules are mutual best responses, given the slate. With five nominees and three distributions, there is a total of 1287 possible slates.²⁹ For each slate, we conduct the same analysis that we did in Section 4.³⁰ Given the welfare outcomes when the two parties’ voting rules are mutual best responses, we can rank the slates for a president maximizing his party’s welfare. We discuss below the three slates that are ranked at the top, i.e. which are preferred by the President.

We maintain the default case of high correlations of intensities, both intraparty (0.5) and interparty (0.3).³¹ Figure 10 reports the composition of the three highest-welfare slates for the majority (panel 10a), and for the minority (panel 10b). Panel 10a thus corresponds to a majority party president, and panel 10b to a minority party president. Each slate is a row of five graphs, with each individual graph corresponding to a nominee and representing the distribution of preferences in the minority (the values to the left of 0, in red), and in the majority (the values to the right of 0, in blue). The slates are ordered vertically, the highest row corresponding to the highest-welfare slate.

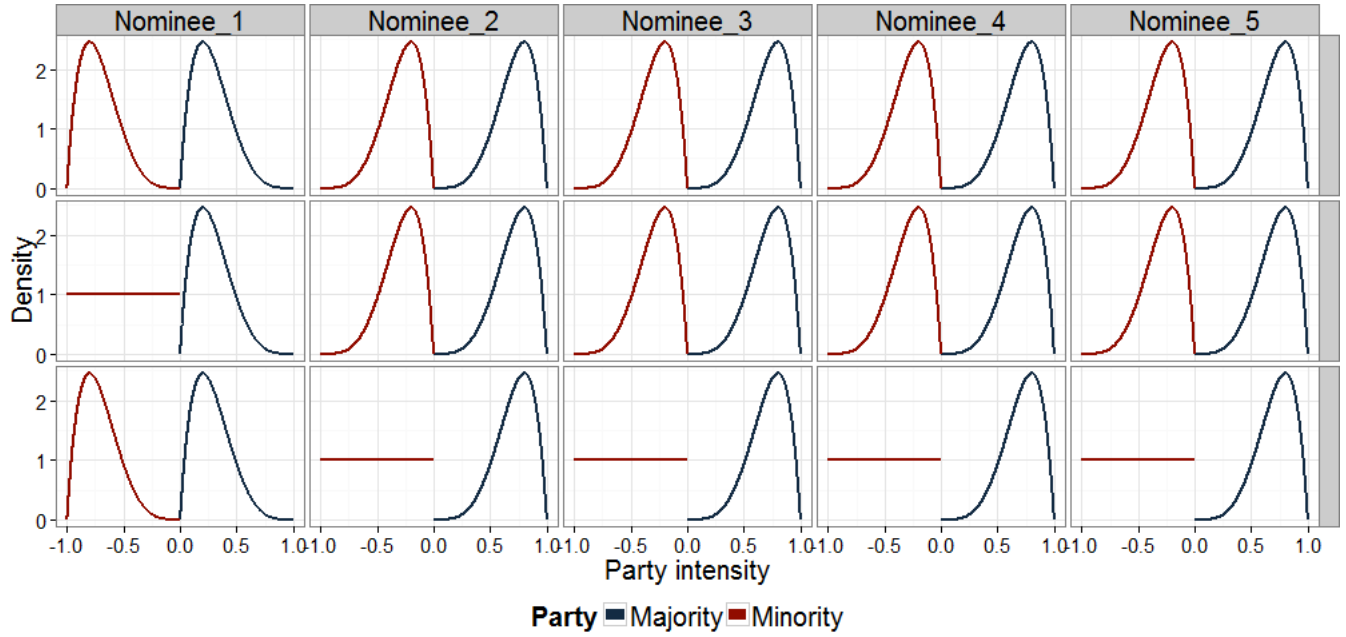
Consider for example the first row in Figure 10a, the highest welfare slate for the majority.

²⁹Each slate is composed of five draws from a set of nine possible different types of nominees, with repetition (i.e with replacement but disregarding different orderings). The number of possible slates is then $\binom{9}{5} = \binom{9+5-1}{5} = \binom{13}{5} = 1287$.

³⁰Because this analysis is much more computationally intensive, we limit ourselves to 200 simulations instead of 1000 for each possible slate.

³¹We do so both for the sake of realism and for ease of comparison to our previous results. However, when distributions vary and have highly concentrated probability mass over different subintervals, a likely ranking of the nominees emerges, and with it coordination in voting, without assuming additional correlation in intensities. Contrary to the previous sections, the results here remain almost identical if we assume full independence.

