Minority Rights in Majoritarian Institutions

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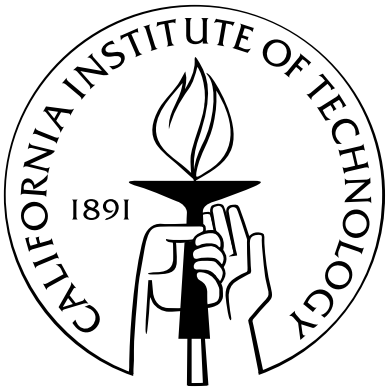

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To Tammy.

From immunology to formal theory,

my friend and my wife, the love of my life.

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Many chapters herein have been derived from papers published elsewhere. Chapter II is based in part on Kiewiet and Roust (2004) and on my papers "Minority Party Rights in the 104th House" (Roust 2004b) and "Majority Power (and Minority Rights) in the Republican House" (Roust 2005b). Chapter III is based on "Stability of Endogenous Legislative Rules" (Roust 2005a), which was also the starting point for Chapter IV. Chapter V is derived from "Minority Rights in the House of Representatives: Endogenous Rules and Minority Rights" (Roust 2004a).

Abstract

The House of Representatives is, fundamentally, a majoritarian institution. A simple majority can do anything it wants, even changing the entire rules of the House through the Constitutional provision that "Each House shall determine the Rules of its Proceedings." Despite this power, the House has maintained extensive parliamentary rights for the minority party. This work examines why the majority may allow the minority a continued role in lawmaking.

The historical development of the House rules is examined and compared to current practices in the House. This leads to an understanding of how the House became the institution it is today. The House rules evolved slowly over its first century, until finally arriving at the surprisingly stable set of modern rules. Although some of the changes the House has made appear strange at first sight, the models developed here explain many of them.

Having identified key features of the rules of the House, a model of a legislature is constructed. Consideration of bills can be described as endogenous agenda formation – each action that the legislature takes is proposed by a legislator. This process is modeled as a game, where the legislature's rules describe an agenda tree. Even minimal assumptions about the rationality of legislators provide predictions about how bills will be modified by the amendment tree.

These floor consideration models, however, only predict what bills the legislature will pass for a given set of rules. To understand how the rules of the House developed, the modeled legislature is permitted to choose its rules (which amendment tree it will use). If the bill has been exogenously identified, so the legislature is choosing a special rule for the bill, the amendment tree it adopts will restrict the proposers. If the bill

will be proposed endogenously, the legislature will adopt standing rules resembling those of the House.

Further predictions are generated by combining this model with specific assumptions: depending on the type of issue being considered, certain rules should never be adopted. This analysis suggests that the House generally does not consider one-dimensional or distributive issues, but instead must deal with multi-faceted issues.

Committee: D. Roderick Kiewiet (chair), R. Michael Alvarez, Charles R. Plott, Kim C. Border

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Chapter I

Theoretical Problems of Democracy

Democratic systems must resolve several fundamental questions in order to operate sensibly. These include both normative ("what should be") and positive ("what can be") issues which directly concern the choices that a society must make. The core normative issue is the balance between "liberalism" and "populism" (Riker 1982, Dahl 1956). That is, majority rule (or popular sovereignty with equality) must be balanced against minority rights (such as the "natural rights" of Locke or, more generally, the ability to pursue one's own goals). Democratic republics are faced with a more complex problem: maintaining this balance within and among all levels of the government, the elected and the electorate alike. The *Federalist Papers* express particular concern about the tyranny of the majority; *Federalist* 10 warns that "measures are too often decided, not according to the rules of justice and the rights of the minor party, but by the superior force of an interested and overbearing majority." These issues shape the initial balance of powers in the U.S. government, using an assumption that no single faction will be large enough to control all the decision-making institutions and cohesive enough to operate them in concert to impose its will.

Congress, with its central role in lawmaking, is critical to this design. Madison, noting that "In republican government, the legislative authority necessarily predominates" (*Federalist* 51), was particularly concerned with how to restrain a legislature that usurps power. A key restraint is frequent elections: "it is particularly essential

[to liberty] that the [House] should have an immediate dependence on, and an intimate sympathy with, the people. Frequent elections are unquestionably the only policy by which this dependence and sympathy can be effectually secured" (*Federalist* 52). *Federalist* 58, however, cautions that legislative rules must maintain a balance, avoiding both supermajority requirements and large legislatures dominated by a few personalities.

During the 19th century, however, the Madisonian presumption that cohesive majorities will not last was threatened, as large political parties with powerful leaders had developed. Congressional institutions evolved in recognition of this changing balance, under the control of the very political actors they were meant to limit. Congressional history is filled with tales of partisan fights over the lawmaking process, spanning thousands of pages of the *Congressional Record*.[1] Usually, the minority party claims some procedural right while the majority asserts it has the power and duty to impose its will, often under a leader such as "Czar" Reed, "Uncle Joe" Cannon, or Tom "The Hammer" DeLay.

In addition to the political debate, political scientists have also been discussing this normative balance in the academic literature. While this discussion can be traced through political-scientist politicians such as James Madison and Woodrow Wilson, the latter half of the 20th century is of particular interest. In 1950, the Committee on Political Parties of the American Political Science Association argued (along the lines of Wilson, 1885) that the majority party was unable to exert as much control over policy as it should.[2] This was just one of many works during this era to study the issue, however. Commager (1943, 4) draws a distinction between "the principle that men make government and the principle that there are limits to the authority of government." Dahl (1956) discusses the underpinnings of this balance and considers the American case. Riker (1982) continues the examination, looking at a collection of anecdotes in a framework of abstract positive theories.

[1] See, for example, most of the *Record* for December 19, 1879, through March 2, 1880 (roughly pages 200-1300) and the *Roundtable Discussion on the Motion to Recommit* (1992).

[2] APSA (1950, v): "either major party, when in power, is ill-equipped to organize its members in the legislative and the executive branches into a government held together and guided by the party program."

As Dahl, Riker, and Downs describe, normative concerns about balance or "fairness" may be far less important than these positive political theories.[3] Riker explains that "not only may the results of voting fail to be fair, they may also fail to make sense" (Riker 1982, 115). In 1785, the Marquis de Condorcet defined an apparently reasonable criterion for a societal choice: the option chosen should be preferred to any other option by a majority of the society. At the same time, however, he noted that this "Condorcet winner" will not always exist. This troubling result was strengthened by Arrow (1951), who proved that *any* method of societal choice must fail, in that it must either be unfair or not be able to make a choice in every situation. Downs (1956, 67) identifies two general ways for a society to avoid these Arrow problems: consensus on which issues are important or consensus on what options are best. Downs (1956) and Black (1958) both use Hotelling's (1929) model of economic competition along a single dimension to model the political process.[4] In this one-dimensional setting, there is only one "issue" and thus society agrees on which issue is important, avoiding Arrow's problem. However, Black (1958, 138-139) notes that majority rule will generally fail to make a choice in a two-dimensional setting with three voters.

Black's observation was generalized by Plott (1967), who provided a proof that majority rule will generically fail in a multi-dimensional setting. That is, for almost any set of citizens' preferences the society will find that there is no Condorcet winning policy. Instead, there will be a cycle of choices where policy A defeats policy B, which defeats policy C, and so on until some policy X defeats A. Further, even for a set of preferences that actually generates a Condorcet winner, an arbitrarily small change in one citizen's preferences will create a cycle. Thus, in these cases society cannot make a choice based only on the Condorcet criterion.

Schwartz (1972) argues that a particular generalization of the Condorcet criterion is axiomatically reasonable and will always allow society to make a choice. In particular, define the "top cycle set," $TC_{\triangleright}(X)$.[5]

[3]For example, Dahl (1956, 43), Riker (1982, 115), and Downs (1956, 62).
[4]See also Hotelling (1929, 54-55).
[5]$\mathbf{O}(a, P)$ in Schwartz' notation.

Definition 1 *Given a domain of objects X and a complete binary relation $\triangleright$ on X,*[6] *define the top cycle of $\triangleright$ over X as*

$$TC_{\triangleright}(X) = \bigcap \{C \subset X : C \neq \emptyset \text{ and } y \not\triangleright x \ \forall x \in C, y \in X \setminus C\} \tag{I.1}$$

That is, the top cycle is the smallest non-empty set where nothing outside the set has the relation $\triangleright$ to anything inside. $TC_{\triangleright}(X)$ has several useful properties:

- $TC_{\triangleright}(X)$ is non-empty and unique for every set X and preferences $\triangleright$.[7]
- $TC_{\triangleright}(X)$ is the Condorcet winner in X, if one exists.
- $TC_{\triangleright}(X)$ is the only set satisfying Schwartz' (1972, 110-111) Conditions of Rationality for a choice set $C \subset X$:

  Weak Dominance Nothing outside of C is $\triangleright$-preferred to anything in C.

  Reducibility If a set $A \subset X$ satisfies Weak Dominance, then some element of A is in C.

  Narrowness All strict subsets of C violate Weak Dominance or Reducibility.

It is also of interest to note that all elements of the top cycle are included in a single $\triangleright$-cycle. That is, it is possible to label the points in the top cycle as $TC_{\triangleright}(X) = \{x_1, x_2, \ldots, x_n\}$ such that $x_1 \triangleright x_2 \triangleright \ldots \triangleright x_n \triangleright x_1$.[8]

While the top cycle is axiomatically reasonable, it is not clear how large the top cycle actually is. Due to its connection with Condorcet winners, the top cycle is small if a Condorcet winner exists. Thus, the top cycle can be informative. Given Plott's (1967) result, however, this result rarely applies. McKelvey (1976, 1979) shows that the top cycle is actually "global" in many common applications if the Plott conditions

[6] $\triangleright$ complete means that, $\forall x, y \in X$, either $x \triangleright y$ or $y \triangleright x$ (or both). Completeness provides for a simpler definition (using intersections), since it generates a unique $\subset$-smallest set. Schwartz achieves uniqueness without using completeness by considering the union of the multiple $\subset$-smallest sets.

[7] Assume that both C_1 and C_2 are members of the set in (I.1). Then $C_1 \cap C_2$ is a potential member. If $C_1 \cap C_2 = \emptyset$, then $x_1 \not\triangleright x_2$ and $x_2 \not\triangleright x_1$, $\forall x_1 \in C_1, x_2 \in C_2$ – a contradiction with $\triangleright$ being complete. Thus, $C_1 \cap C_2$ is a member of the set in (I.1).

[8] Assuming that the top cycle is finite.

are not satisfied. That is, for most social choice problems either the top cycle is the Condorcet winner or $TC_{\triangleright}(X) = X$. Schofield (1978) shows a similar result, although with somewhat more troubling implications.[9]

The McKelvey-Schofield results show that the top cycle should predict societal choice, in a trivial sense. If there is a clear best outcome (that beats all other choices), then it is the only element in the top cycle. If there is no clear winner, then the top cycle predicts that the choice will be in the feasible set, X. This is not informative, but it is correct. As McKelvey (1979, 1106) notes, "these results show the inadequacy of arriving at any useful social choice functions using the notions of top cycle set ... as such methods will simply rank all alternatives as socially indifferent." These results are not quite as negative as they appear, however, as noted by the authors themselves.

> "Of great importance is the process by which motions are proposed. The decision process *itself* may dictate that some motions cannot be proposed" (Plott 1967, 795).
>
> "any attempts to construct positive descriptive theory of political processes based on majority rule ... must take account of particular institutional features of these systems" (McKelvey 1979, 1106).

Farquharson (1969) demonstrates the effect that agenda has on voting outcomes, even in the simplest settings. This research has been extended by many authors, revealing how institutional structure (modeled as agendas) determines outcomes. These authors generally posit that a group (committee, legislature, etc.) makes a decision in an ordered way, following an "agenda." For example, Shepsle (1979) considers a "structure-induced equilibrium" where society considers issues one dimension at a time (choosing the median policy on each). Many authors go further, assuming that at each step the group votes to choose between two options (generating an agenda

[9]Both authors prove that a series of proposals may be offered that would lead from any point to any other point in X. McKelvey (1976) constructs a finite sequence of proposals to move from a to b such that $b \triangleright x_n \triangleright x_{n-1} \triangleright \ldots \triangleright x_1 \triangleright a$. This might be interpreted as a malevolent agenda setter who provides society with more-and-more extreme choices to obtain his ideal policy. Schofield (1978), on the other hand, constructs a continuous path of proposals leading from a to b. This permits society to meander, making arbitrarily small changes, to achieve any bad outcome.

tree). A frequently used agenda tree provides that two specified policies are compared, the winner is compared to a third policy, that winner is compared to a fourth, and so on. Black (1958, 3, 21) refers to this as "ordinary committee procedure" or "procedure (α)" while Farquharson (1969, 11) calls this "the usual method of procedure on amendments." Miller (1980) and Banks (1985), considering these amendment agendas, find that (if voters act "strategically," voting for their most-preferred branch of the amendment tree at each stage) the power of the agenda setter is reduced, but not eliminated. Each author identifies a set of outcomes that could be chosen, eliminating many options from the top cycle.[10]

McKelvey (1986) considers the effects of endogenous agenda formation, where members of the legislature propose policies to be considered at each stage (prohibiting overly-malevolent agenda setters). McKelvey finds that the equilibrium outcomes lie in Miller's uncovered set, but no smaller limit is identified. Banks and Gasmi (1987) consider a particular example of a small committee using an endogenous agenda in a two-dimensional spatial model and find that very few policies would actually be proposed by members of the committee.[11] Similarly, Baron and Ferejohn (1989) consider a endogenous agenda model in a "divide-the-dollar" game, and are also able to predict a small set of possible outcomes.[12]

Ordeshook and Schwartz (1987) point out a weakness of these analyses: the "amendment agendas" considered by the previous authors are not necessarily representative of real-world agendas. For example, the House of Representatives provides for substitute amendments using a complicated agenda. First, the amendment must be "perfected" using second-order amendments. Then that amendment is set aside while a substitute (that would replace the amendment entirely) is perfected. Finally,

[10]McKelvey (1986) summarizes these, and similar, findings while providing a bound on how big Miller's uncovered set can be. Bianco, Jeliazkov, and Sened (2004) numerically calculate the size of the uncovered set for several settings, showing that the set is far smaller than the entire space.

[11]In the two-dimensional spatial model, the committee is choosing a policy $x \in \mathbb{R}^2$ and each committee member has preferences represented by a utility function based on the distance between their "ideal point" and the chosen policy point.

[12]In the divide-the-dollar game, the n-member committee is choosing a policy $x \in [0,1]^n$ under a constraint that the sum of the elements of x is no more than 1. Committee member i's preferences depend only on x_i and not on the other elements.

the perfected amendment and perfected substitute are compared, with the winner being compared to the bill. The second stage, where the perfected amendment is set aside for a moment, prevents this from being an "amendment agenda." Ordeshook and Schwartz show that these more realistic agendas can result in a wide variety of outcomes. Even if voters are strategic, an agenda setter can obtain any point in the top cycle.

Miller (1995) provides an extensive review of these results and others, providing a unified framework for consideration. In the end, however, Miller concludes that exogenous agenda problems are largely solved, but endogenous agenda formation is still a mystery.

> "It is fair to say that [for binary voting under complete information] the theory of committee voting is now largely complete ... The major gap lies in the area of agenda formation processes" (Miller 1995, 141).

Riker (1980) points out a more fundamental problem with all of this analysis. The results show that outcomes are determined by institutions (agendas) as much as by preferences. But the institutions themselves are determined by society – they are chosen by some social choice process, subject to the same lack of clarity as the choice over outcomes.

> "If institutions are congealed tastes and if tastes lack equilibria, then also do institutions, except for short-run events" (Riker 1980, 445).

This dissertation addresses the concerns of both Miller and Riker, as well as Ordeshook and Schwartz. The main model, presented in Chapter III, considers a legislature that is governed by Krehbiel's "Majoritarian Postulate":

> "Objects of legislative choice in both the procedural and policy domains must be chosen by a majority of the legislature" (Krehbiel 1991, 16).

The legislature chooses its rules, in that it chooses which particular agenda tree will be used and who can make the (endogenous) proposals. The possible agenda trees

will be based on the practices in the U.S. House of Representatives, but remain quite general. Chapter II will review the current and historical practice of the House, with a particular eye on the process of amending bills. After the main model is developed for abstract preferences several special cases will be examined in Chapter IV. Chapter V presents a similar model for the development of standing rules that predicts the adoption of key features of the House rules. Collectively, the models predict that, even in a majoritarian institution, there will be a role for the minority, supporting Madison's belief that (large) diverse republics will not exhibit cohesive majorities.

Chapter II

Rules of the House of Representatives

The U.S. House of Representatives is governed by a variety of rules. The most fundamental come from the Constitution, establishing the office of Speaker, defining that the quorum to do business is a majority, requiring the publishing of a Journal, and also requiring that (on the demand of one-fifth of the House) yea-and-nay votes be recorded in that Journal.[1] Finally, the Constitution established that

> "Each House may determine the Rules of its Proceedings" (Article I, Section 5).[2]

These self-determined rules are the main constraints on the day-to-day operation of the House, although (when the rules fail to discuss a circumstance) the House will also refer to "general parliamentary law" to figure out what should be done. In the early years, this general law tended to be based on the experiences of the Continental Congress and on England's Lex Parliamentaria. In 1812, however, the House voted to

[1] These yea-and-nay votes, where the vote of each Representative is recorded separately, will be referred to as "roll call" votes.

[2] It is amusing, if not actually useful, to note that the interpretation of this clause is not straightforward. In context, it appears that it is referring to each House *of Congress* so that the House and Senate each determine their rules. The House has generally read this as referring to each House *of Representatives*; see, for example, *Hinds*, §6744, p. 883, which discusses an incident where the Speaker ruled: "The Chair overrules it on the ground that the Constitution clearly gives to each House the right to adopt its own rules. Whatever may have been the rules or orders of a preceding House in reference to this matter, they can not supersede the constitutional right of this House to adopt its own rules."

"annex" Thomas Jefferson's *Manual of Parliamentary Practice* to the rules[3] and in 1837 the House adopted a rule that the *Manual* "shall govern the House in all cases to which they are applicable, and in which they are not inconsistent with the standing rules and orders of the House" (*Journal*, 1st Session, 25th Congress, September 15, 1837, pp. 62-63).

At the beginning of each Congress, the House adopts (by majority vote) new rules for itself, providing structure for committees, debate, parliamentary motions, and the operations of the House. These rules can also be amended by a majority of the House in the middle of a two-year Congress, and it appears that this is when most substantive changes have been applied. Further, the rulings of the Speaker (when supported, tacitly or otherwise, by the House) have binding effect as "precedents," permitting additional mid-term changes in the rules. Although a House cannot impose binding rules on its successors, its procedures do carry weight as general parliamentary law.

As of the 108th Congress (2003-4), the main rules document fills nearly 1400 pages, and the precedents that lie behind those rules fill another 27 volumes.[4] Even the simplified roadmap to the rules and precedents, Brown and Johnson (2003), runs 1000 pages. Fortunately for this project, much of this deals with committees, contested elections, and impeachment proceedings and thus does not directly address the procedures of interest in this history.

1 Standing Rules

For most of its history, the House has used similar rules for consideration of bills by the entire House. The Speaker runs the meeting, (unilaterally) recognizing members to make motions. The valid motions (those that can be offered) are defined by the

[3] *Journal*, 1st Session, 12th Congress, February 28, 1812, p. 211. Jefferson's *Manual* was originally written for the Senate, while he was Vice President and thus president of the Senate. It is still printed in the House rules.

[4] The main rules document includes the Constitution, *Manual*, and the current House's rules, as well as brief commentary on the major precedents for each. The precedents volumes are Hinds', Cannon's, and Dreschler's *Precedents*.

standing rules of the House. The House then votes on each motion, deciding to accept or reject it by majority rule.

The set of valid "floor" motions has been essentially unchanged since the first Congress, and reflect practice in the Continental Congress and many other legislative bodies.

> "10. While a question is before the house, no motion shall be received, unless for an amendment, for the previous question, to postpone the consideration of the main question, or to commit it" (*Journals of the Continental Congress*, Vol. XI, May 26, 1778, p. 534).
>
> "When a question is under debate, no motion shall be received, unless to amend it, to commit it, for the previous question, or to adjourn" (*Journal*, 1st Session, 1st Congress, April 7, 1789, p. 9).
>
> "4.(a) When a question is under debate, only the following motions may be entertained (which shall have precedence in the following order): (1) To adjourn. (2) To lay on the table. (3) For the previous question. (4) To postpone to a day certain. (5) To refer. (6) To amend. (7) To postpone indefinitely" (*108th House Rules*, 2003, Rule XVI.4, §911, p. 673).[5]

The House rules provide for four basic types of motions during consideration of a bill:

1. Motion to amend the bill,
2. Motion to stop debating and vote on the bill (previous question),
3. Motion to stop debating and assign the bill to a committee (commit, refer),
4. Motion to stop debating and do something else (adjourn, postpone, table).

1.1 Motion to Postpone

The motions to adjourn, postpone, and table have seen the most variation as to which motions are in order. In the first Congress the only valid motion was the motion to

[5]This is also rule XVI.4 of most Houses since 1890, including all of the 54th through 109th Houses.

adjourn (and dismiss the House for the day). In 1811, the list was expanded to its current size: adjourn, table, postpone to a day certain, and postpone indefinitely. The differences among these motions are somewhat subtle: a tabled bill will not be considered again, an indefinitely-postponed bill may be considered again through the usual methods, while a bill affected by adjournment or postponement to a day certain will have high priority for consideration on that day.

The priority (or precedence) of these motions has changed occasionally, reflecting dynamics in the House. For example, in the 1880s the House also allowed motions to adjourn to a specified day or permit a recess with high priority. However, these were mostly used for dilatory purposes (*Hinds*, §5302, p. 163), and hence a revision of the rules in 1890 moved these to their current place, where they have the priority of a motion to adjourn, if the Speaker chooses to recognize them.

Aside from their scheduling influence, however, it is unclear what policy implications these motions have.[6] As such, these motions will not be considered further.

1.2 Motion to Commit or Refer

The motion to assign the bill to a committee is called by many names, including refer, commit, and recommit.[7] These motions provide that a specified committee will consider the bill and report it back to the House with recommendations. The House can also provide instructions to the committee: "amendatory" instructions explicitly tell the committee how to rewrite the bill while "general" instructions are more vague, telling the committee to hold hearings or to amend the bill to certain ends. The committee can be a standing committee (established in the rules) or a select committee (established for this particular purpose). The most important of these committees, and the only one that has been a standing committee throughout the history of the House, is the Committee of the Whole House on the state of the Union.[8] The COWH includes all members of the House and largely uses the rules

[6] Save for the motion to table, which permits the House to immediately reject a bill.

[7] These need to be distinguished from the identically-named motions that follow the previous question, as described below.

[8] See Cooper (1970) for more details on the development of the standing committee system.

of the House, but provides somewhat a more flexible debate environment and has a smaller quorum. In the COWH, consideration of a bill occurs under the "five-minute rule," that a member recognized by the committee chairman may offer an amendment and talk about it for only five minutes, followed by five minutes of discussion by a member opposed, before the committee votes. The only other motion in order in the COWH is a motion to rise and report to the House. If the COWH adopts any amendments to the bill, then the House will consider whether to adopt these amendments before continuing with consideration of the bill.

1.3 Motion for the Previous Question

The previous question motion is the only way to forcibly end debate in the House.[9] As with the other motions during debate, this motion was inherited from the Continental Congress, which in turn derived it from the English Parliament. Both of those assemblies would ask the question "should the main question be not now put?" and (if a majority approved) the bill would be set aside for the day.[10] If the previous question did not pass in the Continental Congress, however, debate would continue until no one wanted to speak. The first House, whose members generally had experience in the Continental Congress, reversed the question and asked "should the main question be now put?" If the House rejected the question, debate would continue; if the House accepted, however, things were unclear. In 1807, Speaker Varnum ruled that the bill must immediately be voted upon; the House overruled him by a vote of 103 to 14. In 1811, having learned his lesson, Speaker Varnum allowed debate to continue after the previous question had been ordered; the House again overruled him by a vote of 66 to 13.[11] This later ruling thus established the correct way to read the

[9] The Senate, which has no previous question motion, currently uses cloture for this purpose. Binder (1997) also discusses the development of the previous question during the 1800s.

[10] According to Jefferson (citing Hatsell), Parliament started using this in 1604 in the form "shall the main question be put?" and, if rejected, the bill could not be considered again that session. See Jefferson's *Manual*, Section XXXIV, in *108th House Rules*, §653, p. 241.

[11] *Hinds*, §5445, pp. 224-225; *Journal*, 1st Session, 10th Congress, December 15, 1807, pp. 79-80; *Journal*, 3rd Session, 11th Congress, February 27, 1811, pp. 598-599. The latter vote apparently occurred after 2:30 a.m., possibly explaining the low number of votes (*Annals*, 3rd Session, 11th Congress, February 27, 1811, c. 1091).

rule adopted by the first House: if enough members demand the previous question,[12] the House will vote on whether to support the motion. If a majority supported the demand for the previous question, the question of passing the bill (after the third reading) or engrossing the bill (after the second reading) would be immediately voted on, leaving the bill in its current form. All pending amendments and other motions would be rejected with no debate and without a vote.

Despite repeated incidents where amendments were lost due to the previous question, the House rejected several attempts to revise the rule over the succeeding decades.[13] By 1840, however, members of the 26th House had become sufficiently unhappy with the blunt force applied by the previous question that the rule was changed to read:

> "The previous question shall be in this form, 'Shall the main question be now put?' It shall only be admitted when demanded by a majority of the members present, and its effects shall be to put an end to all debate, and bring the House to a direct vote upon amendments reported by a committee, if any, upon pending amendments, and then upon the main question" (*Journal*, 1st Session, 26th Congress, January 14, 1840, p. 208).

In 1845, as part of the Texas admission debates, a motion was made to recommit the bill with instructions to prohibit slavery. To end that debate, the previous question was ordered. The Speaker called for a vote on the motion to recommit, but an objection was made. The Speaker ultimately was overruled by the House,[14] so that the motion to recommit died without a vote. Hinds suggests that this incident led to a revision of the previous question rule in 1848,[15] so that it read

[12] Five members were required under the rules adopted in 1789; one-fifth of members present after an amendment to the rule was adopted on December 23, 1811; a majority of members present after a further amendment on February 24, 1812.

[13] See *Hinds*, §5446, pp. 226-227.

[14] The House first upheld the Speaker's ruling, apparently by a voice vote. Then a motion to reconsider was made, passing by a roll call vote of 99 to 93. The Speaker's ruling was then rejected in a new vote, apparently also a voice vote. See *Journal*, 1st Session, 29th Congress, December 16, 1845, pp. 111-113.

[15] *Hinds*, §5446, pp. 227-228.

> "... and bring the House to a direct vote upon a motion to commit, if such motion shall have been made; and if this motion does not prevail, then, upon amendments reported by a committee, if any; ..." (*Journal*, 1st Session, 30th Congress, August 5, 1848, p. 1164).

By 1860, the House had been stymied several more times by the abruptness of the previous question. This led to the addition of even more complexity with a revision of the relevant rule so that it read

> "The previous question shall be in this form: 'Shall the main question be now put?' It shall only be admitted when demanded by a majority of the members present; and its effect shall be to put an end to all debate, and to bring the House to a direct vote upon a motion to commit, if such motion shall have been made; and if this motion does not prevail, then upon amendments reported by a committee, if any; then upon pending amendments, and then upon the main question; but its only effect, if a motion to postpone is pending shall be to bring the House to a vote upon such motion. Whenever the House shall refuse to order the main question, the consideration of the subject shall be resumed as though no motion for the previous question had been made. ... The House may also, at any time, on motion, seconded by a majority of the members present, close all debate upon a pending amendment or an amendment thereto, and cause the question to be put thereon, and this shall not preclude any further amendment or debate upon the bill" (*Journal*, 1st Session, 36th Congress, March 16, 1860, p. 530).

Although they were now exceedingly complicated, the rules concerning the previous question had been improved significantly. Hinds (1907) describes the previous century's development of the previous question as follows:

> "In the earlier years its efficiency as a means of forwarding business was accompanied by much harshness and rigidity, which not only worked

> hardship on the Member, but interfered with a convenient and satisfactory disposal of business. In later years the harshness of the rule has been considerably lessened, while it has been given greater flexibility, which has enabled the House to follow its own wishes more fully in the consideration of amendments and in dealing with incidental questions" (*Hinds*, §5443, p. 222).

Much of this appears to have been true of other aspects of the House rules as well: the rules had become very complicated, with vestigial bits throughout, but were facilitating lawmaking better that the 1789 rules had. To provide for further improvements, the House undertook a major revision of the rules, clearing out a century of dead wood.

1880: Major Rules Revision

On June 25, 1879, the House Rules Committee introduced a resolution requesting the authority to sit during the summer recess, "for the purpose of revising, codifying, and simplifying the rules of the House" (*CR*, June 25, 1879, p. 2328). When the House returned in December, the Rules Committee presented their report and the House agreed to "make it the special order for the 6th day of January, after the morning hour, and from day to day until disposed of, to the exclusion of every other order" (*CR*, December 19, 1879, p. 191).[16]

On January 6, 1880, general debate on the resolution began and the full report of the Rules Committee was published. Although the report spans several pages of the *Congressional Record*, with most emphasis on committees and their jurisdictions, the sections that discuss the previous question are restricted to just a few pages. In the report the committee explained the rationale for its proposed changes; for the previous question they noted:

> "The committee are of opinion that the operation of the previous question should be modified in one respect, namely, that it should not be so

[16]Dion (1997, chapter 5) discusses these changes in some detail. The debates in the House fill much of the *Congressional Record* for December 19, 1879 through March 2, 1880 (pp. 189-1267).

> sweeping and comprehensive as at present; and they accordingly recommend that its effect shall be to bring the House to a direct vote upon the immediate question or questions on which it has been ordered. It is therefore proposed that the previous question may be asked and ordered upon a single motion, a series of motions in order under the rules, an amendment or amendments, or may be made to embrace all authorized motions or amendments, and its effect shall be to carry the bill to its engrossment and third reading, and then, on renewal, to its passage or rejection. The committee also propose that, pending a motion for or after the previous question has been ordered on the passage of a bill, it shall be in order for the Speaker to entertain and submit a motion to commit, with or without instructions, to a standing or select committee, thus affording the amplest opportunity to test the sense of the House as to whether or not the bill is in the exact form it desires" (*CR*, January 6, 1880, p. 202).

General debate on the new rules continued for some days, until, despairing of finishing the debate, the COWH began considering the rules under the five-minute rule on January 27, 1880. After more than two weeks of lengthy debate on committee jurisdictions and powers, on February 11 they finally reached rules XVI and XVII, concerning floor procedures and the previous question. Rule XVI.4 received some debate and an amendment,[17] but both concerned whether the correct phrase is "to lie on the table" or "to lay on the table."

Rule XVII.1, establishing the previous question, saw slightly more action. Three minor language amendments were made. This was followed by a question from Haskell as to why the new rule seemed to include a trap for the unwary. Why are two motions for the previous question required to move from the second reading to final passage? Blackburn, speaking for the Rules Committee, explained the rationale for this two-motion structure.

[17]This is the same rule XVI.4 that establishes the valid floor motions as discussed earlier. The 1880 version included motions to establish the day to which the House would adjourn and to recess with similar precedence to the motion to adjourn.

> "after you have moved the previous question on a bill and any amendments pending, and that previous question shall have been in operation, and carried the bill to its engrossment and third reading, it may, and very often does, occur that the House finds there is some amendment, some discussion, some consideration which even the voting upon the bill under the operation of the previous question has demonstrated to be necessary, but there is no way of getting that amendment or that discussion unless you go back and reconsider the several stages through which the bill has gone, which would be very cumbersome. When the previous question on engrossment and third reading is exhausted, the Chair always recognizes the gentleman in charge of the measure to renew the demand for the previous question on the passage, and if then the House has not discovered any hasty legislation or any mistake that has been made, the previous question is again ordered, and carries the bill through to its passage" (*CR*, February 11, 1880, p. 831).

This explanation was apparently not entirely credible, as the House allowed one previous question motion to do this job with a 1890 change in the rules. However, this logic is very similar to that presented by Bach (in *Roundtable*, 1992), who suggests that the post-previous-question motion to recommit may provide an escape (short of killing the bill) following an "accidental" call for the previous question to passage.

Debate on rule XVII.1 continued on February 12th, with the action being confined to another "lie/lay" amendment and a lengthy discussion on the never-ending necessity of proofreading. Debate on the remaining rules continued through the 27th of February, for a total of 14 days spent debating the new rules under the five minute rule. On March 2, 1880, the COWH reported its amendments and the House adopted the amended rules with a roll call vote. In the end, the House adopted the following new rule governing the previous question:

> Rule XVII.1: "There shall be a motion for the previous question, which, being ordered by a majority of members present, if a quorum,

> shall have the effect to cut off all debate and bring the House to a direct vote upon the immediate question or questions on which it has been asked and ordered. The previous question may be asked and ordered upon a single motion, a series of motions allowable under the rules, or an amendment or amendments, or may be made to embrace all authorized motions or amendments and include the bill to its engrossment and third reading, and then, on renewal and second of said motion, to its passage or rejection. It shall be in order, pending the motion for or after the previous question shall have been ordered on its passage, for the Speaker to entertain and submit a motion to commit, with or without instructions, to a standing or select committee" (*CR*, January 6, 1880, p. 206).[18]

Thus, in 1880 the previous question became an all-purpose motion to end discussion on the House floor. It could be applied to any debatable motion, and to any bill or resolution.

The new rules of 1880 also created an interesting new motion with a familiar name. This post-previous-question motion to recommit is similar to the motion to refer discussed earlier, except that it is available only at the last moment, immediately before the House votes on whether to adopt or reject a bill. Since this motion (like the ordinary motion to refer) can have instructions attached, it allows the House one opportunity to fix a broken bill, and as such seems designed to improve the efficiency (or perhaps accuracy) of lawmaking.

1891: Motion to Recommit Forthwith

This motion to recommit became truly important in early 1891 when a lame duck congressman (with less than a week left in his term) offered a motion to recommit with a novel instruction that the committee "report forthwith" his amendment. While "Uncle Joe" Cannon had some power (even as he was on his way out), only one member of the House had the power to completely change the process like this: the

[18]With amendments in *CR*, February 11, 1880, pp. 830-831, and February 12, 1880, p. 850.

Speaker, at the time Thomas Reed, ruled that the motion was in order and, in response to questions from the floor, explained his understanding of the motion:

> The SPEAKER. The question now is on agreeing to the motion of the gentleman from Illinois [Mr. CANNON], to recommit with the instructions stated.
>
> Mr. SPRINGER. I wish to make a parliamentary inquiry. If the question should be decided in the affirmative, Mr. Speaker, will it not require a meeting of the Committee on Merchant Marine and Fisheries in order to report this bill back?
>
> The SPEAKER. The Chair will not undertake to answer positively that question without discussion; but there is a decision of one of his predecessors which points out what seems to the present occupant of the chair the true doctrine, though further discussion may change his opinion.
>
> Mr. BRECKINRIDGE, of Kentucky. What was that decision?
>
> The SPEAKER. That it would be the duty of the chairman of the committee to obey the order of the House and report the measure forthwith.
>
> Mr. SPRINGER. Without going to committee?
>
> The SPEAKER. To report forthwith.
>
> . . .
>
> Mr. FARQUHAR. Did I understand the Chair to decide that if this motion should be adopted the chairman of the Committee on Merchant Marine and Fisheries [Farquhar himself] can report immediately to the House?
>
> . . .
>
> Mr. CUTCHEON. He could not do anything else under the instructions. (*CR*, February 27, 1891, p. 3506)

A second important feature of Cannon's motion to recommit with instructions to report forthwith was that it would be immediately considered in the House without being subject to rule or point of order that might send it to the COWH, where it would

be subject to further amendment. After the House passed the motion, the chairman of the instructed committee, in accordance with Cannon's position, "immediately rose in his place and announced that, as chairman of that committee, he reported back the substitute bill as instructed by the House" (*Hinds*, §5545, p. 271).

Points of order were raised against almost every feature of Cannon's motion. Members objected to the fact that reporting "forthwith" meant that the committee would not meet, that it would not authorize its chairman to report, that there would be no written report, and that any changes ensuing in a bill should be reported first to the Committee of the Whole. Others pointed out that in a legal context "forthwith" means "within 24 hours," and that one should specify "instanter" to mean immediately (*CR*, February 27, 1891, pp. 3507-9).

Speaker Reed dismissed these objections.

> "The rules of the House provide that after a bill has been ordered to a third reading, that is, after it passes the amendment stage, then the House has an opportunity to look at the bill as amended, and if not satisfied with it, it has a right under the rules to recommit with specific instructions. That is only another method of reconsidering its action. . . . it might happen that an amendment was adopted by a majority composed of one set of members, and another amendment adopted by a majority composed of another set of members, and that the majority of the House would not be in favor of both amendments together.
>
> "It is to give opportunity to remedy this that the motion to recommit is permitted. Now, the form which that takes is a peremptory instruction on the part of the House to the committee to make that return, and it seems to the Chair, after consideration of the matter, that it would be adhering too much to technicalities to take the view entertained by the gentleman from Georgia [Mr. CRISP],[19] and it would seem to be more suitable that the chairman of the committee should promptly obey the orders of the House and follow its direction.

[19]Believing that the committee needs to actually meet (p. 3507).

> "The gentleman from Georgia is correct in saying that the chairman of the committee is the mouthpiece of the committee, but the committee itself is the agent of the House, and the House has a perfect right to order the committee to do its will in whatever fashion it sees fit" (*CR*, February 27, 1891, p. 3508).

Reed also argued that a successful motion to recommit should not go back to the COWH and should thus stand as the last amendatory stage:

> "The whole subject, within the purview of the rules, has been considered by the Committee of the Whole, and the functions of that committee have been performed. The Committee of the Whole has reported, and the result thus far is that the House has disagreed with the Committee of the Whole so pointedly, that it has substituted directly its own will for the will of the Committee of the Whole, and, after considering the bill, which had been ordered to a third reading, as amended, has directed the committee in charge of this matter to bring back to the House 'forthwith' another bill. It seems to the Chair that that is a plain, logical system for the transaction of business, and that it will justify itself thoroughly in actual practice in the House" (*CR*, February 27, 1891, p. 3509).

The Speaker rejected all points of order; the House sustained his rulings and ultimately passed the bill. Henceforth it has been in order, just prior to the vote on passage of a bill, to offer a motion to recommit with instructions to report an amendment forthwith. It was thus established as the final opportunity to alter a bill.

1909: A Minority Right

According to conventional wisdom, the new motion to recommit was another manifestation of the efforts by congressional Republicans to centralize agenda-setting in the House and to counter dilatory tactics on the part of the minority. For example, Speaker Cannon noted (in 1910)[20]

[20]Having been reelected in 1892.

> "The interjection of the motion to refer after the previous question is ordered is an anomalous proceeding, and in order only because of a special provision of the rules. The object of this provision was, as the Chair has always understood, that the motion should be made by one friendly to the bill, for the purpose of giving one more [chance] to perfect it, as perchance there might be some error that the House desired to correct" (*Cannon*, §2762, p. 393).

In 1909, Representative Dalzell summarized the state of practice as follows:

> "We all know that the motion to recommit, under existing practice, has been used not to secure recommittal, but to prevent recommittal. The custom has grown up to have a Member of the majority party move to recommit and then to have his colleagues vote the motion down" (*CR*, March 15, 1909, p. 31).

Representative Fitzgerald makes similar comments, concluding:

> "Under our practice the motion to recommit might better be eliminated from the rules altogether" (*CR*, March 15, 1909, p. 23).

While these contemporaries all described the value of the motion to recommit to the majority party, they also agreed on the original intent of the motion. Dalzell continued his summary by noting:

> "Now, that is, without any doubt, an infringement of the rights of parties who under the rules are understood and were intended to have the right to test the sense of the House on a motion to recommit. (*CR*, March 15, 1909, p. 31)

While the rules themselves and the 1880 debates do not seem to support Dalzell's claim, he may have been referring to Joe Cannon's comments in 1891. On the bill that led to Reed's ruling above, both George Fithian and Cannon wished to introduce substitutes (amendments) for the bill (Fithian's is at *CR*, February 27, 1891, p. 3501;

Cannon's at pp. 3504-5). However, only one substitute was permitted under the rules for that bill. Cannon withdrew his substitute noting "I will withdraw my objection, in the hope that I will be recognized to make a motion to recommit. I am opposed to the present bill" (p. 3500). Recent analysis supports Dalzell and Cannon's 1891 statement – Wolfensberger (2004) finds that both Republican and Democratic speakers were more likely to recognize minority- than majority-party members for offering motions to recommit prior to 1909.

After decades in which the majority party consolidated its power, under Speakers like Reed and Cannon, the minority party (and dissident members of the majority) were agitating for change. There are even reports that the public cared about the internal organization of the House, such as Brantley's statement that a "hue and cry that has gone out throughout the land against what is called 'Cannonism'" (*CR*, March 15, 1909, p. 29). Against this backdrop, the 61st House organized for business in mid-March, 1909.[21] Joseph Cannon, a Republican, was elected to his fourth term as Speaker, but 12 members of his party voted against him. With the House's Constitutional office filled, the next order of business was to adopt the rules of its proceedings – the standing rules. As per usual, the Republicans offered a resolution to adopt the rules of the 60th House and demanded the previous question. The previous question was called, after a 193-189 vote. The rules resolution itself failed, however, on a vote of 189-193. With no rules in place, the Democratic leader, Champ Clark, introduced a resolution that would more extensively rewrite the previous rules, including a provision to create a new Rules Committee (with six Democrats, five pro-Cannon Republicans, and four anti-Cannon Republicans) with the responsibility to completely rewrite the House rules over the summer. Clark then called for the previous question, blocking all amendments and almost all comments on his rules. This previous question motion failed on a vote of 180-203, with a large group of (minority) Democrats voting with Cannon and the Republicans.

With the failure of the previous question motion, the rules resolution was open for amendments. Fitzgerald, a pro-Cannon Democrat from New York, introduced

[21] See, for example, Jones (1987, 166).

a substitute (amendment) for Clark's rules. Fitzgerald's rules would keep almost all of the 60th House's rules, with two major exceptions: the legislative calendars would be modified so that bills could reach the floor easier and the post-previous-question motion to recommit would be guaranteed to a member opposed to the bill (via constraints on the Speaker and the Rules Committee). After extensive debate (including the quotes above), Fitzgerald's rules were adopted on a vote of 211 to 173. With these changes, the standing rules of the House provided the opposition with the last amendment to each and every bill.

> Rule XI: "The Committee on Rules shall not report any rule or order . . . which shall operate to prevent the motion to recommit being made as provided in paragraph 4 of Rule XVI.
>
> . . .
>
> Rule XVI.4: "After the previous question shall have been ordered on the passage of a bill or joint resolution one motion to recommit shall be in order, and the Speaker shall give preference in recognition for such purpose to a Member who is opposed to the bill or joint resolution" (*CR*, March 15, 1909, p. 22).

Evolution since 1909

The 1909 rule changes established that the post-previous-question motion to recommit is a protected privilege of the opposition, and quickly this was interpreted as a "right" of the minority party. As explained by Speaker Gillett in 1919, "a motion to recommit is intended to give the minority one chance to express fully their views so long as they are germane" (Quoted in *Roundtable*, 1992, p. 18). In 1992, Minority Leader Robert Michel described the motion to recommit as:

> "a motion to, in essence, offer [the Minority's] alternative to what the House has produced . . . it is both the first and last chance the Minority has to look at the Majority bill as passed by the Committee of the Whole, and to make recommendations for change" (*Roundtable*, 1992, pp. 87, 89).

Of course, the only thing protecting these rules is their tacit acceptance by the majority – as with all other rules of the House, a simple majority can change them. In 1934, Speaker Rainey ruled that the Rules Committee could write a special rule prohibiting all amendments (including amendatory motions to recommit) to particular sections of a bill. In the view that prevailed, the 1909 rules guaranteed only a "straight" motion to recommit (without instructions). This ruling was rarely used until the late 1970s, when the Rules Committee began limiting amendments more severely. Wolfensberger (1992) reports that complete prohibitions of motions to recommit with instructions appeared en masse in 1986,[22] prompting extensive debate in the decade that followed. By 1993, there had been at least eight more rulings by the Speaker supporting the Rules Committee,[23] and there had been a committee hearing on the issue (the *Roundtable Discussion on the Motion to Recommit*).

Oddly, while these decisions undermined the rule that protected motions to recommit (rule XI.4) other decisions were strengthening the motion to recommit itself (in rule XVI.4). In 1989, a (minority) Republican was allowed to offer a post-previous-question motion to commit the rules themselves, thus establishing that a post-previous-question motion to (re)commit exists in general parliamentary law.[24] This motion to commit was used against the rules at the beginning of every subsequent House (through 2005). In general, these are motions to commit the rules to a committee composed of the Majority and Minority Leaders, with amendatory instructions to report forthwith.

1995: Reestablishment of a Minority Right

After winning control of the House in the 1994 elections, the Republicans were offered their first chance in decades to amend the rules to their liking. The opening day of that Congress, January 4, 1995, featured a novel strategy for adopting the rules:

[22] In particular, seven special rules stated that the motion to recommit "may not contain instructions" (Wolfensberger, 1992, 32). One rule like this was used in 1981, but Wolfensberger identifies no others between 1977 and 1985.

[23] *108th House Rules*, §859, p. 631.

[24] *108th House Rules*, §60, p. 27, discussing Article I, section 5, of the Constitution. The Representative making the motion was Mickey Edwards (R-OK), *CR*, January 3, 1989, p. 81.

the House adopted a special rule that provided for structured debate followed by separate votes on each section of the rules. The new rules significantly strengthened rule XI.4(b), so that it read:

> "The Committee on Rules shall not report any rule or order . . . which would prevent the motion to recommit from being made as provided in clause 4 of rule XVI, including a motion to recommit with instructions to report back an amendment otherwise in order" (*105th House Rules*, Rule XI.4(b), p. 520).

That is, except for amendments prohibited by the standing rules of the House (see next section), any amendatory motion to recommit with instructions is in order.

The House has made one subsequent change to the rules, as part of a recodification for the 106th House in 1999. The rules on the previous question and the motion to recommit were renumbered and now are as follows.

> Rule XIII.6(c)(2): "The Committee on Rules may not report . . . a rule or order that would prevent the motion to recommit a bill or joint resolution from being made as provided in clause 2(b) of rule XIX, including a motion to recommit with instructions to report back an amendment otherwise in order, if offered by the Minority Leader or a designee." (*108th House Rules*, §857, pp. 627-628).
>
> Rule XIX.1(a): "There shall be a motion for the previous question, which, being ordered, shall have the effect of cutting off all debate and bringing the House to a direct vote on the immediate question or questions on which it has been ordered. . . . The previous question may be moved and ordered on a single question, on a series of questions allowable under the rules, or on an amendment or amendments, or may embrace all authorized motions or amendments and include the bill or resolution to its passage, adoption, or rejection" (§994, pp. 773-774).
>
> Rule XIX.2(a): "After the previous question has been ordered on passage or adoption of a measure, or pending a motion to that end, it shall

> be in order to move that the House recommit (or commit, as the case may be) the measure, with or without instructions, to a standing or select committee. For such a motion to recommit, the Speaker shall give preference in recognition to a Member, Delegate, or Resident Commissioner who is opposed to the measure" (§1001, pp. 777-778).

1.4 Motion to Amend

The motion for the previous question has importance mainly in that it ends the amending process. Once the previous question motion has passed, the House is faced with a simple choice among two alternatives: adopt the bill as it stands or reject it and do nothing. Amendments are thus important in that they shape the final bill, affecting policy in a direct manner. The first House, following the Continental Congress, placed only one restriction on the motion to amend:

> "No new motion or proposition shall be admitted, under color of amendment, as a substitute for the motion or proposition under debate" (*Journal*, 1st Session, 1st Congress, April 7, 1789, p. 10).

Hinds argues that this restriction was adopted by the Continental Congress for "germaneness," requiring that amendments address the topic currently under discussion.[25]

By the 10th Congress, this rule was interpreted as prohibiting "amendments in the nature of a substitute." That is, the rule prohibited amendments that proposed to replace the entire text of a bill (or amendment) with new text. Thus, the early Houses permitted only partial amendments.

It appears that these Houses permitted arbitrary-degree amendments, not just amendments to bills and (second-order) amendments to those amendments. However, when the House incorporated Jefferson's *Manual* into its rules, the depth of amendments was restricted so that only first- and second-order amendments were allowed.

[25] *Hinds*, §5753, p. 381.

> "if an amendment be moved to an amendment, it is admitted; but it would not be admitted in another degree, to wit, to amend an amendment to an amendment of a main question. This would lead to too much embarrassment. The line must be drawn somewhere, and usage has drawn it after the amendment to the amendment" (*Manual*, Section XXXIII, in *108th House Rules*, §454, p. 237).

Jefferson's *Manual* provided another restriction on amendments, although the text there is generally inscrutable. Hinds has a clear statement of the principle, however.

> "It is not in order to amend an amendment that has been agreed to" (*Hinds*, §5763, p. 386).

Note carefully that this principle, on its own, prohibits Black's (1958) "ordinary committee procedure" for choosing among amendments. That form of agenda, where two choices are compared, the winner is compared to a third, and so on, has generally been assumed by political scientists, as described in Chapter I.[26]

The House chose to remove the prohibition on substitute amendments in 1822, leaving just the "germaneness" portions of the rule from the first House:

> "No motion or proposition on a subject different from that under consideration, shall be admitted under color of amendment" (*Journal*, 1st Session, 17th Congress, March 13, 1822, p. 351).

This established a quite reasonable procedure for considering bills: a bill is perfected by a series of amendments one at a time, where each has been perfected by a series of second-order amendments (considered one at a time).