(a) Preferred slates for the majority



(b) Preferred slates for the minority

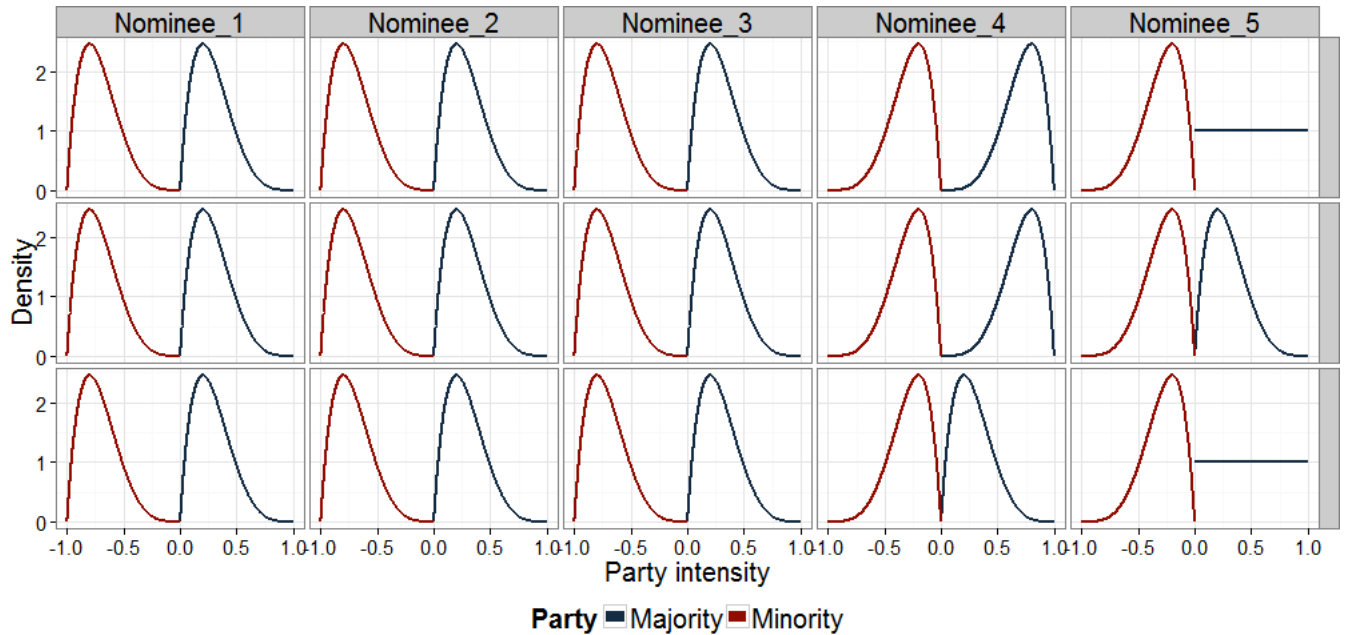


Figure 10: *Welfare-maximizing slate composition for each party. Top three slates.* The five graphs in each row correspond to the five nominees; each represents the distribution of preference intensities in the two parties. Higher rows correspond to higher welfare. Welfare is evaluated at the mutual best response rules. $\rho = 0.5; \rho_{inter} = 0.3$.

Predictably, the majority wants nominees it strongly supports: in four of the five graphs, the majority’s distribution of intensities is concentrated at high values. Equally predictably, the majority desires as little opposition as possible on these names, and in the same four graphs the minority’s intensities are concentrated at low values. Recall, however, that voting behavior is grounded in ranking of priorities, and thus the minority’s tepid opposition will translate into few “nay” votes only if its members concentrate their votes on a fifth name, whose defeat is considered more important. Hence the fifth name on the slate has different properties. The minority’s distribution is concentrated at high intensities: with high likelihood, opposition to this nominee is stronger than to any of the others, with a sufficiently large difference in intensities to induce a high concentration of votes. At the same time, the majority’s distribution is concentrated on low values, with the joint effects that few majority votes will be spent on this nominee, and that the resulting majority defeat will not be too painful. In our simulations, the first nominee is blocked with probability 1 and all the others pass with probability 1.