By 1850, however, this system had evolved to the much more complicated modern system. This system was codified in 1880 (along with many other rules changes), and has survived into current usage. Many sources attempt to explain this process,

[26]Black's procedure does seem applicable when comparing amendments of different degree, but faced with two overlapping amendments of the same degree the House will first vote on whether to take the first amendment or the bill, and then will vote on the second amendment *only if* the first amendment loses. This is a variety of "sequential" or "sequential elimination" agenda, as described by Ordeshook and Schwartz (1987, 182) or Miller (1995, 18).

including Ordeshook and Schwartz (1987), Miller (1995), and Brown and Johnson (2003). Beginning with a bill under consideration, the process proceeds as follows. Up to four motions can be under consideration at one time (only one of each type).

- A motion to amend the bill (possibly replacing the entire bill "in the nature of a substitute").
- A motion to amend the amendment, as a second-order amendment.
- A motion to substitute an amendment for the amendment, where the substitute amendment is germane to the amendment but replaces it in its entirety (and thus is a first-order amendment).
- A motion to amend the substitute amendment, as a second-order amendment.

The House then proceeds to sort through these motions as follows and as depicted in Figure II.1.[27]

1. The amendment is perfected, by considering amendments to the amendment one at a time until no more are offered.
2. The substitute is perfected, by considering amendments to the substitute one at a time until no more are offered.
3. The House votes on whether to accept the perfected substitute or retain the perfected amendment. If the substitute fails, then another may be offered (and perfected).
4. Once a substitute is accepted or the substitutes are exhausted, the House votes on whether to adopt the resulting amendment or retain the bill.

[27]Weingast (1992, 154-155) discusses the 1983 Nuclear Freeze Resolution, which completely filled the amendment tree, with Levitas proposing an amendment and Solarz proposing to amend the amendment (which was rejected). Dicks then proposed a substitute, Hyde proposed to amend the substitute, and Dicks (again) proposed to amend the amendment. As per the rules, the Dicks amendment to the amendment was voted on (adopted), then the Hyde amendment to the substitute was voted on (adopted), then the amended substitute was voted on (adopted), and finally the substituted amendment was voted on (adopted by voice vote).

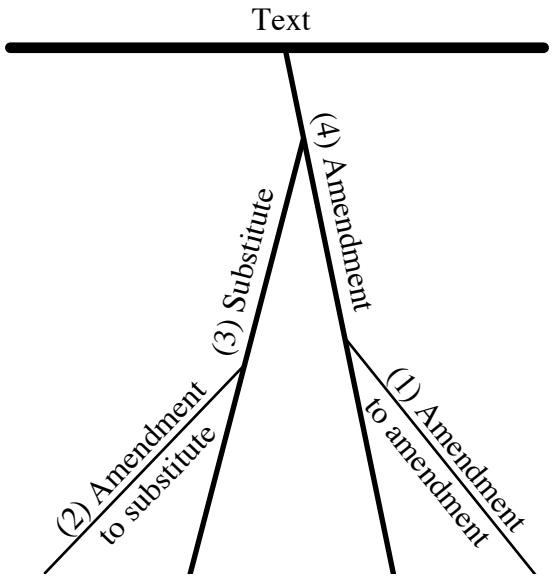

Figure II.1: Stylized House amendment tree, with votes occurring in numeric order. Adapted from Brown and Johnson (2003, 27).

Then, additional (non-overlapping) amendments can be proposed, one at a time, and considered through this process.

The Committee of the Whole House (COWH) uses the same procedure, save that at the end it is voting on whether to report the resulting amendment (and then the House must vote on whether to adopt the COWH amendment).

A second-order amendment must be germane to the first-order amendment that it amends, the substitute must be germane to the amendment, and the amendment must be germane to the bill. In addition, all of these amendments need to satisfy all other provisions of the House rules (such as the strict separation between appropriations bills and legislative bills).

1.5 Motion to Reconsider

The House provides another motion that is relevant to the discussion. After a vote has occurred, a member on the *winning* side may move to reconsider the vote. If a majority of the House agrees, then the vote will be held again. If every member votes accurately with perfect knowledge of the consequences, it seems that this motion is pointless. However, it does provide an opportunity for any majority of the House

to overturn a vote which went against them. The two-vote structure for COWH amendments serves a similar purpose, providing the House with the ability to reverse the outcome of a vote in the COWH. On occasion the House will vote against a COWH amendment, usually when the amendment was adopted late at night and thus some members may have been absent.[28]

1.6 Summary

The standing rules of the House evolved over the first century of Congress to provide reasonable opportunities to consider and amend bills, while first creating and then prohibiting a variety of dilatory tactics. The rules now provide a wide variety of amendment opportunities, a carefully-crafted mechanism to end debate and to bring the bill to a vote, and even one final amendment opportunity before the House adopts a bill. Further, while the rules do not require it, the Speaker (or Chairman of COWH) usually alternates recognition on amendments and debate, providing for ample opportunities for members of both the majority and minority parties to propose amendments.

[28]For example, in July 1995 the House was considering HR 2099. Stokes (D-OH) proposed an amendment to remove several riders that prohibited the EPA from enforcing the Clean Air and Water Acts. On Friday the 28th (at about 1:30 p.m.), the COWH voted 212-206 (roll call 599) to adopt the amendment. On Monday the 31st (at about 8:30 p.m.), the House voted 210-210 (roll call 605), rejecting the amendment. The major difference in the votes was that nine members who voted "Yea" on Friday did not vote on Monday. (The Friday non-voters were evenly split on Monday, two legislators changed their votes from No to Yea, and one changed from Yea to No.) Most Republicans voted against the amendment, so this would have been another majority-party roll if the COWH vote had stood.

2 Procedures other than the Standing Rules

The standing rules of the House discuss two other issues of importance for this discussion: how bills come to be considered on the floor and how to override the standing rules. The standing rules establish several calendars, or lists, of bills that are awaiting consideration. As part of the usual order of business, the House will consider the first bill on a calendar before proceeding to the next. The standing rules also permit certain committees the privilege to report certain bills to the House in a manner where they will be considered before all other bills on the calendar. The major committees with the privilege (on their usual bills) are Appropriations, Budget, and Rules. In the modern House there are also several ways around this process, overriding the standing rules by unanimous consent, suspension of the rules, or a special order (or special rule).

The motion to suspend or change the rules explicitly exists from 1794, when the rules could be "rescinded" on one day's notice, with a simple majority vote.[29] In 1822 the threshold for suspension was raised to two-thirds of Members present, and the motion was apparently used either to permanently change the rules or for delay, rather than to call up bills out of the usual order.[30]

Hinds notes that by the 1830s the House was dealing with so much business that the standing rules for the order of consideration had to be made rigid.[31] This inflexibility occasionally interfered with the consideration of an important bill, and so something had to be done. The House began to use "special orders," adopted either by unanimous consent or under suspension of the rules, to bring important bills to the floor out of order.[32] Hinds provides examples from 1832, 1834, and 1836 where

[29]See *Hinds*, §6790, p. 902.

[30]This is inferred from various comments in *Hinds*, §6790, including the discussions on p. 903 about how rules were changed before the Rules Committee and n. 5 on p. 902 about delaying the consideration of bills by extending the morning business.

[31]See, for example, *Hinds*, §3155, p. 193 (especially n. 5) and §6820, p. 915 (especially n. 5).

[32]Unanimous consent still is not completely enshrined in the rules, but it presumably has existed from the earliest days of Congress. A member might ask unanimous consent to do something against the rules, and if no one objects then everything is fine, if only because no one points out that it is against the rules. Unanimous consent and suspension of the rules are different in that unanimous consent can be granted only by the entire House, but at essentially any time, while suspension requires only two-thirds of the House to approve, but (at this time) requires advance notice.

the House agreed that a particular bill would be the afternoon business every day until it was completed.[33] By 1836, special orders were being used frequently, with several dozen bills being considered in this manner.[34]

A special order is the most important tool that the House has to control its schedule, because it allows the House to consider any bill in any calendar without having to deal with all of the other bills first. With unanimous consent the House could consider any bill at any time, but only if no one objected. Using suspension the House could consider bills over some objections, but, as established in 1847, only on particular days. Thus the House had its modern schedule management tools by 1880, but it still had not created the truly powerful tools for controlling the amendment process that dominate the modern House.

The most used limitation on the amendment process, the "motion to suspend the rules and pass" a bill, was established in 1868.[35] Hinds notes that this "established the practice which now [1907] prevails almost entirely, of combining the motion to suspend the rules with the motion to pass the bill" (*Hinds*, §6846, p. 925, n. 2). Such a motion prevents all amendments to the bill and permits only 40 minutes of debate, followed by a vote (requiring a two-thirds majority) to suspend the rules and pass the bill. These motions still dominate the House, with several hundred bills so passing in each Congress.[36]

At roughly the same time the Rules Committee was given the privilege to report resolutions (relating to rules) at any time.[37] Initially, since these resolutions changed

[33] *Hinds*, §3155-3157, pp. 193-194.

[34] *Hinds*, §3158, p. 194, who points to *Journal*, 1st Session, 24th Congress, p. 1347 (the entry for "Order of business, special arrangement of" in the index). There are 54 separate pages cited.

[35] As part of the impeachment of President Andrew Johnson, a member moved to suspend the rules and adopt a just-introduced resolution. The motion was adopted and the resolution became effective, providing a special order for the consideration of impeachment. *Journal*, 2nd Session, 40th Congress, February 25, 1868, pp. 407-408.

[36] For example, Oleszek (2004, 117), Table 4-2.

[37] This history is particularly complicated. It appears that the "Select Committee on Rules" was created and given this power at the beginning of most, if not all, Congresses from the 1850s through 1880. See *Hinds*, §4650, p. 967, and §4321, p. 835, n. 1. In the 1880 rules revision the committee became a standing (permanent) committee, although privilege was still granted term-by-term (see, for example, Speaker Keifer's comments in *Hinds*, §3160, p. 195). By 1889 this privilege was considered "the uniform practice of the House" (*Hinds*, §4622, p. 952, n. 5). In 1891 the privilege to report at any time was made permanent (*Hinds*, §4321, p. 835).

the rules, a two-thirds majority was required to adopt a special order from the Rules Committee. However, in 1883 the Rules Committee reported a resolution that would permit the House to suspend the rules and consider a particular bill by majority vote. After a point of order was raised, Speaker Keifer issued a rambling ruling, including:

> "a rule might have been reported from the committee, and properly, which would suspend or repeal or annul or set aside every rule of this House, standing or special; and if the House so decided to affirm that report by a majority vote it could do so" (Quoted in *Hinds*, §3160, p. 195).

Twenty years later, in 1902, Speaker Henderson made a slightly more explicit ruling to a similar point of order:

> "The question has been fought out again and again, and is well settled that the Committee on Rules can bring in a rule providing for order of business in the [House]. ... There have been many decisions that a rule from the Committee on Rules which fixes the order of business with the approval of the House does not require a two-thirds vote" (Quoted in *Hinds*, §3169, p. 198).

Thus by the early 1900s it was firmly established that the Rules Committee could offer a special order that would require the approval of only a simple majority of the House.

The remaining piece of the amendment-control structures of the House is the "special rule," which not only brings a bill under consideration but limits what amendments can be offered. Aside from motions to suspend the rules and pass (which prohibit all amendments), special rules appear to have emerged in the 1880s. The 1883 example referenced above (with Keifer's ruling) appears to be a "closed" rule, prohibiting all amendments.[38] In 1889 the House considered a "modified closed" rule,

[38] *Hinds*, §3160, pp. 194-5.

providing for only two amendments,[39] and in 1893 the House considered a "structured" rule, providing for six amendments to be considered in a particular order.[40]

Thus, by the late 1800s all of the modern facilities for considering bills were in use. This includes, in particular, five methods for bringing a bill to the floor and three major categories of special rules.[41]

Unanimous Consent All members of the House choose to set aside all rules and immediately pass the bill as it stands.

Suspension of the Rules Two-thirds of the House choose to set aside all rules and pass the bill (after some debate).

Privileged Matter A few committees, such as Appropriations, have the authority to report bills to the House directly. These bills are considered quickly under the standing rules of the House.

Special Rule The Rules Committee can write a "special rule" for any bill (adopted by a simple majority) that sets aside some rules of the House and provides for consideration of a bill. Most special rules are open (allowing most amendments), "structured" (allowing only specified amendments), or closed (allowing no amendments).

Calendars If no one looks favorably on a bill, it can still come before the House off of several legislative calendars, to be considered under the standing rules of the House. Of course, calendar bills have very low priority and are almost never considered.

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[39] *Hinds*, §3210, p. 216.

[40] *Hinds*, §3204, p. 213. See Chapter III for details on this rule for considering a "free silver" bill.

[41] The House is regularly developing novel special rules for considering bills, but most fall into the major categories. See the "Survey of Activities of the House Committee on Rules" from any recent Congress. For example, the (minority) "Additional Views" section for the 104th House (*104th Survey*, pp. 139-179) describes several inventive rules from 1995-6, including a new interpretation of time caps and the "most-votes-wins" procedure.

Unanimous Consent	29%
Suspension of the Rules	38%
Privileged Matter	21%
Special Rule	8%
Private Calendar	3%
Consent Calendar	1%
D.C. Calendar	0%

Table II.1: Methods for considering bills, 1983-1994, from Cox, Den Hartog, and McCubbins 2004, Figure 1.

2.1 Floor Consideration in the Modern House

Developing a theoretical model of the House rules for floor consideration, as spelled out above, may seem like a reasonable approach to understanding the balance of power in the House. However, a detailed analysis of how the House actually considers bills will reveal which rules are actually used in the modern House, potentially permitting a simpler model, without the unused rules.[42]

Cox, Den Hartog, and McCubbins (2004, Figure 1, citing Oleszek 1996) classify bills based on how they reach the floor, for the last six Democratic Congresses (1983-1994), as reported in Table II.1. They find that most bills are considered using supermajority methods that prohibit amendments (namely, unanimous consent and suspension). The remaining bills tend to either be privileged matter or have a special rule.

2.2 Usage of Special Rules

Continuing this analysis to the recent Republican House reveals a subtle problem, however.[43] The 104th Congress considered over 6500 bills and the 106th considered nearly 9000. Due to this sheer number of bills, some method of identifying "impor-

[42]It is important to note that this approach may miss a parliamentary motion that is usually threatened, but rarely used because bills are changed in anticipation of the motion. (See Cameron's anticipation model of vetoes, 2000, 84-86.) An examination of the debates surrounding each bill (and rule) should identify any on-the-record threats, minimizing this risk.

[43]This section focuses on two similar Houses, the 104th (1995-1996) and 106th (1999-2000). Both were elected in non-presidential elections; both had Republican majorities (about 230-200 in the 104th and 220-210 in the 106th) and first-term Speakers (Gingrich and Hastert); and both were facing President Clinton and a comfortably Republican Senate (around 55-45).

How CQ Picks Key Votes

Since 1945, Congressional Quarterly has selected a series of key votes on major issues of the year.

An issue is judged by the extent to which it represents:

- A matter of major controversy.
- A matter of presidential or political power.
- A matter of potentially great impact on the nation and lives of Americans.

For each group of related votes on an issue, one key vote usually is chosen – one that, in the opinion of CQ editors, was most important in determining the outcome.

Figure II.2: Definition of a key vote, *CQ Almanac*, 1995 p. C-36.

tant" bills is needed in order to perform a detailed analysis of the actual procedures used in the House. "Bills that become law" fail as being both too inclusive and too exclusive.[44] However, each year *Congressional Quarterly* picks a few dozen roll call votes as "key votes" that they feel are important. They describe the process each year with a summary in their *Almanac*, as in Figure II.2.

There were 64 key votes during the 104th Congress (1995-6) and 50 during the 106th (1999-2000). These votes are associated with 47 different bills (41 not directly related) in the 104th, and 44 different bills (38) in the 106th. Table II.2 presents the distribution of key votes to types of bills for these two Republican Houses.

The bills and joint resolutions become law if agreed to (in identical form) by both the House and Senate and signed by the President.[45] As part of this agreeing process, two (or more) bills are sometimes combined into one. Considering key vote bills that were brought together in the legislative process leads to a list of 34 items that reached the floor of the 104th House and another 34 for the 106th House. The

[44]333 bills became law in the 104th Congress and 580 in the 106th. However, there was little doubt that some of these bills were destined to become law. For example, Public Law 104-3, allowing Korean War veterans to join the Veterans of Foreign Wars, passed both the Senate and House by unanimous consent. On the other hand, some important and controversial bills did not become law.

[45]Concurrent Resolutions require both houses, but not the President to be effective. A House Resolution requires only the House to approve, but has no effect outside the House (these are usually used to provide special rules).

		104th	106th
House of Representatives Bill	HR	26	26
House Joint Resolution	HJR	3	0
House Concurrent Resolution	HCR	0	1
House Resolution	HRes	1	0
Senate Bill	S	14	14
Senate Joint Resolution	SJR	1	0
Senate Concurrent Resolution	SCR	1	1
Senate-Only Matter[1]		1	2

[1] Nominations, treaties, and impeachment trials.

Table II.2: Classification of bills directly involved in key votes.

	104th	106th
Became Law	17	15
Vetoed (not overridden)	7	5
Died in Conference Committee	0	3
Died in Senate (after House)	7	10
Died on House Floor	1	0
Resolution adopted	2	1
Died in House before Floor	1	1
Died in Senate (before House)	5	1
Senate-Only Matter	1	2

Table II.3: Final outcomes of key vote bills. (Those above the line were considered by the House and will be considered further here.)

ultimate outcomes of these bills are summarized in Table II.3.

For each of the issues that reached the House floor, legislative histories were consulted in order to identify its first consideration by the House, as reported in the appendix to this chapter (in Tables II.9 and II.10). With one exception in each Congress, the House considered a House (as opposed to Senate) measure on each issue. Even if the House measure was created by simply re-labeling a bill passed by the Senate, there was a distinct point when the bill was reported by a House committee for consideration on the floor. At that time, the House Rules Committee generally wrote a "special rule" (in the form of a House Resolution) providing for expedited consideration of the bill. These special rules and subsequent floor activity form the basis for the analysis in this section. The rules used are summarized in Table II.4.

The House Committee on Rules publishes a biannual *Survey of Activities* that

	All Bills		KV Bills	
	104th	106th	104th	106th
Suspension of the Rules	401	893	2	3
Open	80	93	7	5
Open Rule & UC Time Cap	n/a	n/a	1	0
Open Rule & UC Structured	n/a	n/a	1	2
Structured	43	52	21	17
Closed	22	39	2	7

Table II.4: Special rules used to consider key vote bills. ("All Bills" data from Oleszek (2004), *104th Survey*, and *106th Survey*.)

describes the major categories of rules:[46]

Open Rule These allow any member to offer any amendment that would be in order under the standing rules of the House (e.g., germane amendments). These may be modified with either a time cap, limiting the total time available for consideration of amendments, or a preprinting requirement that amendments be printed in the *Congressional Record* before being offered.

Structured These rules state that only amendments printed in the associated Rules Committee report are in order, and only in the order listed.[47]

Closed These rules prohibit all amendments to the bill. Sometimes this is done explicitly, but other times the rule states that the bill is considered in the House with the previous question already ordered (hence blocking all motions).

In addition, many rules provide for special treatment of committee amendments (and other amendments chosen by the Rules Committee), such as being considered as "original text" (so they can be amended further) or being automatically considered as adopted. Many rules also waive various rules of the House, blocking many points

[46]The House can also provide for expedited consideration without using the Rules Committee. By 2/3-majority vote, the House can choose to immediately consider a bill, without any amendments, on selected days, with a motion to "suspend the rules." By unanimous consent, the House can choose any special order, even overriding an existing special rule. But see Brown and Johnson (2003, 865-867, 889-890) discussing modifying special orders and limiting unanimous consent requests.

[47]The Rules Committee defines "modified closed" rules as those that provide for only one or two amendments, while "structured" rules provide for more, although the terminology is often mixed in academic literature. Throughout this section, "structured" will be used to include both those rules with few amendments and those with many.

	94th	95th	96th	97th	98th	99th	104th	106th
Open Rule	63.6	70.6	52.0	23.5	31.8	13.6	21.9	19.3%
Restrictive	31.8	23.5	40.0	64.7	63.6	72.7	71.9	58.0%
Closed Rule	4.5	5.9	8.0	11.8	4.5	13.6	6.3	22.6%

Table II.5: Types of special rules used for key vote bills (adapted from Bach and Smith 1988, 57, Table 3-3).

of order during consideration of budget and appropriations bills.[48] Note that there are four instances in this data where the House adopted an open rule for a key vote bill, but then later adopted a more restrictive special order by unanimous consent.

From Table II.4, it is readily apparent that the important key vote bills were much better protected from amendment than typical bills. Further, few key vote bills passed under suspension of the rules. Many bills with structured rules were key vote bills, but few bills considered under any other type of rule were as important.

Bach and Smith (1988) also examine bills that received key votes, presenting the frequency of special rules for these bills in their Table 3-3.[49] Table II.5 adds the 104th and 106th Houses to their table. It appears that these Congresses are comparable to the early 1980s Congresses (97th-99th), but not to those of the late 1970s.

It is perhaps of interest to note how rules relate to the final disposition of key vote bills. Table II.6 categorizes the regular bills which eventually were associated with a key vote.[50] It appears that open rule bills may be more likely to become law, especially in the 106th House, but sample sizes are too small to find statistical significance.

[48]Neither of these details is considered further here, but these features do generally have the effect of increasing the power of the majority party and the Rules Committee.

[49]It appears that their definition of a key vote bill differs slightly from that used here. From a brief examination of the 99th Congress, it appears that they include only bills which had a CQ key vote in the House, while this section examines those items, plus those that had a key vote in the Senate (where a connected bill could be identified in the House). Thus, they include roughly 20 bills per Congress, while this section uses 34 in each.

[50]Four issues in the 104th and one in the 106th were not potential laws; instead they would become effective in other manners. Two of the House Joint Resolutions were Constitutional amendments; one missed the 2/3 threshold in the House and the other missed 2/3 in the Senate. One Concurrent Resolution and one House Resolution were adopted (becoming effective without requiring the President's signature). All four were considered under structured rules. In addition, one Concurrent Resolution in the 106th was adopted (using a structured rule). (The remaining Concurrent Resolution in that House shared a rule with a House bill, and is included in Table II.6.)

	104th		106th	
	Law	Fail	Law	Fail
Suspension	2	0	1	2
Open Rule	5	3	5	0
Structured	9	9	7	11
Closed Rule	1	1	2	5

Table II.6: Outcome versus special rule for key vote bills.

2.3 Amendment Structure

For each of the key vote bills described above, the debate in the *Congressional Record*, the special rule, and the report of the Rules Committee were consulted to identify all offered amendments, including their contents, offeror, and ultimate resolution. Some of this data is summarized in the appendix to this chapter (in Tables II.9 and II.10).

Examining the amendments made in order (and those offered) on key vote bills, it appears that a typical bill is effectively considered under a "sequential-elimination agenda" as defined by Ordeshook and Schwartz (1987). That is, each amendment is completely resolved before another can be proposed. Further, once an amendment is agreed to it stays in place. While many amendments are typically offered to each bill, it is rare that they overlap in content. There were very few second-order or substitute amendments, and even those amendment trees remained fairly simple.

The most complicated example of interrelated amendments occurred in the 104th House on HR 925 (which was later incorporated into HR 9). The modified open rule provided that the first amendment to be considered was an amendment in the nature of a substitute (i.e., a replacement bill) by Canady providing, among other things, a limit on regulatory "takings" of 10% of the value of the protected part of a property. Goss offered a second-order amendment (to change that to 30% of the value of the entire property), which was barely rejected (210-211). Mineta proposed a limit of 20% of the total value, which was handily rejected (165-260). Finally, after extensive discussion, Goss proposed a limit of 20% of the protected part, which was overwhelmingly agreed to (338-83).[51] Canady's substitute was the first-order

[51]The amended version of Canady's amendment was then adopted by voice vote in both the COWH and the House.

amendment to the bill, so everything else was a second-order amendment. Since third-order amendments are never in order in the House, this means that even this complicated amendment tree looks largely like a sequential-elimination agenda.

2.4 Failures of Majority Power

The previous sections reveal that the House truly is a majoritarian institution, where a simple majority should be able to do what it wishes. However, there is a natural majority (the larger party) who controls rule-making through both the Speaker of the House and a disproportionate share on the Rules Committee. As Dennis Hastert, Speaker of the House in the 106th Congress, has explained

> "Unlike some other parliamentary bodies, the Speaker in the U.S. House of Representatives is the leader of his party. He is not merely a disinterested arbiter of parliamentary rules. ... But while we strive to be fair, we also strive to get the job done. We are not the Senate. The rules of the House, while they protect the rights of the minority, also insure that the will of the majority of the House will prevail. ... The job of Speaker is not to expedite legislation that runs counter to the wishes of the majority of his majority" (Speaker Hastert in *The Changing Nature of the Speakership*, pp. 61-62).

Hastert proceeds to provide an anecdote of how he has used his scheduling and rule-making powers,[52] justifying it by explaining that he had two points to prove:

> "First, I wanted my troops to know I opposed the bill. Second, I wanted to let them know that I had no choice but to schedule the legislation. I was not going to abandon my party's position under any circumstances." (*Speakership*, p. 62)

[52] As Hastert explains it, a coalition of (minority) Democrats and some Republicans were forced to go through the nearly-impossible committee discharge process twice to bring a campaign finance reform bill to the floor. See *Speakership*, p. 62. He also makes an oblique reference to holding roll call votes open (beyond their usual 15 minutes, which the Speaker can do unilaterally) while the Republican leadership convinced members to vote with the party.

The history of the key vote bills can be used to examine how often the Speaker fails to protect his party.

Since a roll call vote associates a "yea" or "nay" with every member of the House, it is possible to identify the amendments and bills where most of the (majority) Republicans voted against the issue, but it passed anyway. These events, often called "majority rolls," reveal times when the Speaker and the rules of the House failed to protect the majority party. The majority is not rolled on every bill, but they lost 22 votes (on 16 of the 68 key vote bills), including losing the final passage votes on five. Twelve of the bills were considered under structured or closed rules, so the Rules Committee and House explicitly permitted the amendment (or bill) that rolled the majority.

A review of the issues covered by the majority rolls includes a number of politically divisive issues, as summarized in Table II.7. Half of the bills became law and another three passed both the House and Senate, so there is significant potential for these issues to actually change policy.[53]

Voting Patterns on Majority Rolls

These majority roll votes can be used to construct a "loyalty" score based on how often a particular representative voted with Democrats and against the Republicans. Meaningful scores can be developed for most members, save for the Speaker and a few members who missed many votes.[54]

The loyalty scores are distributed as reported in Figures II.3 and II.4.[55] A score of

[53]It is possible that some of these amendments were removed even on the bills that became law. A parallel model to Van Houweling (2003) could have the Republicans being rolled in the House yet removing the amendment in the conference committee (where the action is less visible).

[54]For the 104th, the representatives who missed half of the majority roll votes were Campbell (R-CA), Millender-McDonald (D-CA), Reynolds (D-IL), Jackson (D-IL), and Cummings (D-MD). For the 106th, they were George Brown (D-CA), Livingston (R-LA), and Vento (D-MN). All of these representatives served only partial terms. In addition, Speaker Gingrich (104th) never voted on these issues. Speaker Hastert (106th) voted on five of the majority roll votes, including voting with the Democrats on the amendment to HR 1401, the Yugoslavia peacekeeping vote.

[55]Independents and party-switchers are not included in these Figures. The independent member is Sanders (I-VT) (with scores of 10 in the 104th and 8 in the 106th). The party-switchers in the 104th are Deal (D/R-GA), Tauzin (D/R-LA), Hayes (D/R-LA), Parker (D/R-MS), and Laughlin (D/R-TX), all switching from Democrats to Republicans. In the 106th the party-switchers are Forbes

Majority Rolls in the 104th House

Bill	\$5.15 minimum wage (HR 1227)
Amend	TV station ownership limits
Amend	Require V-chip in TVs
Amend	\$5.15 minimum wage
Amend	Remove new immigration restrictions
Amend	Require Cong. hearings before funding tritium production
Amend	Reduce forces in Europe unless NATO contributes
Amend	Allow product liability suits against foreign manufacturers
Amend	Lower teenage drunk driving limits (tie to highway funds)
Amend	Restore a Clean Water Act program

Majority Rolls in the 106th House

Bill	Campaign finance reform (HR 417)
Bill	Steel import limits (HR 975)
Bill	\$6.15 minimum wage (HR 3846)
Bill	HMO reform (HR 2723)
Amend	Allow Defense funds to be spent on Yugoslavia peacekeeping
Amend	Reduce funding for Amtrak Reform Council by 40%
Amend	\$6.15 minimum wage
Amend	Give Vieques Island to Puerto Rico
Amend	Protect funds for new National Monuments
Amend	\$20M for National Endowments for Arts and Humanities
Amend	\$155M for international debt relief
Amend	\$42M for AIDS research

Table II.7: Majority-party rolls on key vote bills.

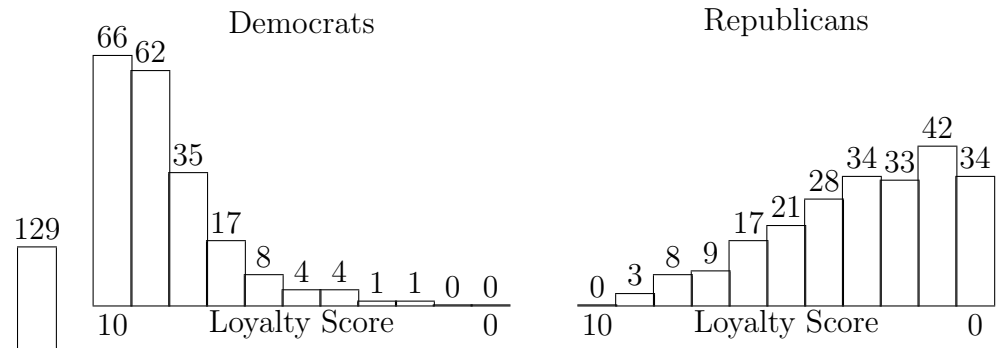

Figure II.3: Distribution of loyalty scores, by party, 104th House.

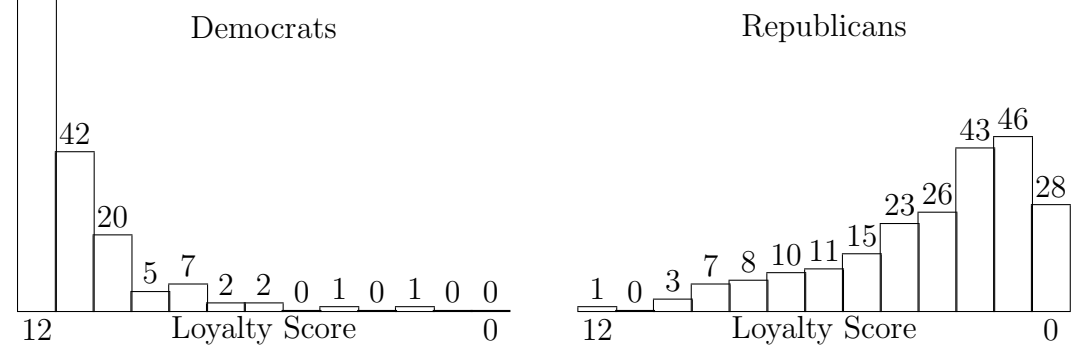

Figure II.4: Distribution of loyalty scores, by party, 106th House.

0 means that the Representative always voted with the Republicans on the majority roll votes. A high score indicates many votes with the Democrats on these votes. The maximum possible score is 10 in the 104th and 12 in the 106th.[56]

Note that the modal Republican defects from the party once, while the modal Democrat never defects. More importantly, the median Republican defects three times in the 104th or two times in the 106th. The median Democrat defects once in the 104th and never in the 106th. Although party asymmetries cannot be considered significant,[57] it appears that discipline among the Democrats is much stronger during the 106th Congress than during the 104th. This occurs despite the increase in size

(R/D-NY, score 6) and Goode (D/I-VA, score 0). This does not include Martinez (D/R-CA), who switched after all majority roll votes in the 106th Congress. Martinez is listed with the Democrats and has a fairly-loyal score of 9.

[56]The outliers are as follows. In the 104th House: Republicans with 9 are Morella (R-MD), Boehlert (R-NY), and Forbes (R-NY); Democrat with 2 is Hall (D-TX); Democrat with 3 is Stenholm (D-TX). In the 106th House: Republican with 12 is Boehlert (R-NY); Republicans with 10 are Morella (R-MD), Kelly (R-NY), and Gilman (R-NY); Democrat with 2 is Hall (D-TX); Democrat with 4 is Pickett (D-VA).

[57]Since the selected votes were majority-party rolls, one must expect that Republicans will appear to be less loyal than Democrats.

of the minority by ten, which decreases the number of (net) defectors required to roll the Republicans.[58]

The pattern of loyalty among Republicans is surprisingly similar for both Congresses. Over 85% of Republicans vote against the party at least once, but fewer than 10% defect on more than six of the majority roll votes. It should be noted, however, that the distribution of Republican loyalty cannot be derived from a one-dimensional model, where moderate Republicans are the first to defect. There is not a large core group of Republicans who defect on most votes. Further, it seems unlikely that even a two-dimensional model will adequately explain the diverse groups that are defecting. For example, consider the votes on the four bills in the 106th House where the Republicans were rolled. Every possible combination of votes on these bills was cast by some Republican, as noted in Table II.8. This likely requires that the Republicans' preferences differ on at least three dimensions, more than are usually used to explain Congressional behavior.[59]

The "Hastert doctrine," as named by the *New York Times*,[60] requires that the Speaker protect the majority of the majority party over all others in the House. In the 106th House, however, a majority of the Republicans did vote against several bills and amendments only to be defeated – a clear violation of the doctrine. Newt Gingrich, four years earlier, protected the Republicans from most Democratic bills, but the party was still rolled on a number of amendments. To this extent, it appears that the Hastert doctrine was not in effect in the late 1990s.

Further, the bills and amendments that split the Republicans did so very deeply. These losses were not a simple matter of a few moderates working with the Democrats. Over 85% of Republicans voted to defeat the party at some point, including Hastert, Tom DeLay, and Dick Armey. In addition, in most cases, almost all Republicans

[58] However, Aldrich (1995, 213) argues that parties that are closer to minimal-winning size will be more cohesive, as "there is increasing potential for the intralegislative rules of the party to achieve something that [members] alone would not obtain."

[59] E.g., Poole and Rosenthal (1997) and most anyone who uses NOMINATE or other ideal point estimates for Congress.

[60] "The Speaker Who Would Be Maitre D'", *New York Times*, December 2, 2004, p. A38, discussing Hastert's comments in *The Changing Nature of the Speakership*.

HR 975	HR 417	HR 2723	HR 3846	#Dem	#Rep
Y	Y	Y	Y	176	17
Y	Y	Y	N	4	4
Y	Y	N	Y	0	6
Y	N	Y	Y	9	8
N	Y	Y	Y	10	9
Y	Y	N	N	0	1
N	Y	Y	N	0	1
N	N	Y	Y	1	4
N	Y	N	Y	0	5
Y	N	Y	N	0	10
Y	N	N	Y	1	18
N	N	N	Y	0	7
N	N	Y	N	1	9
N	Y	N	N	0	10
Y	N	N	N	0	24
N	N	N	N	0	72

Table II.8: Voting detail on majority-roll bills in 106th House.

voted for the special rule that enabled the Democrats' victory.

2.5 Summary

As the standing rules were settling into their modern form (in 1880), the Rules Committee was rising to prominence through the creative use of special rules to consider bills outside of the usual procedures. Today, nearly every important bill has a special rule, and most have rules that very carefully structure the consideration of amendments. This has resulted in the virtual elimination of second-order amendments and the development of very simple amendment trees.

However, even with its control of the Speaker and Rules Committee, the majority party is unable to protect all of its interests. Although the majority has the ability to take away most of the minority party's rights and privileges, the minority can often find a few friends in the majority to help. Many times these will be moderates, but on occasion both extremes will unite against the middle to control policy, reflecting the many dimensions of disagreement between and within the parties.

A Key Vote Bills

The following tables provide some detail on the key vote bills that form the data set for this chapter. The main unit of analysis is the special rule, and thus bills that never reach the floor of the House are excluded. The columns and abbreviations used are as follows.

KV Bill A bill identified by *Congressional Quarterly* as having a "key vote".

HR House of Representatives Bill

HJR House Joint Resolution (requires Senate and President's signature)

HCR House Concurrent Resolution (requires Senate)

HRes House Resolution (requires only the House)

S Senate Bill

SJR Senate Joint Resolution

SCR Senate Concurrent Resolution

Nomination Henry Foster, Jr., nomination for Surgeon General

Impeach Clinton impeachment trial (in Senate). (The impeachment resolution passed the 105th House.)

Treaty Nuclear Test-Ban Treaty

#KV Number of key votes in the (H)ouse and (S)enate.

Rule House special rule used to consider the key vote bill (or a bill that was substituted for it). Some bills received multiple special rules, usually one that provided an open rule and then a second adopted when too many amendments were offered.[61]

HRes The bill was considered under a special rule proposed by the House Rules Committee and approved by a simple majority of the House.

Suspension The bill was considered under a "motion to suspend the rules and pass", requiring a 2/3-majority but permitting only limited debate.

UC Order The bill was considered under a special order, approved by unanimous consent.

Rule Type The type of the special rule, using the Rules Committee classification system, as in the "Survey of Activities." In addition, most rules also provided time for debate, identified amendments to be considered as original text (usually a committee substitute), and provided a variety of waivers of the standing rules.

[61] Several bills also received a special order which allocated time for debate and then left the bill unfinished, pending an additional order of the House. Those debate rules are not reported here.

Open Amendments may be offered to the bill, under the "five-minute" rule in the standing rules.

MO (Time) A modified open rule, where the total time for amending is constrained to a few hours.

MO (Preprint) A modified open rule, where all amendments must be printed in the *Congressional Record* in advance of consideration.

MO (Both) A modified open rule, with both a time limit and a preprinting requirement.

Structured A rule that includes a list of amendments. Only those amendments may be considered, usually in the order listed.

Closed A rule that permits no amendments to the bill.

Amends For time-limit rules, the time allowed for amendment. For structured rules, this is the number of (A)mendments, Secon(d)-order Amendments, and Amendments in the Nature of a (S)ubstitute that are in order under the rule.[62]

House Bills The bills that are governed by the special rule. On the rare occasion that a rule governs multiple bills, it usually provides that the Clerk will engross the bills together, before sending them to the Senate as a single bill.[63]

Outcome The final status of the bill.

Law The bill (or joint resolution) became law.

Enacted The resolution passed and became effective.

Vetoed The bill was vetoed by President Clinton and the veto was not overridden.

Conf The bill passed both House and Senate, but the Conference Committee failed to resolve their differences.

Senate The bill passed the House but died in the Senate. Many died in committee, some failed cloture, and a few were voted down.

House The bill was voted down in the House. Note that HJR 73 in the 104th House was a Constitutional amendment that had majority but not 2/3-majority support. The failed bills in the 106th House all failed to gain majority support.

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[62] Amendments in the nature of a substitute replace entire bills. Substitute amendments (that replace entire amendments) are included with the second-order amendments. There were no amendments to a substitute amendment observed.

[63] The only exception to the automatic instruction that the Clerk engross the bills together is HRes 101 in the 104th House, where there was a modified open rule for HR 925 and then a structured rule for HR 9, providing for only a substitute bill including HR 925. Even in this case the Senate would receive only one bill.

KV Bill	#KV	Rule	Rule Type	Amends	House Bills	Outcome
HJR 1	1H,2S	HRes 44	Structured	5S	HJR 1	Senate
S 4	2S	HRes 55 UC Order	Open Structured	4A,2S	HR 2	Law
HR 9	1H	HRes 101	MO (Both)	12-hour	HR 925 HR 9	Senate
HR 1058	1H,1S	HRes 105	MO (Time)	8-hour	HR 1058	Law
HR 956	1H,2S	HRes 109	Structured	15A	HR 956	Veto
HJR 73	1H	HRes 116	Structured	4S	HJR 73	House
HR 4	1H,1S	HRes 119	Structured	31A,3S	HR 4	Veto
HR 1215	1H	HRes 128	Structured	1S	HR 1215	Senate
HR 961	1H	HRes 140	Open		HR 961	Senate
HR 1530 S 1026	2H 1S	HRes 164	Structured	55A,1d	HR 1530	Veto
HR 2099	1H	HRes 201	Open		HR 2099	Veto
S 21	1S	HRes 204	Structured	1S	S 21	Veto
HR 2126 S 1087	1H 1S	HRes 205 UC Order	Open MO (Time)	5-hour	HR 2126	Law
HR 1555 S 652	1H 1H,2S	HRes 207	Structured	6A,1d	HR 1555	Law
S 440	1S	HRes 224	Open		HR 2274	Law
HR 927	1S	HRes 225	Structured	3A,1S	HR 927	Law
HR 2425	1H	HRes 238	Structured	1S	HR 2425	Senate
HR 2491	1H,1S	HRes 245	Structured	1S	HR 2491	Veto
HR 1833	2H,2S	HRes 251	Closed		HR 1833	Veto
HRes 250	1H	HRes 268	Structured	1A,1S	HRes 250	Enacted
HR 2564 S 1060	1H 1S	HRes 269	Open		HR 2564	Law
HJR 122	1H	HRes 270	Closed		HJR 122	Law
HR 2606	1H	HRes 273	Structured	1S	HR 2606	Senate
HR 2854 S 1541	1H 1S	HRes 366	Structured	16A	HR 2854	Law
HR 2703	2H	HRes 380	Structured	16A,1S	HR 2703	Law
HR 2202	1H	HRes 384	Structured	31A,1d	HR 2202	Senate
HR 3136	1H	HRes 391	Structured	1A	HR 3136	Law
S 1028	1S	HRes 392	Structured	1S	HR 3103	Law
SCR 57	1S	HRes 435	Structured	3S	HCR 178	Enacted
HR 3448 HR 1227	1H 1S	HRes 440	Structured	2A	HR 3448 HR 1227	Law
HR 3610	2H	HRes 453	Open		HR 3610	Law
HR 3734	1H,1S	HRes 482	Structured	1A,1S	HR 3734	Law
HR 1627	1H	Suspension			HR 1627	Law
HR 1643	1H	Suspension			HR 1643	Law
S 343	1S	n/a			n/a	(1)
S 1061	1S	n/a			n/a	(1)
S 1219	1S	n/a			n/a	(1)
S 2056	1S	n/a			n/a	(1)
SJR 31	1S	n/a			n/a	(1)
Nomination	1S	n/a			n/a	(2)
S 1936	1S	n/a			S 1936	(3)

(1) Never reached House. (2) Senate only. (3) Passed Senate but never left House Commerce Committee

Table II.9: Key vote bills of the 104th House (1995-1996).

KV Bill	#KV	Rule	Rule Type	Amends	House Bills	Outcome
S 280	1S	HRes 100	MO (Both)	5-hour	HR 800	Law
HR 975	1H	HRes 114	Closed		HR 975	Senate
HR 4	1H	HRes 120	Closed		HR 4	Law
SCR 21	1H	HRes 151	Closed		HR 1569 HCR 82 HJR 44 SCR 21	Senate House House House
S 1233	1S	HRes 185	Open		HR 1906	Law
S 1059	1S	HRes 200	Structured	23A	HR 1401	Law
HR 1000	1H	HRes 206	Structured	7A	HR 1000	Law
HR 1501 HR 2122	1H 1H	HRes 209	Structured	52A,2d,2S	HR 1501 HR 2122	Conf House
HR 2084	1S	HRes 218	Open		HR 2084	Law
HR 10 S 900	1H 1S	HRes 235	Structured	11A	HR 10	Law
HR 1995	1H	HRes 253	Structured	11A,1S	HR 1995	Senate
HR 2488 S 1429	1H 1S	HRes 256	Structured	1S	HR 2488	Veto
HR 417	1H	HRes 283	Structured	10A,3S	HR 417	Senate
HR 2436	1H	HRes 313	Structured	1A,1A	HR 2436	Senate
HR 2723 S 1344	1H 1S	HRes 323	Structured	3S	HR 2990 HR 2723	Conf
HR 2260	1H	HRes 339	Structured	1A,1S	HR 2260	Senate
S 761	1H	HRes 366	Structured	1A,1S	HR 1714	Law
HR 3846	1H	HRes 434	Structured	1A	HR 3081 HR 3846	Senate
S 1287	1S	HRes 444	Closed		S 1287	Veto
HCRes 290	1S	HRes 446	Structured	5S	HCR 290	Enacted
S 1692	1S	HRes 457	Closed		HR 3660	Conf
S 2521	1S	HRes 502	Open		HR 4425	Law
HR 4205 S 2549	2H 3S	HRes 503 HRes 504	Structured Structured	35A 6A,1d	HR 4205	Law
HR 4444	1H,1S	HRes 510	Closed		HR 4444	Law
HR 4577	2S	HRes 518 UC Order	Open Structured	38A	HR 4577	Law
HR 8	1H	HRes 519	Structured	1S	HR 8	Veto
HR 4578	1H	HRes 524	Open		HR 4578	Law
HR 4516	1S	HRes 530	Structured	3A	HR 4516	Veto
HR 4680	1H	HRes 539	Closed		HR 4680	Senate
HR 4810	1S	HRes 545	Structured	1S	HR 4810	Veto
HR 4811 S 2522	1H 1S	HRes 546 UC Order	Open Structured	40A	HR 4811	Law
HR 4762	1H	Suspension			HR 4762	Law
HR 4923	1H	Suspension			HR 4923	Senate
HR 5173	1H	Suspension			HR 5173	Senate
S 1593	1S	n/a			n/a	(1)
Impeach	2S	n/a			n/a	(2)
Treaty	1S	n/a			n/a	(2)
S 254	1S	n/a			HRes 249	(3)

(1) Never reached House. (2) Senate only. (3) House refused to consider the Senate's "revenue" bill.

Table II.10: Key vote bills of the 106th House (1999-2000).

Chapter III

Endogenous Rules Model

Legislatures frequently have the power to choose their own rules of operation. For example, the U.S. Constitution explicitly establishes that within Congress "Each House may determine the Rules of its Proceedings" (Article 1, Section 5). The House of Representatives frequently uses this power, reconsidering its "standing" rules at the beginning of every Congress and adopting bill-specific "special" rules frequently. These special rules usually fit into one of a handful of templates, and generally restrict the number and order of amendments, but otherwise leave the main parliamentary procedure untouched (see Chapter II). The House has used special rules for over a century, and most important bills are considered under a special rule. For example, the FY2001 Budget Resolution and the 1893 act repealing the Sherman Silver Purchase Act were considered under surprisingly similar rules, providing for nearly identical amendment structures.

Example: Budget Resolution, 2000

On March 23, 2000, the House adopted House Resolution 446, providing for consideration of the FY2001 budget (House Concurrent Resolution 290). After some debate, the House would then proceed to consider amendments to HCR 290 (as amended by the rule):

> "No amendment to [the bill] shall be in order except those printed in part B of the report of the Committee on Rules.[1] Each amendment

[1] Namely, report 106-535.

> may be offered only in the order printed in the report, may be offered only by a Member designated in the report, shall be considered as read, shall be debatable for the time specified in the report equally divided and controlled by the proponent and an opponent, and shall not be subject to amendment. All points of order against the amendment[s] printed in part B of the report are waived except that the adoption of an amendment in the nature of a substitute shall constitute the conclusion of consideration of amendments to [the bill]" (*CR*, March 23, 2000, p. H1291).

Thus, the House will consider, in order, five amendments in the nature of a substitute:

1. Congressional Black Caucus Substitute [Clyburn (D-SC)]
2. Congressional Progressive Caucus Substitute [DeFazio (D-OR)]
3. The Coalition's Substitute [Stenholm (D-TX)]
4. Conservative Action Team's Substitute [Sununu (R-NH)]
5. Democratic Substitute [Spratt (D-SC)]

Each of these substitutes will face a simple majority vote, and the first one that passes will become the amended bill. If none of these five pass, the bill will stand. Finally, the House will vote whether to adopt the amended bill (or keep the status quo).[2]

Example: Free Coinage of Silver, 1893

These sorts of special rules are not new developments, however. The bill repealing the purchase component of the Sherman Silver Purchase Act of 1890 was considered under a very similar rule.[3] As introduced to the House, HR 1 repealed the requirement that the Treasury purchase silver on the open market (to be coined at a 16-to-1 ratio to

[2]The rule was adopted by a vote of 228-194, all five substitutes were voted down and then the bill passed by a vote of 211-207.

[3]See *Hinds*, §3204, pp. 212-213; *CR*, August 11, 1893, pp. 241-244; and *CR*, August 28, 1893, pp. 1003-1008.

gold) but offered that anyone could have their silver coined at the Mint, at a 15-to-1 ratio.[4] The special rule for considering the bill was:

> "Ordered by the House. That H.R. No. 1 shall be taken up for immediate consideration and considered for fourteen days. During such consideration night sessions may be held, for debate only, at the request of either side. The daily sessions to commence at 11 a.m. and continue until 5 p.m. Eleven days of the debate on the bill to be given to general debate under the rules of the last House regulating general debate, the time to be equally divided between the two sides as the Speaker may determine. The last three days of debate may be devoted to the consideration of the bill and the amendments herein provided for, under the usual five-minute rule of the House, as in Committee of the Whole House. General leave to print is hereby granted.
>
> "Order of amendments: The vote shall be taken first on an amendment providing for the free coinage of silver at the present ratio. If that fail[s], then a separate vote to be had on a similar amendment proposing a ratio of 17 to 1; if that fails, on one proposing a ratio of 18 to 1; if that fails, on one proposing a ratio of 19 to 1; if that fails, on one proposing a ratio of 20 to 1. If the above amendments fail, it shall be in order to offer an amendment reviving the act of the 28th of February, 1878, restoring the standard silver dollar, commonly known as the Bland Allison Act; the vote then to be taken on the engrossment and third reading of the bill as amended, or on the bill itself if all amendments shall have been voted down, and on the final passage of the bill without other intervening motions" (*CR*, August 11, 1893, p. 242).