Very similar patterns characterize the other two slates reported in panel 10a, and in our simulations the voting results are replicated: in both slates, the first nominee is always blocked; the others pass with probability higher than 99 percent in the second slate, and 98 percent in the third.³²

Panel 10b reports the three highest welfare slates for the minority and shows that the same logic applies if the president shares the minority party’s preferences. In this case, however, the composition of the highest welfare slates anticipates that the minority will lose two nominations fights, out of five: two nominees are designed to attract the majority’s concentrated votes and because they are only weakly supported by the minority, those defeats will not be too costly. In our simulations, the nominees represented by the last two graphs in each row of the panel are always blocked by the majority, while the three remaining nominees always pass.³³

³²For the first slate, we find multiple pairs of best response rules, all leading to the identical outcome. Common among all is that minority senators never spread their votes over all nominations, and majority senators never cast more than two votes on the same nomination. The distributions of intensities then guarantee that the minority wins the first nomination, and loses all others, for all other possible voting behaviors. In the second and third slate, the distributions of intensities play a smaller role in coordinating minority votes; as a result the minority must concentrate its votes (with both slates, its senators always cast three or more votes on their first priority nomination).

³³If we look at the pairs of mutual best responses, with all three slates minority senators vote according

It is clear that the ability to control the slate is valuable. In our simulations, a majority-party president can limit the number of minority blocks to not more than 20 percent, and a minority-party president can succeed in passing 60 percent of his nominees. When they occur, defeats are the result of strategic behavior involving decoy nominees intentionally focusing the votes of the opposition. Yet, there are important limits to the agenda-setter's freedom to maneuver. First, and crucially, the nominations that the president's party intends to win must be relatively non-controversial: the strategic use of decoys can work only if the remaining names are acceptable to the opposition party. This is a direct effect of the voting scheme, and works against extreme polarization in the composition of the slate. Second, the decoy nominees themselves cannot be too extreme: they are meant to attract the negative votes of the opposition, but they can fulfil this function only if the nominating party itself is willing to spend some votes in their support.

6 Conclusions

Providing appropriate channels to record and give weight to exceptional minority opposition are valuable not only to the minority but to the Senate as an institution—and perhaps even to American democracy more generally. This paper has investigated a reform of the confirmation process for judicial nominations designed to create the potential for the minority to block only those nominations it feels most strongly about, to do so without wasting valuable time and resources, and to induce the majority to present nominees that for the most part are not too controversial. We suggest that periodic votes on a slate of nominees, coupled with a system of storable votes, can achieve this goal.

With the help of numerical simulations, the paper studies the effects of such a system in a simplified model of the current Senate. Each senator's voting behavior is chosen among a limited set of simple but realistic rules of thumb, and we focus on those rules that are mutual best responses at the party level. The outcomes depend on the extent to which voting decisions are coordinated within and across the two parties: what matters is both how

to rule $q3$: they spread their votes on three nominations only. The majority has multiple best responses, but must avoid concentrating all its votes on the one nomination it considers most important. The high coordination in voting caused by the intensity distributions must be countered by some dispersion in the voting rule.

cohesive each party is, and how polarizing the nominations are. Because of the minority's smaller size, coordination in voting among its members is essential to minority victory. Thus, when nominations are supported by the majority party, the minority will succeed in blocking nominations only if its members rank the different nominations on a single slate similarly, whether by similarity of opinions or by party pressures. Correlation in preferences among majority members has less influence on the results because it is less important in achieving majority victories. Where it does matter is when preferences in the two parties are (negatively) correlated: strong opposition by the minority means strong support by the majority. The ability of the minority to block nominations is then reduced.

If the president's party can influence the choice of names on the slate, it can strategically nominate some "decoy" candidates, with the explicit purpose of concentrating the opposition votes of the other party. This strategy, however, can work only to the extent that the remaining nominees are relatively uncontroversial.

In our numerical simulations, we posit a majority of 55 senators (and a minority of 45), each facing a slate of five nominees and endowed with five votes. In the reference case, there is large agreement on the priority of the different nominations both within and across parties. We find that the minority succeeds in blocking 20 percent of the nominees when the majority chooses the composition of the slate, and about 35 percent when the slate is exogenous. Because the minority wins nominations about which it feels relatively more strongly than the majority does, aggregate welfare is high. The gains for the minority are larger than the losses to the majority, and the Senate as a whole is better off.