That is, after 11 days of debate the House will consider, in order, six amendments to the bill (which includes free coinage at 15-to-1 and no purchase requirement),

[4]This bill was part of the bimetalism debates in the late 1800s. "16-to-1" means that silver and gold coins will be sized so that sixteen ounces of silver coins have the same value as as one ounce of gold. 15-to-1 would be good for people who own silver (since it makes for small weight, high value, silver coins) while 20-to-1 would be good for people who own gold.

stopping if any of them pass:

1. Free coinage at 16-to-1 (the present ratio) and no purchase requirement.
2. Free coinage at 17-to-1 and no purchase requirement.
3. Free coinage at 18-to-1 and no purchase requirement.
4. Free coinage at 19-to-1 and no purchase requirement.
5. Free coinage at 20-to-1 and no purchase requirement.
6. Free coinage at 16-to-1 and restoration of 1878 Bland-Allison purchase requirements.

Each of these amendments will face a simple majority vote, and the first one that passes will be the ratio in the amended bill. If none of these pass, then the ratio in the bill will be 15-to-1. Finally, the House will vote whether to adopt the amended bill (or keep the status quo).[5]

1 Endogenous Rules Model

The model considered here reflects the structure of those special rules, as well as House procedure more generally. For most important bills the House adopts a rule specific to that bill that specifies which amendments will be considered, and in which order. Each amendment is debated and voted on before the next is considered, and once an amendment passes no other amendment may change it.

Thus, the basic structure of the model here is very simple: first, the legislature chooses its "rules" (which agenda game it will play); then it plays the chosen game to select an outcome. The model is truly defined by the set of available agenda games, however. For this chapter, this set will include agendas where the first motion to pass is adopted.[6] In particular, it will be assumed that there are two policies identified

[5]The rule was adopted by voice vote (after a 219-99 roll call vote on the previous question), all six amendments were voted down by large margins, and the bill passed by a vote of 239-108.

[6]Ordeshook and Schwartz (1987) refer to these as sequential-elimination agendas.

exogenously (a bill and a status quo). The agenda games are then represented as a sequence of legislators who may each propose an amendment (in response to the bill and status quo). When an amendment is adopted, it will replace the bill and end the amending stage. After an amendment is adopted (or all proposals have failed), the amended bill is considered against the status quo and the winning policy is implemented.

1.1 Legislators' Preferences

The only actors in the model are members of a legislature, $N = \{1, \ldots, n\}$. The legislature collectively chooses an outcome from a set X.[7] Each legislator $i \in N$ is assumed to have rational preferences $\succeq_i$ over outcomes (with $\succ_i$ and $\sim_i$ being the strict preference and indifference relations).[8] Legislators are assumed to optimize with respect to these preferences, so that they will choose actions that lead to the most-preferred available outcomes.

1.2 Model Structure

The model proceeds in two stages, given two identified outcomes: the status quo $SQ \in X$ and the bill $B \in X$. First, the legislature chooses which agenda game it wishes to play. In order to avoid imposing excessive structure on this stage, this will be considered as a social choice problem. This analysis will largely focus on Condorcet winning rules (which would defeat any other rule) and rules in the top cycle (see Chapter I).

The second stage of the model consists of the agenda games. A (length k) agenda game is identified by an ordered sequence of proposers $[p_1, \ldots, p_k] \in N^k$. First, p_1 will propose a point $x_1 \in X \cup \{\emptyset\}$ and the legislature will vote whether to adopt x_1 or continue.[9] If they continue, then p_2 has an opportunity to propose, and so on. This

[7] These will also be referred to as bills, amendments, or policies.

[8] Legislators have no explicit preferences over "rules," only over final outcomes. $\succeq_i$ is a weak order on X, demonstrating transitivity and completeness.

[9] If $x_1 = \emptyset$, so that p_1 has not made a real proposal, the legislature is assumed to continue.

proceeds until a proposal x_j is adopted or all k proposals are rejected and B stands unamended. The legislature then chooses between this outcome (x_j or B) and the status quo, with the winner being implemented.

Assume that when the legislature votes on y over x, legislator $i \in N$ casts vote $v_i \in \{y, x\}$. The legislature aggregates these votes using a decision rule defined by a set of decisive coalitions, $\mathcal{D} \subset 2^N$.[10] If $\exists C \in \mathcal{D}$ such that $v_i = y, \forall i \in C$, then the legislature chooses y over x. It is assumed that $\mathcal{D}$ has nice properties, mainly that adding voters to a winning coalition will not change the outcome. Any supermajority or weighted quota rule (with the quota being at least half of the total weight) could be used as the decision rule. Eventually it will be assumed that an n-member legislature (with n odd) uses simple majority rule, $\mathcal{D}_M = \{C \subset N : |C| > n/2\}$.

The agenda games will each be analyzed using pure strategy, subgame-perfect equilibria.

Definition 2 *A pure strategy, subgame-perfect equilibrium of the length-k agenda game* $[p_1, \ldots, p_k]$ *is a pair* (x^*, v^*) *such that*

- *Every proposer* $p_j \in \{p_1, \ldots, p_k\}$ *proposes* x_j^* *optimally, given* (x^*, v^*).
- *Every voter* $i \in N$ *votes* $v_i^j(x_j, B) \in \{x_j, B\}$ *optimally, given* (x^*, v^*)*, for every stage* $j \in \{1, \ldots, k\}$ *and every proposal* $x_j \in X$.
- *Every voter* $i \in N$ *votes* $v_i^j(x_j, SQ) \in \{x_j, SQ\}$ *optimally, given* (x^*, v^*)*, assuming that proposal* x_j *defeats* B *at stage* j.
- *Every voter* $i \in N$ *votes* $v_i^B \in \{B, SQ\}$ *optimally, given* (x^*, v^*)*, assuming that all proposals fail.*

This equilibrium concept includes two key assumptions:

- Legislators correctly predict all future actions.

[10] $\subset$ represents the weak subset relation, where $A \subset B \Longrightarrow (a \in A \Longrightarrow a \in B)$. Thus, $2^N = \{C \subset N\}$ includes N.

- Legislators cannot credibly promise to take future actions against their self-interest.

For the results that follow, it will be assumed that the equilibrium is reasonable, in that even non-pivotal voters are satisfied with the outcome. This is similar to Farquharson's collective equilibrium, explained as

> "There is no person or group with both the *will* and the *power* to make a change" (Farquharson 1969, 52).

Definition 3 (x^*, v^*) *is a weakly coordinated, pure strategy, subgame-perfect equilibrium if it is a pure strategy, subgame-perfect equilibrium and voting outcomes would not be changed if all voters with strict preferences voted strategically.*

In a weakly coordinated equilibrium, voting leads to the same outcomes as if voters with strict preferences could coordinate. That is, there is no group of voters who could change their votes and all be strictly better off without there being another group that could change their votes to return to the original (strictly better for them) outcome.[11]

For example, consider a legislature that uses a supermajority rule for voting, so that $\mathcal{D}$ consists of all subsets larger than q. In a weakly coordinated equilibrium, if only $q - m$ legislators vote for y over x (so that x is chosen), then it must be the case that the margin of victory, m, plus the number of legislators who vote for y but would prefer the outcome resulting from x is larger than the number who vote for x but would prefer the outcome resulting from y. Similarly, if $q + m$ legislators vote for y over x, then $\{m + \#|x-\text{voters who want } y|\} > \{\#|y-\text{voters who want } x|\}$.

This weak coordination does not prevent non-pivotal voters from casting votes against their strategic interests, it merely requires that their numbers be adequately balanced. This equilibrium concept allows for the "hip-pocket" or "if-you-need-me" votes that appear to be prevalent in the House (e.g., King and Zeckhauser, 2003).

[11] This also means that a legislature with the ability to immediately "reconsider" a vote should never do so.

Consideration of the endogenous rules model will proceed in three distinct phases. First, general predictions of the agenda games are derived and the existence of equilibria will be proven for a wide class of preferences. These equilibrium properties will then be used to examine the endogenous rule game. Finally, in Chapter IV, the general predictions of the endogenous rule model will be used to more fully characterize equilibria for several typical applications.

1.3 Agenda Game Equilibria

Examination of the agenda games proceeds by backwards induction, starting from the final votes and proceeding to earlier votes and proposals. A peculiar definition is needed to begin, however.

Definition 4 *Define* $\varsigma_i(y,x) : X \times X \to X$ *as the (deterministic) sincere voting function of legislator* i*, with* $\varsigma_i(y,x) \in \{y,x\}$*,* $\forall y,x \in X$*, and*

$$\varsigma_i(y,x) \;=\; \begin{cases} y & \text{if } y \succ_i x \\ x & \text{if } x \succ_i y \end{cases}.$$

Note that $\varsigma_i(y,x)$ is assumed to make a deterministic choice from $\{y,x\}$, and so must incorporate some yet-to-be-defined "tie-breaker" rule when $y \sim_i x$.[12] That is, it is assumed that every time a legislator is asked to choose between y and x she will make the same choice, even if indifferent between the alternatives.

Definition 5 *Define the (sincere) "win set" of* $x \in X$ *to be*

$$\mathcal{W}_\varsigma(x) = \{y \in X : \{i \in N : \varsigma_i(y,x) = y\} \in \mathcal{D}\} \cup \{x\}.$$

That is, $y \in \mathcal{W}_\varsigma(x)$ means that y would defeat x if legislators were voting sincerely according to the functions ς.

[12] ς_i is a complete antisymmetric extension of $\succ_i$.

Proposition 6 *For the length-k agenda game with proposers* $[p_1, \ldots, p_k]$ *beginning with bill* B *and status quo* SQ*, such that* $B \in \mathcal{W}_\varsigma(SQ)$*, define* $x^*_{k+1} \equiv B$*. Then any weakly coordinated, pure strategy, subgame-perfect equilibrium* (x^*, v^*) *must have identical subgame outcomes to the equilibrium* $(\widehat{x^*}, \widehat{v^*})$ *that satisfies the following:*

1. *Legislators vote sincerely (and thus strategically) in the last vote (with amended bill* x*).*

$$\widehat{v_i^*}(x, SQ) = \varsigma_i(x, SQ)$$

$$\widehat{v_i^*}(B, SQ) = \varsigma_i(B, SQ)$$

2. *Legislators vote strategically in the* j*th stage (after* x_j *has been proposed), assuming that rejection of* x_j *will result in* $\widehat{x^*_{j+1}}$*.*

$$\widehat{v_i^*}(x_j, B) = \begin{cases} x_j & \text{if } \varsigma_i(x_j, \widehat{x^*_{j+1}}) = x_j \\ B & \text{if } \varsigma_i(x_j, \widehat{x^*_{j+1}}) = \widehat{x^*_{j+1}} \end{cases}$$

3. $\forall j \in \{1, \ldots, k\}$*, proposer* p_j*'s equilibrium proposal strategy is the most-preferred amendment that will pass.*

$$\widehat{x_j^*} \in \mathcal{W}_\varsigma\left(\widehat{x^*_{j+1}}\right) \cap \mathcal{W}_\varsigma(SQ)$$

$$\widehat{x_j^*} \succeq_{p_j} y, \forall y \in \mathcal{W}_\varsigma\left(\widehat{x^*_{j+1}}\right) \cap \mathcal{W}_\varsigma(SQ)$$

4. $\forall j \in \{1, \ldots, k\}$*, if* p_j *has an opportunity to propose, then* $\widehat{x_j^*}$ *will be adopted as the final outcome.*

5. $\widehat{x_1^*}$ *is adopted as the final outcome.*

Proof: See the appendix to this chapter (results 16 and 18). ∎

This proposition establishes that, if equilibria exist, a set of "nice" equilibria can achieve all equilibrium outcomes. These equilibria have all voters with strict

preferences voting strategically, proposers always proposing winning amendments, and the game ending with the first proposal being adopted.

Both the voting functions ς_i, the proposing functions may require an indifference-breaking rule to be fully identified. However, any pure strategy, subgame-perfect equilibrium of an agenda game must have this structure. Further, even this general framework provides some predictions, as reflected by Proposition 10.

1.4 Existence of Equilibrium

Pure strategy, subgame-perfect equilibria of the agenda games exist fairly generally. If the set of outcomes is finite or legislators have preferences over outcomes represented by continuous utility functions, $u_i : \mathbb{R}^m \to \mathbb{R}$, then equilibria exist.

Theorem 7 *If legislators' preferences are continuous and their better-than sets are bounded,*[13] *then, for any status quo, bill, and agenda, there exists a weakly coordinated, pure strategy, subgame-perfect equilibrium* (x^*, v^*) *of the agenda game.*

Proof: Theorem 22 in the appendix to this chapter. ∎

The proof constructs a particular equilibrium, where

- Voters with strict preferences vote strategically.
- Indifferent voters vote for the new amendment over the bill.
- Proposers always make winning proposals.

1.5 Endogenous Rules Stage

With these results it is possible to consider which particular agenda game the legislature will choose to play. Define $x_{[p_1,\ldots,p_k]}$ to be an equilibrium outcome of the agenda game with proposers $[p_1, \ldots, p_k]$. This leads to the definition of each individual legislator's preferences over rules, based on the resulting outcome. Legislator i

[13] So that $\{y \in X : y \succeq_i x\}$ is compact for all x and i.

can compare any two sequences of proposers, $[P_1]$ and $[P_2]$, using:

$$[P_1] \succeq_i [P_2] \iff x_{[P_1]} \succeq_i x_{[P_2]} .$$

To choose a particular agenda game, the legislature needs to aggregate these individual preferences. As earlier, assume that the legislature uses a decision rule based on decisive coalitions, $\mathcal{D}^R$. It is assumed that it is easier to change the rules than to adopt an amendment. This may seem like an unusual assumption, but it does appear to be true for many legislatures. For example, the House of Representatives can, and regularly does, change its rules with a simple majority vote. On the other hand, for a bill to pass into law it must generally must be accepted by the relevant committees and subcommittees, as well as by the House. Similarly, the U.S. Senate requires a supermajority of 60 (out of 100) to pass legislation over a filibuster. However, the Republican leadership of the 109th Senate contends that the rules governing filibusters can be changed with a simple majority vote (of 50 Senators).

Definition 8 *For any agenda games $P_1 \neq P_2$ define two choice relations $\triangleright$ and $\triangleright^W$:*

$$\begin{aligned} P_1 \triangleright P_2 &\iff \{i \in N : v_i^R(P_1, P_2) = P_1\} \in \mathcal{D}^R \\ P_1 \triangleright^W P_2 &\iff \{i \in N : P_1 \succeq_i P_2\} \in \mathcal{D}^R. \end{aligned}$$

$\triangleright$ is the true aggregate preference relation, assuming that the legislators vote following the not-yet-definied function v_i^R. $\triangleright^W$ assumes that indifferent legislators vote for P_1 over P_2, providing a bound on $\triangleright$. Note that $P_1 \triangleright P_2 \Longrightarrow P_1 \triangleright^W P_2$.

The set of "winning" agendas is based on the top cycles of the legislative decision rules. The top cycle is a useful set for this purpose, since there is no sequence of votes on rules such that the legislature will choose to leave the top cycle. See Chapter I and Schwartz (1972).[14]

[14] Also, as shown by Sen (1977, 56), the top cycle of $\triangleright$ is the most-preferred indifference class of the transitive closure of $\triangleright$.

Definition 9 *Define the set of available agendas to be $\mathcal{P}$. The top cycle sets for the endogenous rule stage are the smallest non-empty subsets of $\mathcal{P}$ such that:*[15]

$$\begin{aligned} TC: &\quad P' \not\trianglerighteq P \qquad (\forall P \in TC, \quad \forall P' \in \mathcal{P} \setminus TC) \\ TC^W: &\quad P' \not\trianglerighteq^W P \quad (\forall P \in TC^W, \quad \forall P' \in \mathcal{P} \setminus TC^W) \end{aligned}$$

Note that $TC \subset TC^W$, since TC^W is a candidate for TC. Further, in the usual way, if a Condorcet winner exists then it is the unique point in the top cycle set.

Proposition 10 *Assume that legislative decision making (for both rules and amendments) is governed by $\mathcal{D} = \mathcal{D}^R$. For every $k \in \{0, 1, \ldots\}$ and $P = [p_1, \ldots, p_k] \in N^k$, consider weakly coordinated, pure strategy, subgame-perfect equilibrium proposals $x_{[P]}$ with sincere voting functions ς.*

The following are true $\forall i \in N, P \in \mathcal{P}$:

1. *Legislator i prefers his proposal (in response to $x_{[P]}$) to that alternative and to what any other legislator j would propose in response to that alternative, so that $x_{[i,P]} \succeq_i x_{[P]}$ and $x_{[i,P]} \succeq_i x_{[j,P]}$.*

2. *The legislature will always be willing to add a proposer to the front of an existing agenda, so that $[i, P] \triangleright^W P$.*

3. *If voters use the same voting rule for rules and amendments, then the preference for longer agendas will be strict, so that $[i, P] \triangleright P$ and $P \not\trianglerighteq [i, P]$.*

4. *If voters use the same voting rule for rules and amendments and the legislature will not adopt some rule (because it is not in the top cycle), then every rule in the top cycle constrains its first proposer. In particular, if $\exists P' \notin TC$ such that all subgames of P' are in $\mathcal{P}$, then $[i, P] \in TC \Longrightarrow x_{[i]} \succeq_i x_{[i,P]}$.*

Assume $u_i : \mathbb{R}^m \to \mathbb{R}$ continuous and $\{y \in X : u_i(y) \geq u_i(x)\}$ is bounded. Fix $SQ \in X$ extreme and $B \in \mathcal{W}_\varsigma(SQ)$. If $x_{[i,P]}$ is not a local satiation point, then

[15] See also equation (I.1).

$\left|\{j \in N : x_{[i,P]} \succ_j x_{[P]}\}\right| \notin \mathcal{D}$ *and* $\left|\{j \in N : x_{[i,P]} \sim_j x_{[P]}\}\right| \geq 1$ *Thus, the indifferent legislators are pivotal unless the proposal is an ideal point of the proposer.*

Proof: (1): Corollary 19 in the appendix to this chapter.

(2-3): Proposition 20 in the appendix.

(4): Contrapositive of proposition 21 in the appendix.

The unnumbered result is from Corollary 23. ∎

This proposition sets out a variety of findings. The first is a straightforward property of agenda game equilibria. The second and third findings indicate that the legislature has a general preference for longer agendas, always being willing to add another proposer – the decisive coalition that would vote for the new proposer's proposal will also vote to let her make a proposal. The fourth and fifth findings are the most important.

- If the top cycle is non-trivial (so that some rule will not be chosen), then *every* agenda in the top cycle constrains its first proposer. These constraints are not generally observable, since the first proposal should pass with certainty, but they are important.

- Further, unless a proposer was satiated at her proposal, indifferent legislators were pivotal in the proposal winning.

1.6 Instability Results

This section will establish certain limits on agendas that can persist in a legislature able to choose its rules of operation. Assume that there are three legislators, two who have been identified as possible proposers and one who only votes. The proposers could represent majority and minority party leaders, a committee chairman and a party leader, or any other pair. The legislature then chooses among the agenda games with these particular proposers. Further, assume that the legislature operates by majority rule, so that $\mathcal{D}_M$ is the decisive set for both amendments and rules.

Proposition 11 *Assume* $N = \{l_A, l_M, l_L\}$, $\mathcal{P} = \{\emptyset, [l_A], [l_M], [l_A, l_M]\}$, *and* $\mathcal{D} = \mathcal{D}^R = \mathcal{D}_M = \{\{l_A, l_M\}, \{l_A, l_L\}, \{l_M, l_L\}, \{l_A, l_M, l_L\}\}$. *I.e., the legislature is composed of three members, operates under majority rule, and is permitted to choose among four agendas: no amendments, an amendment from* l_A, *an amendment from* l_M, *or amendments from* l_A *then* l_M.

Label as B, A, M, *and* A_M *the outcomes of pure strategy, subgame-perfect equilibria for agendas in* $\mathcal{P}$. *Assume further that each of these outcomes is unanimously preferred to the status quo,* SQ.

If the top cycle of the endogenous rules stage is $TC = \{[l_A, l_M]\}$, *then legislators' preferences over outcomes must satisfy:*

$$A \succeq_{l_A} A_M \succeq_{l_A} M, \qquad A \succeq_{l_A} B$$
$$M \succeq_{l_M} B, \qquad M \succeq_{l_M} A, \qquad A_M \succ_{l_M} A$$
$$A_M \succ_{l_L} A.$$

Assume that $\succeq_i$ *is a continuous preference relation on the outcome set* $X \subset \mathbb{R}^m$, $\forall i \in N$. *If* A, A_M, *and* M *are not local satiation points for their proposers, then every legislator's preference order is completely specified (up to indifference):*

$$A \succeq_{l_A} A_M \succ_{l_A} B \succeq_{l_A} M$$
$$M \succeq_{l_M} A_M \succ_{l_M} A \sim_{l_M} B$$
$$B \succeq_{l_L} M \succeq_{l_L} A_M \succ_{l_L} A.$$

Note that the top cycle can be small only if the legislator excluded from the agenda games (l_L) *prefers the original bill* B *to any proposal that is made.*

Proof: Theorem 24 in the appendix to this chapter. ∎

This proposition places tight bounds on preferences in the situation where a two-amendment agenda is preferred to shorter agendas, particularly if the equilibrium proposals are not satiation (ideal) points. Chapter IV considers a special case of this

model, with preferences based on a multi-dimensional spatial model, in more detail.

2 Summary

A two-stage legislative model, with both endogenous rules and endogenous agenda formation, provides a variety of interesting predictions for legislative behavior. With abstract preferences, outcomes are "as if" legislators vote strategically and all proposals pass. Further, the legislature has a clear preference for longer agendas. However, there is a potential for the longest agendas to be defeated by very short agendas. In fact, only one one-amendment agenda needs to be checked against each long agenda to verify whether the legislature's top cycle is global or restrictive. Identify a longest possible agenda (where no legislator can be added as a new first proposer); if the first proposer in that agenda prefers the resulting outcome to the one which would occur if he were the only proposer, then the legislature will prefer a closed rule to that long agenda. If this is true for all longest agendas, then the top cycle involves all possible agendas.

With the addition of very mild assumptions on preferences, an equilibrium of the endogenous agenda game is guaranteed to exist. Further, in equilibrium only "indifferent" legislators will be pivotal.

A Proofs

A.1 Assumptions

Assumption (A1) *The set of decisive amendment coalitions, $\mathcal{D}$, is monotonic and proper.*

$$C \in \mathcal{D} \Longrightarrow C' \in \mathcal{D}, \quad \forall C \subset C' \subset N$$

$$C \in \mathcal{D} \Longrightarrow N \setminus C \notin \mathcal{D}, \quad \forall C \subset N$$

Assumption (A2) *$\mathcal{D}$ is strong.*

$$C \notin \mathcal{D} \Longrightarrow N \setminus C \in \mathcal{D}, \quad \forall C \subset N$$

Note that majority rule, $\mathcal{D}_M$, satisfies (A1) and (A2).

Assumption (A3) *The voting function ς_i is weakly biased towards its first argument, in that*

$$\{i \in N : \varsigma_i(y, x) = x\} \subset \{i \in N : \varsigma_i(x, y) = x\}, \quad \forall y, x \in X$$

The first argument is always the new proposal. The proposer, being able to anticipate voting functions, would be able to give a small token to a voter in order to break her indifference in favor of the proposal. In a continuous world, these tokens can be arbitrarily small, leading to this sort of result in the limit.

Assumption (A4) *The set of decisive rule coalitions, $\mathcal{D}^R$, is assumed to be monotonic and proper. Further, $\mathcal{D} \subset \mathcal{D}^R$.*

It is also of note that assumptions (A2) and (A4) imply that $\mathcal{D}^R = \mathcal{D}$.

The following three assumptions are used to prove existence of equilibria.

Assumption (A5) *The outcome space, $X \subset \mathbb{R}^m$, is a closed subset of the m-dimensional Euclidean space.*[16]

Assumption (A6) *$\{y \in X : \{i \in N : y \succeq_i SQ\} \in \mathcal{D}\}$ is bounded.*

Assumption (A6) is satisfied in many contexts. Under circumstances like a multi-dimensional spatial model, where x becomes very bad as $\|x\| \to \infty$, $\{y \in X : y \succeq_i SQ\}$ is bounded for each legislator. On the other hand, in an "economic" model where more is better, there will usually be a bound on

[16] $X = \mathbb{R}^m$ does satisfy (A5).

X constraining the total amount available. For instance, in a divide-the-dollar game every player wants as much money as possible, so that preferences are not bounded in $\mathbb{R}^m$, but outcomes must lie in a (bounded) simplex.