A natural question is how robust our results are to changes in numerical values. We have studied alternative slates of four and six nominees (with four and six total available votes, respectively). Limiting voting choices to monotonic rules and focusing on mutual best responses, we find that the predicted number of blocks is remarkably consistent. When the slate is exogenous, at the correlations values explored in the paper (0.5 for intraparty correlation and 0.3 for interparty correlation), the expected number of blocks ranges from 35 percent (with six, as well as with our default of five nominees) to 39 percent (with four). In all cases, storable votes are welfare-superior to majority voting. We have also studied the endogenous agenda case with four nominations. We find, again, that the majority can gain

from selecting one decoy nominee and would then succeed in confirming three of the four nominations.³⁴

Similarly, holding the slate at five names, we have studied variation in the size of the majority, from 51 to 55. Predictably, the smaller the majority size the higher the percentage of successful minority blocks, and the more similar the best response rules for the two parties. With an exogenous slate and a majority of 51, the 49-senator minority can block just below half of all nominees (47 percent); if the majority has 53 members, the expected fraction of blocks falls to 39 percent, approaching our default case of a 55-senator majority, with 35 percent minority blocks. Again, in all cases, storable votes yield higher aggregate welfare than simple majority voting.³⁵

Regardless of the normative case for storable votes, one might ask whether such an unorthodox procedure would ever have a chance of adoption in the Senate, especially in the “post-nuclear” era. There have been instances in the history of Congress when a majority decided to backtrack from the curtailment of minority rights.³⁶ And the current majority may still come to regret the change in rules after the next election, especially if simple majority cloture is extended to other types of legislative and executive business. With respect to preserving minority rights, storable votes are much more transparent and institutionally stable than the blue slip process, an informal practice that is not officially part of the Senate’s rules—and thus can arbitrarily be ignored—and lacks the benefit of capturing intensity of opposition. Storable votes uphold the long-standing tradition of protecting minority rights in the Senate without the negative side effects of supermajoritarian rule, and thus should appeal to a broad coalition of senators from both parties who care deeply about preserving the uniqueness of the Senate as a legislative body.

³⁴We have not studied the endogenous agenda case with a slate of six nominees because the number of calculations and the required computer time are daunting. We see no reason why the logic should change.

³⁵If the slate is endogenous, the majority can succeed in limiting minority blocks to a single nominee whether the majority size is 51, 53, or 55. Results from these additional simulations are available from the authors.

³⁶Indeed, the nuclear option was exercised in 1975 for legislation, only to be reversed within a few days.

References

- Binder, Sarah A. and Forrest Maltzman. 2009. *Advice and Dissent: The Struggle to Shape the Federal Judiciary*. Washington, D.C.: Brookings Institution Press.
- Binder, Sarah A. and Steven S. Smith. 1997. *Politics or Principle? Filibustering in the United States Senate*. Washington, DC: Brookings Institution.
- Blackett, Donald W. 1954. "Some Blotto games." *Naval Research Logistics Quarterly* 1 (1): 55–60.
- Borel, Emile. 1921. "La Théorie du Jeu et Les Équations Intégrales à Noyau Symétrique." *Comptes Rendus de l'Académie des Sciences* 173 (1304-1308): 58.
- Bowler, Shaun, Todd Donovan, and David Brockington. 2003. *Electoral Reform and Minority Representation: Local Experiments with Alternative Elections*. Ohio State University Press.
- Brams, Steven J. and Alan D. Taylor. 1996. *Fair Division: From Cake-Cutting to Dispute Resolution*. Cambridge University Press.
- Buchanan, James M. and Gordon Tullock. 1962. *The Calculus of Consent: Logical Foundations of Constitutional Democracy*. Ann Arbor: University of Michigan Press.
- Burdette, Franklin L. 1940. *Filibustering in the Senate*. Princeton: Princeton University Press.
- Casella, Alessandra. 2005. "Storable Votes." *Games and Economic Behavior* 51 (2): 391–419.
- Casella, Alessandra. 2012. *Storable Votes: Protecting the Minority Voice*. Oxford University Press.
- Casella, Alessandra and Andrew Gelman. 2008. "A Simple Scheme to Improve the Efficiency of Referenda." *Journal of Public Economics* 92 (10): 2240–2261.
- Casella, Alessandra, Andrew Gelman, and Thomas Palfrey. 2006. "An experimental study of storable votes." *Games and Economic Behavior* 57 (1): 123–154.

- Casella, Alessandra, Thomas Palfrey, and Raymond Riezman. 2008. "Minorities and Storable Votes." *Quarterly Journal of Political Science* 3 (2): 165–200.
- Dahl, Robert Alan. 1956. *A Preface to Democratic Theory*. Chicago Press.
- Dahl, Robert Alan. 2003. *How Democratic is the American Constitution?*. Yale University Press.
- De Marchi, Scott and Scott E. Page. 2008. "Agent-Based Modeling." *The Oxford Handbook of Political Methodology*: 71–94.
- Grofman, Bernard, Lisa Handley, and Richard G. Niemi. 1992. *Minority Representation and the Quest for Voting Equality*. Cambridge University Press.
- Guinier, Lani. 1994. *The Tyranny of the Majority: Fundamental Fairness in Representative Democracy*. Free Press New York.
- Hortala-Vallve, Rafael. 2012. "Qualitative Voting." *Journal of theoretical politics* 24 (4): 526–554.
- Jackson, Matthew O. and Hugo F. Sonnenschein. 2007. "Overcoming Incentive Constraints by Linking Decisions¹." *Econometrica* 75 (1): 241–257.
- Johnson, Timothy R. and Jason M. Roberts. 2005. "Pivotal Politics, Presidential Capital, and Supreme Court Nominations." *Congress and the Presidency* 32 (1): 31–48.
- Koger, Gregory. 2010. *Filibustering: A Political History of Obstruction in the House and Senate*. University of Chicago Press.
- Krehbiel, Keith. 2007. "Supreme Court Appointments as a Move-the-Median Game." *American Journal of Political Science* 51 (2): 231–240.
- McCarty, Nolan, Keith Poole, and Howard Rosenthal. 2006. *Polarized America: The Dance of Ideology and Unequal Riches*. Cambridge, MA: MIT Press.
- McGann, A. J. 2004. "The Tyranny of the Supermajority: How Majority Rule Protects Minorities." *Journal of Theoretical Politics* 16 (1): 53–77.

- McLennan, Andrew. 1998. “Consequences of the Condorcet jury theorem for beneficial information aggregation by rational agents.” *American Political Science Review*: 413–418.
- Milgrom, Paul R. and Robert J. Weber. 1982. “A Theory of Auctions and Competitive Bidding.” *Econometrica*: 1089–1122.
- Moraski, Bryon J. and Charles R. Shipan. 1999. “The Politics of Supreme Court Nominations: A Theory of Institutional Constraints and Choices.” *American Journal of Political Science* 43 (4): 1069–1095.
- Moulin, Hervé. 2004. *Fair Division and Collective Welfare*. MIT Press.
- Phoon, Kok-Kwang, Ser-Tong Quek, and Hongwei Huang. 2004. “Simulation of Non-Gaussian Processes Using Fractile Correlation.” *Probabilistic Engineering Mechanics* 19 (4): 287–292.
- Primo, David M., Sarah A. Binder, and Forrest Maltzman. 2008. “Who Consents? Competing Pivots in Federal Judicial Selection.” *American Journal of Political Science* 52 (3): 471–489.
- Roberson, Brian. 2006. “The colonel blotto game.” *Economic Theory* 29 (1): 1–24.
- Rohde, David W. and Kenneth A. Shepsle. 2007. “Advising and Consenting in the 60-Vote Senate: Strategic Appointments to the Supreme Court.” *Journal of Politics* 69 (3): 664–677.
- Stiglitz, Edward H. 2014. “Appointment Politics and the Ideological Composition of the Judiciary.” *Legislative Studies Quarterly*: 27–54.
- Theriault, Sean M. 2008. *Party Polarization in Congress*. Cambridge University Press.
- U.S. Congress. Senate. Committee on Rules and Administration. 2010. *Examining The Filibuster*. Hearings before the Committee on Rules and Administration, S. Hrg. 111–706. U.S. G.P.O. 11th Cong., 2nd sess.
- Wawro, Gregory J. and Eric Schickler. 2006. *Filibuster: Obstruction and Lawmaking in the U. S. Senate*. Princeton: Princeton University Press.

7 Appendix

7.1 The Model: Monotonicity

Proposition: Monotonicity. *We call a strategy monotonic if x_{it} , the number of votes cast by i on nomination t , is monotonically increasing in the intensity of preferences v_{it} . For any number of voters N , party sizes M and m , number of nominations T , and distribution Γ , model I has an equilibrium in monotonic individual strategies; model C has an equilibrium in monotonic groups strategies.*

Proof. Call $X_{-i,t}$ the net balance of votes in favor of nomination t excluding voter i , who may belong to either group: $X_{-i,t} = \sum_{\{j \in M, j \neq i\}} x_{jt} - \sum_{\{j \in m, j \neq i\}} x_{jt}$. Consider first model I and suppose other voters' strategies are monotonic. Given $\Gamma_t = \Gamma$, independence across and within groups implies $EX_{-i,t}(v_t, M, m, T) = EX_{-i,t'}(v_{t'}, M, m, T)$ for all t, t' : the expected vote balance is equal across nominations. But note that voter i 's probability of being on the winning side on nomination t is always weakly increasing in x_{it} . It follows that i 's best response is monotonic. Identical logic holds in model $C2$, and hence applies to group strategies in model C . \square