Assumption (A7) *Every legislator's preferences are continuous.*

$$\{y \in X : y \succeq_i x\} \text{ is closed } \forall i \in N, x \in X$$

A.2 Equilibrium Concept

Definition 12 *Define $\mathcal{V}_k$ to be the set of valid (individual) voting strategies of a length-k agenda game. That is*

$$\mathcal{V}_k = \left[\{x, B\}^X \times \{x, SQ\}^X\right]^{\{1,\ldots,k\}} \times \{B, SQ\}^X$$

with a generic element $v_i \in \mathcal{V}$ being

$$v_i = ((v_i^j(x, B), v_i^j(x, SQ))_{j\in\{1,\ldots,k\}}, v_i^B).$$

$v_i \in \mathcal{V}_k$ identifies how legislator i will vote on every possible proposal at every proposal stage $j \in (1, \ldots, k)$, how she will vote on every possible amended bill from every stage, and how she will vote on the unamended bill if all proposals fail. Thus, $\mathcal{V}_k$ is the complete strategy space of a voter, just as $X \cup \{\emptyset\}$ is the complete strategy space of a proposer.

Definition 13 *A pure strategy subgame-perfect equilibrium of the length-k agenda game $[p_1, \ldots, p_k]$ is a pair $(x^*, v^*) \in [X \cup \{\emptyset\}]^{\{1,\ldots,k\}} \times \mathcal{V}_k^N$ such that*

- *Every proposer $p_j \in \{p_1, \ldots, p_k\}$ optimizes:*

$$\begin{aligned} &Outcome[(\emptyset, \ldots, \emptyset, x_j^*, x_{j+1}^*, \ldots, x_k^*), v^*] \\ \succeq_{p_j} \quad &Outcome[(\emptyset, \ldots, \emptyset, x_j, x_{j+1}^*, \ldots, x_k^*), v^*] \\ &\forall x_j \in X \cup \{\emptyset\}. \end{aligned}$$

- *Every voter $i \in N$ optimizes, for every stage $j \in \{1, \ldots, k\}$ and every proposal $x_j \in X$:*

$$\begin{aligned} &Outcome[(\emptyset, \ldots, \emptyset, x_j, x_{j+1}^*, \ldots, x_k^*), v^*] \\ \succeq_i \quad &Outcome[(\emptyset, \ldots, \emptyset, x_j, x_{j+1}^*, \ldots, x_k^*), (v_i^j(x_j, B), v^*)] \\ &\forall v_i^j(x_j, B) \in \{x_j, B\}. \end{aligned}$$

- *Every voter $i \in N$ optimizes if all proposals fail:*

$$\begin{aligned} & Outcome[(\emptyset, \ldots, \emptyset), v^*] \\ \succeq_i \quad & Outcome[(\emptyset, \ldots, \emptyset), (v_i^B, v^*)] \\ & \forall v_i^B \in \{B, SQ\}. \end{aligned}$$

- *Every voter $i \in N$ optimizes if proposal x_j defeats B at stage j. If $C = \{i' \in N : v_{i'}^{j\,*}(x_j, SQ) = x_j\}$ is such that $C \setminus \{i\} \notin \mathcal{D}$ and $C \cup \{i\} \in \mathcal{D}$, then $x_j \succ_i SQ \Longrightarrow v_i^j(x_j, SQ) = x_j$ and $SQ \succ_i x_j \Longrightarrow v_i^j(x_j, SQ) = SQ$.*

The Outcome(x, v) function is defined, by backward induction, to be the policy that is implemented by the given strategies.

Note that there are only $3k+1$ types of proper subgames in the length-k agenda game: proposer p_j is asked to make a proposal, proposer p_j has made a proposal, the legislature has adopted proposer p_j's proposal, and the legislature has rejected all proposals. If p_j is asked to make a proposal, then the previous $j-1$ proposals were rejected or were not made ($\emptyset$), but this distinction is unimportant as it has no further effect on future play.

Definition 14 *The coordinated voting function of the pure strategy, subgame-perfect equilibrium (x^*, v^*) is*

$$\widehat{v_i^{j*}}(x, y) = \begin{cases} x & \text{if } Outcome(x) \succ_i Outcome(y) \\ y & \text{if } Outcome(y) \succ_i Outcome(x) \\ v_i^{j*}(x, y) & \text{if } Outcome(x) \sim_i Outcome(y) \end{cases}$$

$$\widehat{v_i^{B*}} = \begin{cases} B & \text{if } Outcome(B) \succ_i Outcome(SQ) \\ SQ & \text{if } Outcome(SQ) \succ_i Outcome(B) \\ v_i^{B*} & \text{if } Outcome(B) \sim_i Outcome(SQ) \end{cases}$$

$$\forall i \in N, j \in \{1, \ldots, k\}, x \in X, y \in \{B, SQ\}.$$

Definition 15 *(x^*, v^*) is a weakly coordinated, pure strategy, subgame-perfect equilibrium if it is a pure strategy, subgame-perfect equilibrium and $\forall j \in \{1, \ldots, k\}, x \in X, y \in \{B, SQ\}$*

$$\{i \in N : \widehat{v_i^{j*}}(x, y) = x\} \in \mathcal{D} \iff \{i \in N : v_i^{j\,*}(x, y) = x\} \in \mathcal{D}$$

and

$$\{i \in N : \widehat{v_i^{B*}} = B\} \in \mathcal{D} \iff \{i \in N : v_i^{B*} = B\} \in \mathcal{D}.$$

A.3 Equilibrium Properties

Definitions 4 and 5 define sincere voting functions ς_i and sincere win sets $\mathcal{W}_\varsigma(x)$.

Proposition 16 *For the length-k agenda game with proposers $[p_1, \ldots, p_k]$ beginning with bill B and status quo SQ, such that $B \in \mathcal{W}_\varsigma(SQ)$,*[17] *define $x^*_{k+1} \equiv B$. Then, under assumption (A1), any pure strategy, subgame-perfect equilibrium (x^*, v^*) where all proposers would make a passing proposal*[18] *and voting is strategic and consistent with ς_i must satisfy the following:*

1. *Legislators vote sincerely (and thus strategically) in the last vote (with amended bill x), using*

$$v_i^{j*}(x, SQ) = \varsigma_i(x, SQ) \text{ and } v_i^{B*} = \varsigma_i(B, SQ).$$

2. *Legislators vote strategically in the jth stage (after x_j has been proposed), using*

$$v_i^{j*}(x_j, B) = \begin{cases} x_j & \text{if } \varsigma_i(x_j, x^*_{j+1}) = x_j \\ B & \text{if } \varsigma_i(x_j, x^*_{j+1}) = x^*_{j+1} \end{cases}.$$

3. *$\forall j \in \{1, \ldots, k\}$, proposer p_j's equilibrium proposal strategy satisfies*

$$x^*_j \in \left\{x \in \mathcal{W}_\varsigma\left(x^*_{j+1}\right) \cap \mathcal{W}_\varsigma(SQ) : x \succeq_{p_j} y, \forall y \in \mathcal{W}_\varsigma\left(x^*_{j+1}\right) \cap \mathcal{W}_\varsigma(SQ)\right\}.$$

4. *$\forall j \in \{1, \ldots, k\}$, if p_j has an opportunity to propose, then x^*_j will be adopted as the final outcome.*

5. *x^*_1 is adopted as the final outcome.*

Proof: (1,2): By assumption. Given this behavior, the $\mathcal{W}_\varsigma(\cdot)$ win sets are correct and proposers can use them when optimizing.

(3,4): The proposers' problems are solved by induction, from the last proposer. To begin with, however, consider the situation faced by an arbitrary proposer p_j. Under the induction hypothesis, all later proposers are playing equilibrium strategies such that x^*_{j+1} will be implemented if p_{j+1} has an opportunity to propose (i.e., (3) and (4) are true for $j+1, \ldots, k$). Then there are only two possible outcomes of the agenda game if p_j has an opportunity to propose: x_j and x^*_{j+1}. Under equilibrium voting, x_j can be implemented only if $x_j \in \mathcal{W}_\varsigma(SQ)$ and $x_j \in \mathcal{W}_\varsigma\left(x^*_{j+1}\right)$. Otherwise, the legislators will vote (strategically) to reject x_j and keep B (*viz.* x^*_{j+1}). $x^*_{k+1} \equiv B$ satisfies the induction hypothesis since (if all proposals are rejected) $B \in \mathcal{W}_\varsigma(SQ)$ will be implemented.

[17] If $B \notin \mathcal{W}_\varsigma(SQ)$ then $x^*_{k+1} = SQ$ works.
[18] I.e., with $x^*_j \in \mathcal{W}_\varsigma\left(x^*_{j+1}\right) \cap \mathcal{W}_\varsigma(SQ)$

(5): Finally, the first proposer, p_1, will always have an opportunity to propose, so x_1^* will be proposed and be adopted. ∎

Corollary 17 *Consider the length-k agenda game with proposers $[p_1, \ldots, p_k]$ beginning with bill B and status quo SQ. Then, under assumption (A1), any weakly coordinated, pure strategy, subgame-perfect equilibrium (x^*, v^*) must have an associated equilibrium $(x^*, \widehat{v^*})$ where $\widehat{v_i^*}$ is consistent with some ς_i, $\forall i \in N$.*

Proof: Since (x^*, v^*) is weakly coordinated, $\exists \widehat{v^*}$ that is outcome-equivalent to v^*, with

$$\widehat{v_i^{j^*}}(x,y) = \begin{cases} x & \text{if } Outcome(x) \succ_i Outcome(y) \\ y & \text{if } Outcome(y) \succ_i Outcome(x) \\ v_i^{j^*}(x,y) & \text{if } Outcome(x) \sim_i Outcome(y) \end{cases}.$$

$\forall i \in N, x \in X, y \in \{B, SQ\}, j \in \{1, \ldots, k\}$ define

$$\varsigma_i(Outcome(x), Outcome(y)) = \begin{cases} Outcome(x) & \text{if } O(x) \succ_i O(y) \\ Outcome(x) & \text{if } O(x) \sim_i O(y) \text{ and } v_i^{j^*}(x,y) = x \\ Outcome(y) & \text{if } O(y) \succ_i O(x) \\ Outcome(y) & \text{if } O(x) \sim_i O(y) \text{ and } v_i^{j^*}(x,y) = y \end{cases}.$$

ς_i can then be extended to $X \times X$ in any manner consistent with strict preferences. ∎

Corollary 18 *Consider the length-k agenda game with proposers $[p_1, \ldots, p_k]$ beginning with bill B and status quo SQ. Then, under assumption (A1), any weakly coordinated, pure strategy, subgame-perfect equilibrium (x^*, v^*) must have an associated equilibrium $(\widehat{x^*}, \widehat{v^*})$ where all proposers would make a passing proposal and voting is consistent with ς_i. $\widehat{x^*}$ satisfies the following:*

$$\widehat{x_{k+1}^*} = \begin{cases} B & \text{if } B \in \mathcal{W}_\varsigma(SQ) \\ SQ & \text{otherwise} \end{cases}$$

$$\widehat{x_j^*} = \begin{cases} x_j^* & \text{if } x_j^* \in \mathcal{W}_\varsigma\left(\widehat{x_{j+1}^*}\right) \cap \mathcal{W}_\varsigma(SQ) \\ \widehat{x_{j+1}^*} & \text{otherwise} \end{cases} \quad \forall j \in \{1, \ldots, k\}.$$

Proof: Use the previous result to identify $\widehat{v_i^*}$ and ς.

Identify $p_{j'}$ as the last proposer who does not propose a passing amendment in equilibrium:

$$j' = max\{j \in \{1, \ldots, k\} : x_j^* \notin \mathcal{W}_\varsigma\left(x_{j+1}^*\right) \cap \mathcal{W}_\varsigma(SQ)\}.$$

Consider the subgame starting with the proposal by $p_{j'}$. Under the equilibrium, $p_{j'}$ does not propose

(or proposes a losing amendment), so that $p_{j'+1}$ has an opportunity to propose. Thus, $x^*_{j'+1}$ will be adopted.

Since $p_{j'}$ is optimizing, it must be that $x^*_{j'+1} \succeq_{p_{j'}} x \ \forall x \in \mathcal{W}_\varsigma\left(x^*_{j'+1}\right) \cap \mathcal{W}_\varsigma\left(SQ\right)$. Since $x \in \mathcal{W}_\varsigma\left(x\right)$, $x^*_{j'+1}$ would be a passing amendment for $p_{j'}$. Thus, $\widehat{x^*_{j'}} = x^*_{j'+1}$ is another equilibrium. Iterate until all proposers make passing proposals. ∎

Corollary 19 *Assuming (A1), in any weakly coordinated equilibrium of a length-k agenda game if p_j makes a passing proposal then the following are true:*

1. $\forall x \in \mathcal{W}_\varsigma\left(SQ\right)$, $x \succ_{p_j} x^*_j \Longrightarrow x \notin \mathcal{W}_\varsigma\left(x^*_{j+1}\right)$,
2. $\left\{i \in N : x^*_j \succeq_i x^*_{j+1}\right\} \in \mathcal{D}$,
3. $\left\{i \in N : x^*_j \succeq_i SQ\right\} \in \mathcal{D}$, *and*
4. $\left\{i \in N : x^*_{j+1} \succ_i x^*_j\right\} \notin \mathcal{D}$.

Proof: (1): weak axiom of revealed preference (WARP).

(2) and (3): Monotonicity of $\mathcal{D}$.

(4): Properness of $\mathcal{D}$. ∎

Definitions 8 and 9 define the true legislative choice function $\triangleright$, the weak legislative choice function $\triangleright^W$, and their associated top cycles.

Proposition 20 *Under assumptions (A1) and (A4), for any sequence of proposers P and any $p_0 \in N$,*

$$[p_0, P] \triangleright^W P.$$

Further, with the additional assumption (A2),

$$x_{[p_0,P]} \succ_{p_0} x_{[p_0]} \Longrightarrow \emptyset \triangleright^W [p_0, P].$$

Under assumptions (A2) and (A4), if $v^R_i = \varsigma_i$,[19] *then*

$$[p_0, P] \triangleright P, \ P \not\triangleright [p_0, P], \ \textit{and}$$

$$x_{[p_0,P]} \succ_{p_0} x_{[p_0]} \Longrightarrow [p_0, P] \not\triangleright \emptyset.$$

With the addition of assumption (A3),

$$x_{[p_0,P]} \succ_{p_0} x_{[p_0]} \Longrightarrow \emptyset \triangleright [p_0, P].$$

[19] So legislators use the same tie-breaking rule for voting over amendments and rules.

Proof: Note that $\{i \in N : x_{[p_0,P]} \succeq_i x_{[P]}\} \in \mathcal{D} \subset \mathcal{D}^R$. Thus, $[p_0, P] \triangleright^W P$.

If p_0 strictly prefers $x_{[p_0,P]}$ to $x_{[p_0]}$, then it must be the case that $x_{[p_0,P]}$ is not acceptable when p_0 is the only proposer (WARP). That is, $x_{[p_0,P]} \notin \mathcal{W}_\varsigma(B)$. Thus, $\{i \in N : x_{[p_0,P]} \succ_i B\} \notin \mathcal{D}$. By strongness of $\mathcal{D}$, this means that $\{i \in N : B \succeq_i x_{[p_0,P]}\} \in \mathcal{D} = \mathcal{D}^R$. Thus $\emptyset$, the agenda game with no proposers (that results in B), is $\triangleright^W$-preferred to $[p_0, P]$.

If legislators use the same voting function for rules and amendments then the coalition with $\varsigma_i(x_{[p_0,P]}, x_{[P]}) = x_{[p_0,P]}$ will vote for p_0's amendment at the beginning of the $[p_0, P]$ agenda and will also vote for $[p_0, P]$ over P, being decisive in both cases. If, in addition, $\mathcal{D}$ is strong then $\{i \in N : \varsigma_i(x_{[p_0,P]}, B) = x_{[p_0,p]}\} \notin \mathcal{D}$ is identical to $\{i \in N : v_i^R([p_0, P], \emptyset) = [p_0, P]\} \notin \mathcal{D}^R$.

Under assumption (A3), when legislators may be biased in favor of the first option, $\{i \in N : v_i^R([p_0, P], \emptyset) = \emptyset)\} \in \mathcal{D}^R \Longrightarrow \{i \in N : v_i^R(\emptyset, [p_0, P]) = \emptyset)\} \in \mathcal{D}^R$. ∎

Proposition 21 *Assume (A1), (A2), and (A4). Assume also that the set of available agendas is monotonic, so that* $[i, P] \in \mathcal{P} \Longrightarrow P \in \mathcal{P}$. *Then,*

$$P = [p_1, \ldots, p_k] \in TC^W \text{ and } x_{[P]} \succ_{p_1} x_{[p_1]} \Longrightarrow TC^W = \mathcal{P}.$$

Assume also (A3) and $v_i^R = \varsigma_i$. *Then,*

$$P = [p_1, \ldots, p_k] \in TC \text{ and } x_{[P]} \succ_{p_1} x_{[p_1]} \Longrightarrow TC = \mathcal{P}.$$

Proof: $x_{[P]} \succ_{p_1} x_{[p_1]} \Longrightarrow \emptyset \triangleright^W P \Longrightarrow \emptyset \in TC^W$ if $P \in TC^W$. Since subagendas are in $\mathcal{P}$ and $[p, \cdot] \triangleright^W [\cdot]$,

$$[p'_1, \ldots, p'_{k'}] \in \mathcal{P} \Longrightarrow [p'_1, \ldots, p'_{k'}] \triangleright^W [p'_2, \ldots, p'_{k'}] \triangleright^W \ldots \triangleright^W [p'_{k'}] \triangleright^W \emptyset.$$

Thus, $P \in TC^W \Longrightarrow \mathcal{P} \subset TC^W$.

The same logic applies to TC, given assumptions so that $\emptyset \triangleright P$. ∎

A.4 Existence of Equilibrium

Theorem 22 *Assume (A1), (A5), (A6), and (A7).* $\forall k \in \{0, 1, \ldots\}$, $SQ \in X$, $B \in X$, *and* $P = [p_1, \ldots, p_k] \in N^k$ *there exists a weakly coordinated, pure strategy, subgame-perfect equilibrium* (x^*, v^*) *of the agenda game* P *where all proposers make winning proposals and with* $\varsigma_i^*(y, x) = \begin{cases} y & \text{if } y \succeq_i x \\ x & \text{if } x \succ_i y \end{cases}$.

Proof: (Voting strategies): For every $i \in N$ choose a function $\varsigma_i : X \times X \to X$ such that[20]

$$\varsigma_i(y,x) \in \{y,x\}, \quad \forall x,y \in X,$$

$$\{y \in X : \varsigma_i(y,x) = y\} \text{ is closed}, \quad \forall x \in X, \text{ and}$$

$$\overline{\{y \in X : y \succ_i x\}} \subset \{y \in X : \varsigma_i(y,x) = y\} \subset \{y \in X : y \succeq_i x\}, \quad \forall x \in X.$$

ς_i exists since $\{y \in X : y \succeq_i x\}$ is closed ($\succeq_i$ is continuous) and $\{y \in X : y \succ_i x\} \subset \{y \in X : y \succeq_i x\}$. ς_i^* is an acceptable sincere voting function. Define

$$\begin{aligned} \mathcal{W}_{\varsigma^*}(x) &= \{x\} \cup \{y \in X : \{i \in N : \varsigma_i^*(y,x) = y\} \in \mathcal{D}\} \\ &= \{x\} \cup \bigcup_{C \in \mathcal{D}} \bigcap_{i \in C} \{y \in X : \varsigma_i^*(y,x) = y\}. \end{aligned}$$

Since $\{y \in X : \varsigma_i^*(y,x) = y\}$ is closed and n is finite, $\mathcal{W}_{\varsigma^*}(x)$ is closed $\forall x \in X$. Further, by $X \subset \mathbb{R}^m$ and (A6), $\mathcal{W}_{\varsigma^*}(SQ)$ is compact.[21] Thus, $\mathcal{W}_{\varsigma^*}(x) \cap \mathcal{W}_{\varsigma^*}(SQ)$ is compact $\forall x \in X$.

(Proposing strategies): Since preferences are continuous, there exist continuous utility functions $u_i : X \to \mathbb{R}$ that represent $\succeq_i$.[22] $\forall j \in \{1,\ldots,k\}$ define $\mu_j : X \rightrightarrows X$ by

$$\begin{aligned} \mu_j(z) &= \{x \in \mathcal{W}_{\varsigma^*}(z) \cap \mathcal{W}_{\varsigma^*}(SQ) : x \succeq_{p_j} y, \forall y \in \mathcal{W}_{\varsigma^*}(z) \cap \mathcal{W}_{\varsigma^*}(SQ)\} \\ &= \{x \in \mathcal{W}_{\varsigma^*}(z) \cap \mathcal{W}_{\varsigma^*}(SQ) : u_{p_j}(x) \geq u_{p_j}(y), \forall y \in \mathcal{W}_{\varsigma^*}(z) \cap \mathcal{W}_{\varsigma^*}(SQ)\}. \end{aligned}$$

By the Berge Maximum Theorem, $\mu_j(z)$ is non-empty for all $z \in X$.[23] Define $x_{k+1}^* = B$ if $B \in \mathcal{W}_\varsigma(SQ)$ and $x_{k+1}^* = SQ$ otherwise. $\forall j \in \{1,\ldots,k\}$ choose any $x_j^* \in \mu_j(x_{j+1}^*)$.

With these x_j^*, define voting strategies, v_i^*, in a manner consistent with ς^*, as follows, $\forall i \in N, j \in \{1,\ldots,k-1\}, (x_1,\ldots,x_k) \in X^k, x \in X$:

$$\begin{aligned} v_i^*(x_j,B) &= \begin{cases} x & \text{if } \varsigma_i^*(x_j,x_{j+1}^*) = x_j \\ B & \text{if } \varsigma_i^*(x_j,x_{j+1}^*) = x_{j+1}^* \end{cases} \\ v_i^*(x,SQ) &= \varsigma_i^*(x,SQ). \end{aligned}$$

∎

[20] $\overline{A}$ is the closure of $A \subset X$ in X.

[21] Heine-Borel Theorem, e.g., Aliprantis and Border (1999) Theorem 3.19. This is the only point where (A5) and (A6) are used. Thus, the result can be extended to non-Euclidean outcome spaces so long as $\mathcal{W}_{\varsigma^*}(SQ)$ is compact.

[22] E.g., Mas-Colell, Whinston, and Green (1995) Proposition 3.C.1.

[23] E.g., Aliprantis and Border (1999) Theorem 16.31.

Corollary 23 *Assume (A1), (A5), (A6), and (A7). For any $k \in \{0, 1, \ldots\}$, $SQ \in X$, $B \in X$, and $P = [p_1, \ldots, p_k] \in N^k$, consider any weakly coordinated, pure strategy, subgame-perfect equilibrium (x^*, v^*).*

If x_j^* is not a local satiation point for p_j in X[24] and SQ is sufficiently extreme[25] *then*

$$\begin{aligned} \{i \in N : x_j^* \succ_i x_{j+1}^*\} &\notin \mathcal{D} \text{ and} \\ \{i \in N : x_j^* \succeq_i x_{j+1}^*\} &\in \mathcal{D}. \end{aligned}$$

Proof: In equilibrium, p_j must be optimizing, so that x_j^* is $\succeq_{p_j}$-optimal in $\mathcal{W}_\varsigma\left(x_{j+1}^*\right) \cap \mathcal{W}_\varsigma\left(SQ\right)$. As x_j^* is not a local satiation point, in every neighborhood of x_j^*, $\exists x \succ_{p_j} x_j^*$. Note that $x \notin \mathcal{W}_\varsigma\left(x_{j+1}^*\right) \cap \mathcal{W}_\varsigma\left(SQ\right)$, so $\exists i \in N$ such that

$$\begin{gathered} \varsigma_i(x_j^*, x_{j+1}^*) = x_j^* \quad \text{and} \quad \varsigma_i(x, x_{j+1}^*) = x_{j+1}^* \\ \text{OR} \\ \varsigma_i(x_j^*, SQ) = x_j^* \quad \text{and} \quad \varsigma_i(x, SQ) = SQ. \end{gathered}$$

Since $\succeq_i$ is continuous, $\{y \in X : y \succ_i z\}$ is open for every $z \in X$. In particular, this means that

$$\begin{aligned} x_j^* \succ_i x_{j+1}^* &\implies x \succ_i x_{j+1}^* \text{ and} \\ x_j^* \succ_i SQ &\implies x \succ_i SQ. \end{aligned}$$

Since SQ is extreme, it must be the case that $x_j^* \sim_i x_{j+1}^*$ and $\varsigma_i(x_j^*, x_{j+1}^*) = x_j^*$.

Consider now the hypothetical situation where i's voting is given by ς_i except when considering x_j^* over x_{j+1}^*, where x_{j+1}^* is chosen. If this does not change the equilibrium, repeat the previous analysis until some i^* is important enough to affect the equilibrium.[26] Since the equilibrium is not sensitive to how an individual votes unless that voter is pivotal, it must be that i^* is pivotal, so

$$\begin{aligned} \{i \in N : \varsigma_i(x_j^*, x_{j+1}^*) = x_j^*\} &\in \mathcal{D} \text{ and} \\ \{i \in N \setminus \{i^*\} : \varsigma_i(x_j^*, x_{j+1}^*) = x_j^*\} &\notin \mathcal{D}. \end{aligned}$$

The result is then proven with assumption (A1). ∎

[24] i.e., in every open neighborhood $\mathcal{N}_{x_j^*} \subset X$ of x_j^*, $\exists x \in \mathcal{N}_{x_j^*}$ such that $x \succ_{p_j} x_j^*$.

[25] Such that $x_j^* \succeq_i SQ$, $\forall i \in N, j \in \{1, \ldots, k\}$. For the multi-dimensional spatial model (with circular preferences), this can be defined in terms of the yolk (McKelvey 1986). If the last proposal is Pareto optimal, then any status quo that lies at least $2 * k$ yolk-radii outside of the Pareto set is dominated by every amendment that can beat the last proposal in a k-step agenda.

[26] $\mathcal{D}$ is proper and monotonic, so that the empty coalition $N \setminus N$ is not decisive and the equilibrium must change before $\{i \in N : \varsigma_i(x_j^*, x_{j+1}^*) = x_j^*\} = \emptyset$.

A.5 Instability Results

Theorem 24 *Assume* $N = \{l_A, l_M, l_L\}$, $\mathcal{P} = \{\emptyset, [l_A], [l_M], [l_A, l_M]\}$, *and* $\mathcal{D} = \mathcal{D}^R = \mathcal{D}_M = \{\{l_A, l_M\}, \{l_A, l_L\}, \{l_M, l_L\}, \{l_A, l_M, l_L\}\}$.

Label as B, A, M, *and* A_M *the outcomes of pure strategy, subgame-perfect equilibria for agendas in* $\mathcal{P}$ *with voting rules based on* $\varsigma_i^*(y,x) = \begin{cases} y & \text{if } y \succeq_i x \\ x & \text{if } x \succ_i y \end{cases}$. *Assume further that each of these outcomes is unanimously preferred to the status quo,* SQ.

If the top cycle of the endogenous rules stage is $TC = \{[l_A, l_M]\}$, *then legislators' preferences over outcomes must satisfy:*

$$\begin{array}{ccc} A \succeq_{l_A} A_M \succeq_{l_A} M, & & A \succeq_{l_A} B \\ M \succeq_{l_M} B, & M \succeq_{l_M} A, & A_M \succ_{l_M} A \\ & A_M \succ_{l_L} A. & \end{array}$$

Assume that $\succeq_i$ *is a continuous preference relation on the outcome set* $X \subset \mathbb{R}^m$, $\forall i \in N$. *If* A, A_M, *and* M *are not local satiation points for their proposers and* $A \succ_{l_A} B$, $A_M \succ_{l_A} M$, *and* $M \succ_{l_M} B$, *then:*

$$\begin{array}{c} A \succeq_{l_A} A_M \succ_{l_A} B \succeq_{l_A} M \\ M \succeq_{l_M} A_M \succ_{l_M} A \sim_{l_M} B \\ B \succeq_{l_L} M \succeq_{l_L} A_M \succ_{l_L} A. \end{array}$$

Proof: Note that subgame perfection implies that l_M's proposal under the $[l_A, l_M]$ agenda must be the same as her proposal under the $[l_M]$ agenda, M. As shown earlier in Corollary 19, in equilibrium it must be the case that

$$\begin{array}{ccc} A \succeq_{l_A} B & A \succeq_{l_A} M & |i \in N : A \succeq_i B| \geq 2 \\ M \succeq_{l_M} B & M \succeq_{l_M} A & |i \in N : M \succeq_i B| \geq 2 \\ A_M \succeq_{l_A} M & & |i \in N : A_M \succeq_i M| \geq 2. \end{array}$$

Since $[l_A, l_M]$ is the only agenda in the top cycle, it must be the case that

$$\begin{array}{rcl} |i \in N : B \succeq_i A_M| & \leq & 1 \text{ and} \\ |i \in N : A \succeq_i A_M| & \leq & 1. \end{array}$$

By WARP, $A_M \in \mathcal{W}_{\varsigma^*}(B) \Longrightarrow A \succeq_{l_A} A_M$, so $A_M \succ_{l_M} A$ and $A_M \succ_{l_L} A$. Collecting these proves the first result.

If preferences are continuous and the proposals are not local satiation points, then at least one legislator must be indifferent on each vote and no more than one can have a strict preference in each direction. Since proposers are assumed to have a strict preference for their proposal ($A, A_M,$ or M), the other two legislators must both weakly prefer the continuation alternative ($B, M,$ or B). Since $B \succeq_{l_L} M$ and $M \succeq_{l_L} A_M$, transitivity and $TC = \{[l_A, l_M]\}$ imply $A_M \succ_{l_A} B$ and $A_M \succ_{l_M} B$. Further, $B \succ_{l_L} A$ so that $A \sim_{l_M} B$. Finally, transitivity strengthens some weak preferences to $A \succ_{l_A} M$, $M \succ_{l_M} A$, and $M \succ_{l_L} A$. ∎

Chapter IV

Applications of the Endogenous Rule Model

The endogenous rule model developed in Chapter III assumes that legislators have abstract, very general, preferences. These legislators are provided with a bill B and then choose among a set of sequential elimination agendas $\mathcal{P}$ before using the chosen agenda to amend the bill. In this way, it might be considered a model of special rules in the House of Representatives, where the House chooses a rule to govern consideration of a particular, identified, bill.

Many of the models of policy choices (and preferences) commonly used in political science are special cases of the preferences assumed in the endogenous rule model. Three typical models will be examined in more detail, to determine what rules and outcomes could result from a legislature considering those sorts of problems. The first model is a distributive or "divide-the-dollar" game where legislators are determining how to divide a pie, each wanting the largest share possible. The second and third models are "spatial" games where legislators are choosing a policy that will apply to everyone, such as a public good (or the size of the pie for a later distributive game). The second model considers a one-dimensional policy space, where all legislators can agree on a left-right ordering of the potential policies but disagree as to which particular policy is best. For example, the legislature might need to divide a fixed budget between "guns" and "butter." The third model considers a multi-dimensional policy space, where there are several issues to be decided. Perhaps the legislature

needs to divide a fixed budget among three or more options; perhaps they need to choose budgets for guns and butter, but the total is not fixed.

1 Divide-the-Dollar Game

Distributive issues, where each legislator cares only about what they receive and not what others receive, are the basis of many models, such as Baron and Ferejohn (1989).

Assume that the legislature $N = \{1, \ldots, n\}$ operates under a supermajority q rule (so that winning coalitions are those with at least q members, for $\frac{n}{2} < q < n$). Assume $n \geq 3$ so that q is well-defined. Assume that the outcome space is $X = \{(x_1, \ldots, x_n) \in [0,1]^n : \sum_{i=1}^n x_i \leq 1\}$ and preferences are given by utility functions $u_i(x) = x_i$ (so that legislators care only about their share of x. Let the status quo be $(0,0,0)$ and note that $x \succeq_i SQ$ for every $x \in X$ and $i \in N$ (thus, the status quo is irrelevant).

Proposition 25 *The top cycle of the endogenous rules game is generally global in the divide-the-dollar setting. In particular, assume the set of feasible agendas, $\mathcal{P}$, is non-empty and satisfies $(\forall i \in N, k \in \{0,1,\ldots\}, P \in N^k)$ $[i] \in \mathcal{P} \Longrightarrow \exists j \in N$ st $[i,j] \in \mathcal{P}$ and $[i,P] \in \mathcal{P} \Longrightarrow [P] \in \mathcal{P}$. Then, for almost all bills $B \in X$, $TC = \mathcal{P}$.*[1]

Proof: See the appendix to this chapter. ∎

If a legislature is facing a divide-the-dollar problem, the endogenous rule model is unable to make a prediction about which specific agenda will be used (so long as a two-amendment agenda is in order). However, the model does make predictions about the outcomes that could be implemented. Namely, the only outcomes that can implemented are the original bill, B, and amended bills where $n-1$ legislators receive either 0 or their share of the original bill while the remaining legislator takes everything else. Thus, where this model applies, it predicts that distributive bills will either not be amended or will result in the complete exploitation of the excluded members.

[1] In fact, the agenda top cycle is global for all bills in the interior of X.

Kalandrakis (2005) considers the divide-the-dollar problem in a different institutional environment, but ultimately reaches the same conclusion. He allows for random recognition of proposers and endogenous stopping[2] (as opposed to the fixed order and fixed length here), but finds that every outcome in X is an equilibrium of some recognition rule. Thus, Riker's (1980) inheritance problem occurs and the top cycle over recognition rules will be global.

Kalandrakis's model can be viewed as a model for the House, once it has decided to use an "open" rule for considering a distributive bill. The model here may be a better model for the House, once it has decided to use a "restrictive" rule and now needs to determine which particular restrictive rule it wants to use. This suggests that any bill that receives a restrictive rule and is amended must either be an extreme bill (excluding benefits from those who vote against it) or not be a distributive bill. Thus, given the data in Chapter II that restrictive rules are more common than open rules on important bills, this model may predict outcome better than Kalandrakis's model.[3]

2 One-Dimensional, Single-Peaked Preferences

The one-dimensional policy space is probably the most widely used model in political science. The median voter theorem (e.g., Downs 1956 and Black 1958) is the most fundamental, but one can also look to the Romer-Rosenthal (1978, 1979) setter model, Krehbiel's (1998) pivotal politics model, and many others. This setting is widely used because it is one of the few environments where a Condorcet winner does exist, at the median ideal point.

The one-dimensional setting is also implicitly used in general political discourse, where terms like left, center, and right or liberal, moderate, and conservative are used. It is assumed that someone might like conservatives most (and liberals least), liberals

[2]That is, a proposer can move to stop amending (like the previous question) or can propose an amendment.

[3]Of course, the Appropriations Committee has privilege to bring any of its bills to the floor under the (open) standing rules, in which case Kalandrakis is more applicable.

most (and conservatives least), or moderates most. They will not like moderates least, however.

To develop the one-dimensional model, assume that $X = \mathbb{R}$ and each legislator $i \in N$ has an ideal point $x_i^* \in X$ with single-peaked (continuous) preferences such that: $x < y \leq x_i^*$ or $x > y \geq x_i^* \Longrightarrow y \succ_i x$. Assume that the n-person legislature (n odd) uses majority rule, so that winning coalitions are those with more than $\frac{n}{2}$ members. Then identify a median legislator M as a legislator whose ideal point satisfies $|\{i \in N : x_i^* \leq x_M^*\}| > \frac{n}{2}$ and $|\{i \in N : x_i^* \geq x_M^*\}| > \frac{n}{2}$.[4]

Proposition 26 *The top cycle of the endogenous rules game is generally not global in the one-dimensional setting, with (at least) the closed rule being excluded. In particular, assume the set of feasible agendas, $\mathcal{P}$ is non-empty and define the set of possible proposers, $P^* = \{j \in N : \exists P \in \mathcal{P}$ st j proposes in $P\}$.*

- *If $\exists j \in P^*$ such that $|\{i \in N : x_j^* \succ_i B\}| > \frac{n}{2}$, identify $\hat{\jmath}$ as the Condorcet winner among $\{x_j^* : j \in P^*\}$. Then $TC = \{P \in \mathcal{P} : \hat{\jmath}$ proposes in $P\}$, and the possible outcomes are $x_{\hat{\jmath}}^*$ and $I(x_{\hat{\jmath}}^*)$ such that $|\{i \in N : I(x_{\hat{\jmath}}^*) \succ_i x_{\hat{\jmath}}^*\}| < \frac{n}{2}$ and $|\{i \in N : x_{\hat{\jmath}}^* \succ_i I(x_{\hat{\jmath}}^*)\}| < \frac{n}{2}$.*

- *Otherwise, $TC = \mathcal{P}$, and the possible outcomes are B and $I(B)$ such that $|\{i \in N : I(B) \succ_i B\}| < \frac{n}{2}$ and $|\{i \in N : B \succ_i I(B)\}| < \frac{n}{2}$.*

Note that $M \in P^*$ implies that the only possible outcome is the median ideal point, x_M^*. Further, unless all moderate legislators are prohibited from ever proposing, the top cycle excludes the null agenda (or closed rule).

Proof: See the appendix to this chapter. ∎

If the legislature is facing a one-dimensional policy problem and its general parliamentary rules allow any legislator to propose, then the endogenous rules model predicts that the legislature will not adopt any agenda that prohibits the median legislator from proposing. In particular, unless there is an ex ante prohibition on the median proposing, the legislature should never adopt a closed rule.[5] Further, the set

[4] There may be multiple median legislators, but they will all have the same ideal point.

[5] Unless the bill is already at the median legislator's ideal point.

of possible outcomes is very small, even when some legislators can never propose. To this end, the endogenous rules model predicts policy stability and a limited range of agendas used.

3 Multi-Dimensional Spatial Model

While the one-dimensional spatial model is widely used in political science, the multi-dimensional model is less used. The one-dimensional model can be used to make definite predictions (median voter results), but the multi-dimensional model is generally unable to make informative predictions, as shown by Plott (1967), McKelvey (1976,1979), and Schofield (1978). Even so, there is a large literature trying to use a multi-dimensional model to rationalize legislative voting patterns (e.g., DW-NOMINATE scores from Poole and Rosenthal 1997).

Some scholars have examined this model under particular institutional settings in an attempt to make predictions (e.g., Shepsle 1979). Banks and Gasmi (1987) and Krehbiel and Meirowitz (2002) have both examined a two-dimensional endogenous agenda model (i.e., where legislators propose amendments), which forms the basis of this section. Imposition of a specific agenda structure may lead to a prediction, but different agendas will lead to different outcomes, undermining this predictability. The endogenous rules model addresses this concern, by ensuring that the legislature is choosing the agenda structure with full knowledge of what policy will result.

For tractability, assume that the legislature consists of three players, labeled as l_A, l_M, and l_L.[6] Assume that $X = \mathbb{R}^m$ and that the legislators have ideal points (p_A^*, p_M^*, p_L^*) and utility functions $U_i(x) = u_i(\|x - p_i^*\|)$, where $u_i : \mathbb{R} \to \mathbb{R}$ is a strictly decreasing function of the Euclidean distance between x and i's ideal point. If $\{p_A^*, p_M^*, p_L^*\}$ are co-linear, this is effectively a one-dimensional model, as above. If the ideal points are not co-linear, they all lie in a single plane; without loss of

[6]Or, equivalently, these can be three similarly-sized voting blocs. Each group needs to always vote together (even when indifferent), and no group can be decisive on its own. The labels were initially chosen to represent the (A)mendment and (M)otion to recommit proposers and the remaining (L)egislator, which may still be a useful mnemonic for interpreting the families of agendas that will be considered. As will be revealed by the proof, another interpretation is (M)oderate.

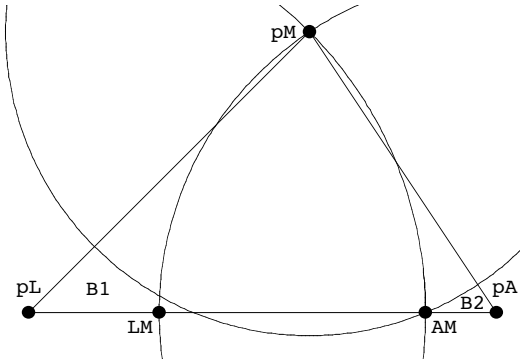

Figure IV.1: Bills in $B1$ and $B2$ result in the $[l_A, l_M]$ two-amendment agenda being a Condorcet winner.

generality assume that $m = 2$. Note that the Pareto set is the convex hull (triangle) of $\{p_A^*, p_M^*, p_L^*\}$. Assume that the status quo, SQ, is so extreme that it does not matter. Further assume that the bill, B, is in the Pareto set.

Proposition 27 *The top cycle of the endogenous rules game is global for some bills and selective for other bills in the three-player multi-dimensional spatial model setting. In particular, assume the set of feasible agendas, $\mathcal{P}$, consists of all length-2 (and shorter) agendas. Then $TC = \mathcal{P}$ unless the bill B lies in regions $B1$ or $B2$ of Figure IV.1, when the $[l_A, l_M]$ two-amendment agenda is the Condorcet winner of the endogenous rules stage.*

Proof: See the appendix to this chapter. ∎

If the top cycle excludes any agenda from the set of length-2 agendas $\mathcal{P}$, then $TC(\mathcal{P}) = \{[l_A, l_M]\}$ so the rule adopted provides that the last amendment is offered by the most moderate legislator while the first amendment is offered by the legislator most in agreement with the moderate. Further, this will occur only when the bill B is close to the extreme legislators, l_A and l_L. On the other hand, if the given bill is moderate, then the top cycle of the endogenous rules game includes all feasible agendas.

Since outcomes are so dependent on the location of the bill, it is interesting to consider where B comes from. For example, if legislator l_A were allowed to choose

B before the legislature chose its (special) rules, then l_A could pick a bill close to p_A^* so that the legislature would choose $[l_A, l_M]$ as the Condorcet winning rule and the final outcome will be very close to l_A's ideal point. On the other hand, if legislator l_L proposed a B close to his ideal point, the legislature would again choose $[l_A, l_M]$ and the outcome will be close to l_A's ideal point (and distant from l_L's). This suggests that l_M and l_L should propose moderate bills and trust that a good (for them) rule will be chosen, while l_A should propose an extreme bill to obtain a particular rule and an outcome close to her ideal point.

4 Summary

The application of the endogenous rules model to particular models of legislators' preferences provides some predictions about what kinds of rules a legislature will adopt. More importantly, the model is able to predict that certain rules will not be adopted for particular types of issues. This provides two potential methods for testing the applicability of the model: to look for rules that are inappropriate to the (known) issue space and to consider which issue spaces are inappropriate for the observed rule.

For distributive (divide-the-dollar) issues, the endogenous rules model is unable to make a particular prediction as to which rules should be adopted, but outcomes are very constrained, in that any legislator who is not included in an amending coalition should be completely cut out of the bill. This does not seem to be consistent with the amendment history of "pork barrel spending" bills in the House of Representatives. With few exceptions, amendments to appropriations bills seem to add (or slightly rearrange) funds. When a Congressman actually proposes deep cuts to a bill, it seems to be reported in the major media.[7] Thus, it appears that the House must not

[7]For example, "House upstart frustrates both parties," *USA Today*, July 27, 1999, p. 13A, reports on the activities of Oklahoma Representative Tom Coburn. "In May, Coburn brought the House to a virtual standstill by threatening to attach 130 amendments to an agriculture appropriations bill that he thought cost too much. Since then, he's almost single-handedly forced nearly $1 billion in cuts from the first seven spending bills the House has passed for the next fiscal year." Even the Senate, where he now serves, recognizes this history – the brief biography of Coburn there includes that same quote. (See `http://www.senate.gov/pagelayout/senators/one_item_and_teasers/coburn.htm` as of May 1, 2005.)

normally consider purely distributive issues.

The endogenous rules model is able to make definite predictions with respect to single-dimensional issues, however. In the absence of ex ante prohibitions on moderate legislators proposing amendments, a legislature considering a one-dimensional issue should never adopt a closed rule. This prediction is testable, to the extent that the dimensionality of an issue can be determined, and a preliminary test does support the hypothesis.

The House adopts special rules to govern the debate of many bills. These special rules are classified by the Rules Committee into three large categories: open, structured, and closed.[8] This provides a fairly direct way to measure the endogenous rule portion of the model's prediction. The dimensionality of a bill may possibly be inferred from the goodness of fit of an ideal point estimation technique. If most votes on a bill are correctly predicted by a low-dimension spatial model, it seems likely that the dimensionality of the bill is small; if the model predicts votes poorly, then presumably the dimensionality is high.

Dimensionality should be related to, for example, the proportional reduction in error (PRE) of DW-NOMINATE ideal point estimates. Table IV.1 reports the appropriately weighted descriptive statistics of PRE by type of rule in the 106th House.[9] Open rules have significantly higher PRE scores than other types of rules (p-values of 0.07 for structured, 0.16 for closed, and 0.055 combined). Structured rules have somewhat higher PRE scores than closed rules, but the difference is not significant. This suggests that bills with open rules have lower dimensionality than bills with restrictive (closed and structured) rules, the effect predicted by the one-dimensional endogenous rules model.

[8]Structured rules specify that only selected amendments are in order, usually making most of the bill non-amendable, which could be interpreted as a closed rule.

[9]Rule classification is from *106th Survey*, pp. 68-73. The data set includes all House and Senate bills in the 106th House (1999-2000) with special rules where the bill had a final passage roll call vote with 300 or fewer votes cast on the winning side (this is an arbitrary value, approximating a 2/3-majority threshold). Individual bill PRE scores for final passage votes are from Poole and Rosenthal, at `http://www.voteview.com/H106RollCalls.htm`. As recommended by Poole and Rosenthal (1998, 30), PRE scores were weighted by the minority (losing) vote on the bill to find the aggregate proportional reduction in error (APRE).

	Open	Structured	Closed
APRE	0.758	0.708	0.693
sd	0.161	0.247	0.213
n	21	27	11

Table IV.1: DW-NOMINATE proportional reduction in error by rule type, 106th House, 1999-2000.

When applied to the multi-dimensional spatial model, the endogenous rules model makes different predictions depending on the location of the given bill. For moderate bills, the model is unable to make a prediction as to the rule that will be adopted. For other bills (those implementing policies close to the ideal policy of the extreme legislators), the model predicts that a particular rule should be adopted over all others. That rule gives a moderate legislator the right to offer the last amendment while allowing a somewhat more extreme legislator to offer the first amendment. To the extent that political parties are composed of legislators with similar preferences, we can label these legislators in a quite natural way:

l_A The first amendment proposer represents the leadership of the majority party.

l_M The final amendment proposer represents the moderates in the majority party.

l_L The remaining legislator represents the minority party.

Compare this prediction to the rule that the House adopted in 1909 providing for the post-previous-question (amendatory) motion to recommit:

> Rule XVI.4: "After the previous question shall have been ordered on the passage of a bill or joint resolution one motion to recommit shall be in order, and the Speaker shall give preference in recognition for such purpose to a Member who is opposed to the bill or joint resolution" (*CR*, March 15, 1909, p. 22).

The rule offered the last amendment to those "opposed" to the bill, as recognized by the Speaker, not to those in the minority party.[10]

[10]It is important not to read too much into this, however, since by 1919 the Speaker was describing this as a minority right. See *Roundtable*, 1992, p. 18.

Taken together, these results suggest that the endogenous rule model is able to reflect some of the behavior of the House of Representatives, and it predicts that most of the issues the House considers bear more resemblance to multi-dimensional issues than to either single-dimensional or distributive issues.

A Proofs

A.1 Divide-the-Dollar Game

Proof: This is a result of Proposition 10, result 4. It will be shown that i benefits from the agenda $[i, P]$ (relative to $[i]$), and ultimately that $TC = \mathcal{P}$.

Consider the situation of legislator i who is allowed to propose an amendment A^* as an alternative to A. That is, if A^* is voted down, A will be implemented. Then i's best response proposal A^* will be based on forming a coalition of low-value legislators, satisfying:

$$\begin{aligned} A_j^* &= A_j \quad j \in C \\ A_j^* &= 0 \quad\;\; j \in (N \setminus \{i\}) \setminus C \\ A_i^* &= 1 - \textstyle\sum_{j \neq i} A_j^* \end{aligned}$$

for some set $C \subset N \setminus \{i\}$ such that $|C| = q - 1$ and $A_j \leq A_{j'}$, $\forall j \in C, j' \in (N \setminus \{i\}) \setminus C$. Thus, $A_i^* = 1 - \sum_{j \in C} A_j \geq A_i$ and $A_j^* \leq A_j$, $\forall j \neq i$.

Without loss of generality, focus on legislator n, and sort the remaining legislators so that $0 \leq B_1 \leq \ldots \leq B_{n-1}$ (without placing any constraint on B_n). For agenda $[n]$, legislator n will form a coalition with legislators 1 through $q - 1$, giving each of them B_j and keeping $1 - \sum_{j=1}^{q-1} B_j$ for himself.

For the agenda $[n, P]$ (with $P \neq \emptyset$), n is facing an alternative A. With the exception of the previous proposer, $\hat{\jmath}$, $A_j \leq B_j$. Further, $A_{j_0} = 0$ for some legislator $j_0 \geq q$.[11] If $j_0 \neq n$, then n can form a coalition of legislators consisting of

$$\begin{aligned} \{1, \ldots, q-2, j_0\} \quad &\text{if} \quad \hat{\jmath} \geq q - 1 \\ \{1, \ldots, q-1, j_0\} \setminus \{\hat{\jmath}\} \quad &\text{if} \quad \hat{\jmath} < q - 1. \end{aligned}$$

Thus n keeps at least $1 - \sum_{j=1}^{q-1} B_j + \min\{B_{q-1}, B_{\hat{\jmath}}\}$. If B is in the interior of X (so $B_j > 0, \forall j \in N$), n strictly prefers the $[n, P]$ agenda outcome to that of the $[n]$ agenda.

If $q \leq n - 2$, then $j_0 \neq n$ as there will always be a legislator with $A_j = 0$ (either $n - 1$ or $n - 2$) who can be used to complete n's coalition and obtain the result.

If $q = n - 1$ and $B_n \geq B_{n-1}$ (or $\hat{\jmath} = n - 1$ and $B_n \geq B_{n-2}$), then n will be the only legislator excluded from $\hat{\jmath}$'s coalition. So, n will propose a coalition with all legislators except $\hat{\jmath}$, offering each coalition member $A_j \leq B_j$. But then the null agenda will beat $[n, \hat{\jmath}, \ldots]$ in the endogenous rule stage, as all legislators except n will weakly prefer B to n's proposal.

[11] j_0 can always be one of n, $n - 1$, or $n - 2$, depending on whether $\hat{\jmath} = n - 1$ and $B_n \geq B_{n-1}$ or $B_n \geq B_{n-2}$.

In summary, consider B in the interior of X. Then, for every $[i,P] \in \mathcal{P}$ with $P \neq \emptyset$, either $x_{[i,P]} \succ_i x_{[i]}$ or $\emptyset \triangleright [i,P]$. Assume, for the moment, that $TC \neq \mathcal{P}$. Then

$$\begin{aligned} x_{[i,P]} \succ_i x_{[i]} &\implies [i,P] \notin TC \\ &\implies [P] \notin TC \\ &\implies \dots \\ &\implies \emptyset \notin TC. \end{aligned}$$

Thus $P' \notin TC$ for every $P' \in \mathcal{P}$ so that the top cycle is empty, an impossiblity. $\therefore TC = \mathcal{P}$ ∎

A.2 One-Dimensional, Single-Peaked Preferences

Proof: Note that the assumption of continuous single-peaked preferences means that the individual "better than" sets $R_i(x) = \{y \in X : y \succeq_i x\}$ are closed intervals, with one endpoint at x. Thus, the legislative win set, $\mathcal{W}(x)$ is a closed interval with one endpoint at x, the other endpoint at $I(x)$, and includes x_M^*.

$$\mathcal{W}(x) = \{y \in X : \{i \in N : y \succeq_i x\} \in \mathcal{D} = \bigcup_{C \in \mathcal{D}} \bigcap_{i \in C} R_i(x)$$

Consider the situation faced by legislator j when proposing against an alternative A that will be implemented if j's proposal is rejected. Assume, without loss of generality, that $x_M^* \leq A$. Then j's best response proposal is defined by:

$$\begin{aligned} I(A) \quad &\text{if} \quad x_j^* \leq I(A) \\ x_j^* \quad &\text{if} \quad I(A) \leq x_j^* \leq A \\ A \quad &\text{if} \quad A \leq x_j^* \end{aligned}$$

or, equivalently,

$$\begin{aligned} I(A) \text{ or } A \quad &\text{if} \quad |\{i \in N : x_j^* \succeq_i A\}| < \frac{n}{2} \\ x_j^* \quad &\text{if} \quad |\{i \in N : x_j^* \succeq_i A\}| > \frac{n}{2}. \end{aligned}$$

Thus, an agenda P will lead to the Condorcet winner in the set

$$\{x_j^* : j \text{ proposes in } P\} \cup \{B\}$$

and $I(\cdot)$ of that point. Further, agendas in $\mathcal{P}$ will lead only to outcomes in $\{x_j^* : j \in P^*\} \cup \{B\}$, so

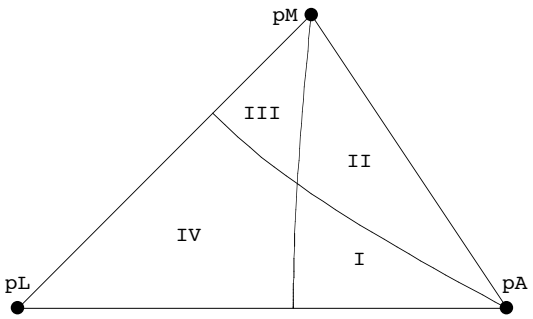

Figure IV.2: Regions of Pareto set for three player 2-dimensional example.

an agenda will be in the top cycle only if it leads to the Condorcet winner of that set. If B is not that Condorcet winner, $P \in \mathcal{P}$ is in the top cycle only if P includes $\hat{\jmath}$, where $x^*_{\hat{\jmath}}$ defeats all other points in $\{x^*_j : j \in P^*\} \cup \{B\}$. Otherwise, no proposer will beat the bill and $TC = \mathcal{P}$. ∎

A.3 Multi-Dimensional Spatial Model

Proof: As shown by Banks and Gasmi (1987), the best response of proposer i to a point x depends on the location of that point with respect to the hyperbola through p^*_i with foci at the other ideal points. Referring to Figure IV.2, if B lies in areas I or IV then l_A's best response $A(B)$ will lie on the line between p^*_A and p^*_M such that $\|B - p^*_M\| = \|A(B) - p^*_M\|$. If B lies in II or III then $A(B)$ lies on the line between p^*_A and p^*_L so that $\|B - p^*_L\| = \|A(B) - p^*_L\|$. Similarly, for B in I or II, l_M chooses $M(B)$ to keep l_L indifferent, while l_A is kept indifferent for B in III or IV.

Given the best responses of the proposers, the examination of the top cycle will proceed in three stages. Note that if $\mathcal{P}' \subset \mathcal{P}$, then $P \in TC_{\triangleright}(\mathcal{P}) \Longrightarrow P \in TC_{\triangleright}(\mathcal{P}')$. Thus, if the top cycle is global on a subset of available agendas, the top cycle over all available agendas can be no smaller than that subset. To this end, begin by fixing two proposers and allow both, one, or neither of them to propose (in a fixed order). This set of agendas can then be expanded to allow these two to propose in either order. Finally, the complete set of length-2, length-1, and closed agendas will be considered, using the previous results.

Top cycle with two proposers in a particular order

Consider a legislature which is allowed to choose among only a small set of agendas, namely $\mathcal{P}_{AM} = \{\emptyset, [l_A], [l_M], [l_A, l_M]\}$. Define the outcomes of these agendas as B, A, M, and A_M, respectively, so that A is l_A's best response to B, M is l_M's best response to B, and A_M is l_A's best response to M (by subgame perfection).

In a pure strategy, subgame-perfect equilibrium where the proposers' ideal points are not pro-

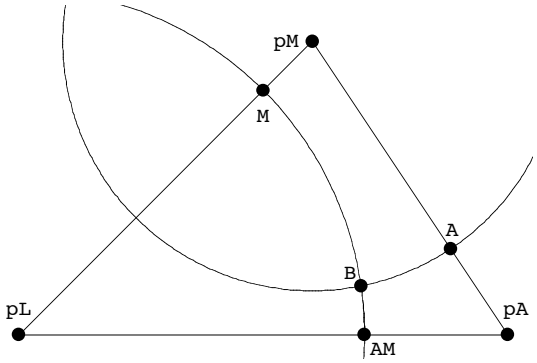

Figure IV.3: Example of a bill in region I.

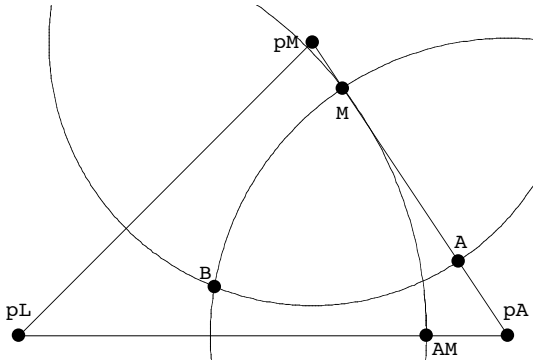

Figure IV.4: Example of a bill in region IV.

posed and $[l_A, l_M]$ is the only agenda in the top cycle of $\mathcal{P}_{AM}$, Proposition 11 severely limits the possible preferences over the outcomes. For example, it must be the case that $A \sim_{l_M} B$. Thus, the bill B must lie in either region I or IV. If B lies in I, as in Figure IV.3, M lies on the $p_M^* p_L^*$ line (in region III) and $M \sim_{l_L} B$. Then A_M will lie on the $p_A^* p_L^*$ line in region I and $A_M \sim_{l_L} M$. Note that $\|B - p_M^*\| \leq \|A_M - p_M^*\|$, so that $B \succeq_{l_M} A_M$ – a contradiction with $TC = \{[l_A, l_M]\}$. Thus, B must lie in region IV, as in Figure IV.4. For B in that region, l_M will propose M on the edge of region II and l_A will propose A_M on the $p_A^* p_L^*$ edge of region I. For most bills, $B \succeq_{l_M} A_M$, preventing the two-amendment agenda from being stable because l_M and l_L will prefer the outcome of $\emptyset$ (namely B) to that of $[l_A, l_M]$.

There is, however, a small subset of region IV, close to p_L^*, where l_M's preference ordering will be correctly $M \succ_{l_M} A_M \succ_{l_M} A \sim_{l_M} B$. An example is in Figure IV.5, indicating the equilibrium proposals and relevant indifference curves. Note that A_M lies just inside of l_M's indifference curve through B and A. Bills leading to the (l_A, l_M) agenda are always close to p_L^*, and exist if p_M^* lies in the region indicated in Figure IV.6. This region is bounded by the hyperplane halfway between p_A^* and p_L^*, the parallel plane through p_A^*, and the circle centered on p_A^* and passing through p_L^*. The midpoint-boundary is related to the hyperbola shown in Figure IV.2, and is associated with a change in the type of equilibrium. Similarly, if p_M^* crosses the p_A^* boundary then $A_M = p_A^*$ and l_A is

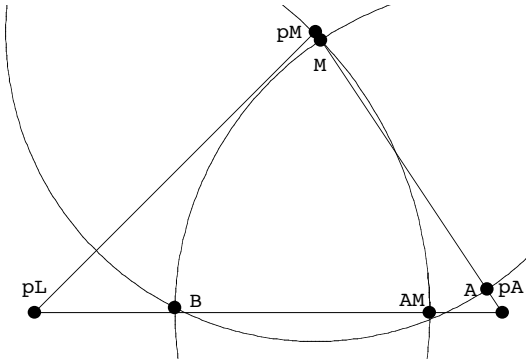

Figure IV.5: A bill where the $[l_A, l_M]$ agenda beats all subagendas.

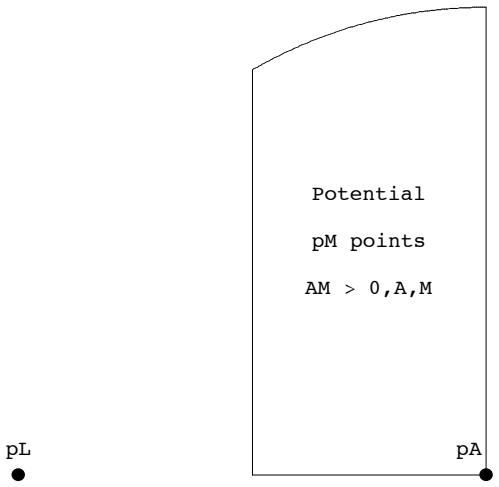

Figure IV.6: Ideal points where the $[l_A, l_M]$ agenda can beat all subagendas.

satiated. The remaining boundary, where $\|p_L^* - p_A^*\| = \|p_M^* - p_A^*\|$, is associated with l_A becoming satiated when choosing A.

Thus, if the legislature is constrained to allow l_A and then l_M to offer amendments, allow only one of them, or allow none of them, permitting both to propose will be the Condorcet winning rule only if B is in a small region of the policy space.

Top cycle with two proposers in no particular order

Consider a legislature which is allowed to choose among a slightly larger set of agendas, namely $\mathcal{P}_{AM,MA} = \{\emptyset, [l_A], [l_M], [l_A, l_M], [l_M, l_A]\}$. Using the results of the previous section, there exist bills where $[l_A, l_M]$ defeats all shorter agendas. Similarly, there are bills where $[l_M, l_A]$ (with outcome M_A) will be chosen over the shorter agendas. To identify the top cycle of $\mathcal{P}_{AM,MA}$ it will be important to consider whether one bill can satisfy both of these requirements.

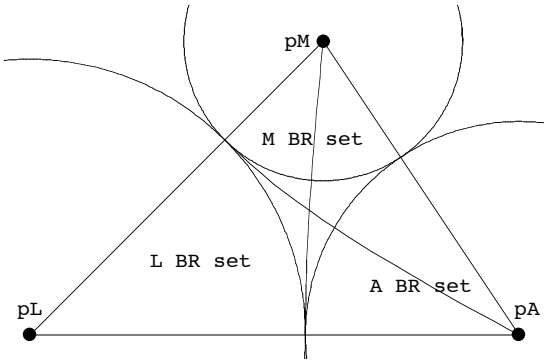

Figure IV.7: Best response partition for three player 2-dimensional example.

Thus, assume that both $[l_A, l_M]$ and $[l_M, l_A]$ defeat $\emptyset$, $[l_A]$, and $[l_M]$, so that:

$$\begin{array}{cccc} [l_A,l_M] \triangleright \emptyset & \emptyset \not\triangleright [l_A,l_M] & [l_M,l_A] \triangleright \emptyset & \emptyset \not\triangleright [l_M,l_A] \\ [l_A,l_M] \triangleright [l_A] & [l_A] \not\triangleright [l_A,l_M] & [l_M,l_A] \triangleright [l_A] & [l_A] \not\triangleright [l_M,l_A] \\ [l_A,l_M] \triangleright [l_M] & [l_M] \not\triangleright [l_A,l_M] & [l_M,l_A] \triangleright [l_M] & [l_M] \not\triangleright [l_M,l_A]. \end{array}$$

Using Proposition 11, legislators' preferences over the outcomes $\emptyset$, A, M, A_M, and M_A must satisfy:

$$A \succeq_{l_A} A_M \succeq_{l_A} M, \qquad A \succeq_{l_A} B, \qquad M_A \succ_{l_A} M$$

$$M \succeq_{l_M} M_A \succeq_{l_M} A, \qquad M \succeq_{l_M} B, \qquad A_M \succ_{l_M} A$$

$$A_M \succ_{l_L} A, \qquad M_A \succ_{l_L} M.$$

The geometry of the two-dimensional spatial model provides additional constraints on preferences, due to the best response functions, as suggested by Figure IV.7. The best response sets partition the boundary of the Pareto set into three disjoint regions where l_A prefers any point in her best response set to any point in either l_M's or l_L's best response set, so that

$$A \succeq_{l_A} M, \qquad A \succ_{l_A} M_A, \qquad A_M \succ_{l_A} M, \qquad A_M \succeq_{l_A} M_A.$$

Thus, the preferences over equilibrium outcomes are almost completely specified:

$$A \succeq_{l_A} A_M \succeq_{l_A} M_A \succ_{l_A} M, \qquad A \succ_{l_A} M_A, \qquad A \succeq_{l_A} B$$

$$M \succeq_{l_M} M_A \succeq_{l_M} A_M \succ_{l_M} A, \qquad M \succ_{l_M} A_M, \qquad M \succeq_{l_M} B$$

$$A_M \succ_{l_L} A, \qquad A_M \succeq_{l_L} M, \qquad M_A \succeq_{l_L} A, \qquad M_A \succ_{l_L} M.$$

Using Proposition 11, if $A_M \neq p_A^*$ (so that l_A is not satiated there) then $A_M \sim_{l_L} M$. Similarly, if $M_A \neq p_M^*$ then $M_A \sim_{l_L} A$. Together these violate the transitivity of legislator l_L's preferences, and thus it must be the case that at least one of A_M or M_A is a satiation (ideal) point. Assume, without loss of generality, that M_A is a satiation point for l_M. Then, because $M \succeq_{l_M} M_A$, it must be the case that $M = M_A = p_M^*$. Hence, it cannot be the case that $[l_M] \not\triangleright [l_M, l_A]$ while $[l_M, l_A] \triangleright [l_M]$, for these have identical outcomes.

Thus, if the legislature is allowed to choose among agenda trees with either, both, or neither l_A and l_M proposing an amendment, in any order, then at least one of them will always propose their ideal point. This greatly simplifies the calculation of the top cycle of $\mathcal{P}_{AM,MA}$, as reflected below.

Top cycle with up to two amendments

Consider a legislature which is allowed to choose among all two-amendment agendas, namely

$$\mathcal{P} = \left\{ \begin{array}{cc} \emptyset, [l_A], [l_M], [l_L], & [l_A, l_A], [l_A, l_M], [l_A, l_L], \\ [l_M, l_A], [l_M, l_M], [l_M, l_L], & [l_L, l_A], [l_L, l_M], [l_L, l_L] \end{array} \right\}.$$

Identify the equilibrium outcomes as before, with A_M being the outcome of $[l_A, l_M]$ while A is the outcome of $[l_A]$. To identify the top cycle of $\mathcal{P}$ it will be important to consider whether any two-amendment agenda can be a Condorcet winner. Assuming that the top cycle of $\mathcal{P}$ excludes some agenda, Proposition 10, result 4, reveals that $[l_A, l_A] \notin TC(\mathcal{P})$ or $A_A = A = p_A^*$, so that $[l_A, l_A]$ cannot be a Condorcet winner over all other agendas.

Without loss of generality, consider $[l_A, l_M]$ as the exemplar. At a minimum, it must be that $[l_A, l_M]$ is the Condorcet winner in $\mathcal{P}_{AM}$, so that

$$\begin{array}{ll} [l_A, l_M] \triangleright \emptyset & \emptyset \not\triangleright [l_A, l_M] \\ [l_A, l_M] \triangleright [l_A] & [l_A] \not\triangleright [l_A, l_M] \\ [l_A, l_M] \triangleright [l_M] & [l_M] \not\triangleright [l_A, l_M]. \end{array}$$

The previous section established that $M = M_A = p_M^*$ in this case, so that the bill must lie in region B1 or B2 in Figure IV.1. Then A, A_L, and A_A lie in region B2; L, L_A, and L_L lie in region B1; and $M = M_A = M_L = M_M = p_M^*$. Thus, A_M beats every other equilibrium outcome, and $TC(\mathcal{P}) = \{[l_A, l_M]\}$. Regions B1 and B2 will exist only if $\|p_L^* - p_A^*\| \geq \|p_L^* - p_M^*\| \geq \|p_A^* - p_M^*\|$. Fixing p_L^* and p_A^*, these inequalities are satisfied in the region depicted in Figure IV.8. Generically, for almost any set of ideal points (p_1, p_2, p_3) there is a unique labeling of the proposers as l_A, l_M, and l_L that satisfies the inequalities. ∎

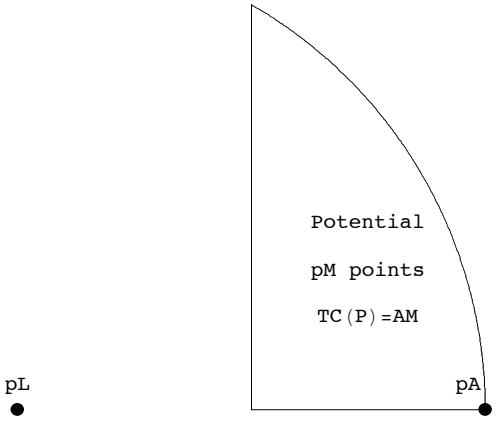

Figure IV.8: Ideal points where the $[l_A, l_M]$ agenda is a Condorcet winner over all other length-2 (and shorter) agendas.

Chapter V

Endogenous Standing Rules

The endogenous rule model developed in Chapter III assumes that the bill is chosen outside of the modeled legislative process, so that the legislature is choosing a special rule for the bill. This chapter looks at a particular extension of the model which allows for the rules to be chosen prior to the bill being identified. This will permit the development of a model of the standing rules of a legislature. The model predicts that the legislature will choose a set of rules remarkably similar to those of the U.S. House of Representatives, including a role for legislators with extreme preferences.

The standing rules model consists of three major stages:

Recognition Rule The set and order of proposers will be chosen by the legislature by majority rule (considering the top cycle).

Legislative Rules A specific agenda structure will be chosen by the legislature by majority rule (considering the top cycle).

Agenda Game The legislature will play the chosen agenda game, with proposers identified by the recognition rule. The bill will be proposed as part of the agenda game. The solution concept will be pure strategy, subgame-perfect equilibrium.

1 Five-Player Model

It is assumed that the legislature consists of five members, $\{A, B, C, D, E\}$, and is choosing policies from $X = \mathbb{R}^2$. The legislators have ideal points $p_A^*, \ldots, p_E^* \in X$

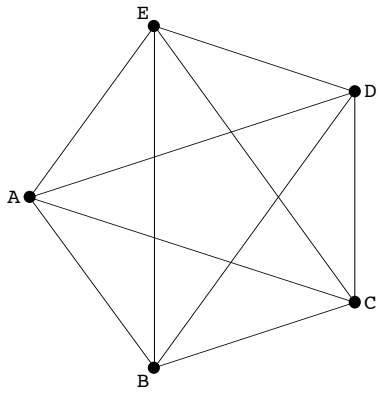

Figure V.1: Ideal points for five player 2-dimensional example.

and utility functions $U_i(x) = u_i(\|x - p_i^*\|)$, where $u_i : \mathbb{R} \to \mathbb{R}$ is a strictly decreasing function of the Euclidean distance between x and i's ideal point. It is assumed that the ideal points form a regular pentagon and the legislators are labeled as in Figure V.1. The best response function of a proposer is identified by Proposition 28.

Proposition 28 *Consider the situation faced by a legislator (say A) who is allowed to make an amendment proposal, x. Assume that if x earns at least three of the five legislators' votes, then x is implemented; otherwise an alternative, sq, will be implemented. In this case, A will propose one of the following six points.*

$$\begin{aligned}
&A\text{'s IP:} && A\text{'s ideal point, } p_A^* \\
&B \rightsquigarrow AB\text{:} && x \text{ on } AB \text{ such that } \|x - p_B^*\| = \|sq - p_B^*\| \\
&C \rightsquigarrow AC\text{:} && x \text{ on } AC \text{ such that } \|x - p_C^*\| = \|sq - p_C^*\| \\
&D \rightsquigarrow AD\text{:} && x \text{ on } AD \text{ such that } \|x - p_D^*\| = \|sq - p_D^*\| \\
&E \rightsquigarrow AE\text{:} && x \text{ on } AE \text{ such that } \|x - p_E^*\| = \|sq - p_E^*\| \\
&BE \text{ Flip:} && x \text{ such that } \|x - p_B^*\| = \|sq - p_B^*\| \text{ and } \|x - p_E^*\| = \|sq - p_E^*\| \ .
\end{aligned}$$

The particular point proposed depends on the location of sq, as indicated in Figure V.2. Define $BR_A(sq)$ to be the best response of A to the alternative sq.

Proof: See the appendix to this chapter. ∎

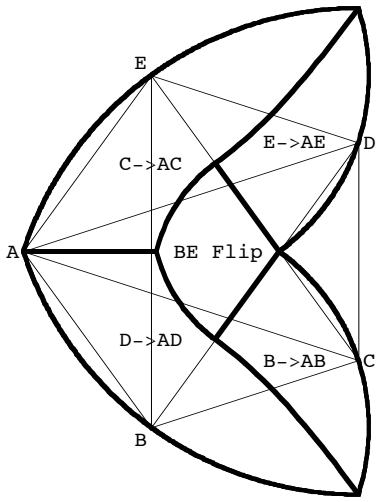

Figure V.2: Best response partition for five player 2-dimensional example, with legislator A proposing.

1.1 Agenda Game Equilibria

With the best response function identified for an arbitrary continuation outcome, it is now reasonable to examine the agenda structures that the legislature can consider. The motions that are permitted are based on the House's rules, with there being a potential for as many as four proposals being offered. The full-length agenda game will be labeled as $\mathcal{SAMB}$, with proposers (BP, AP, MP):

$\mathcal{S}$ The bill proposer BP proposes a "motion to suspend" policy $x_S \in X$. If at least four legislators vote for x_S that policy is implemented; otherwise the game continues.

$\mathcal{B}$ The bill proposer BP then chooses a "bill" policy $x_B \in X$.

$\mathcal{A}$ The amendment proposer AP proposes an "amendment" policy $x_A \in X$. If at least three legislators vote for x_A that policy is implemented; otherwise the game continues.

$\mathcal{M}$ The motion to recommit (MTR) proposer MP proposes a "motion to recommit" policy $x_M \in X$. If at least three legislators vote for x_M that policy is implemented; otherwise x_B is implemented.

Note that the $\mathcal{SAMB}$ game could be modeled as the $[BP, AP, MP, BP]$ agenda considered previously, with a sufficiently bad exogenous starting point. There are two major differences, however.

- The first amendment (the suspension motion) has a supermajority requirement.
- The final amendment (the bill) is credibly committed to early in the process.

The other possible agenda structures eliminate one or more of the stages, so that the legislature will eventually choose one from $\mathcal{P}^L$, defined as

$$\mathcal{P}^L = \{\mathcal{SAMB},\ \mathcal{SAB},\ \mathcal{SMB},\ \mathcal{SB}, \mathcal{AMB},\ \mathcal{AB},\ \mathcal{MB},\ \mathcal{B}\}\,.$$

Proposition 29 *The pure strategy, subgame-perfect equilibrium outcomes of agenda structures in $\mathcal{P}^L$ for the proposers (BP, AP, MP) are as follows.*[1]

1. *If the bill proposer is A, then $\mathcal{B}$ and $\mathcal{SB}$ lead to outcome $p^*_{BP} = p^*_A$. If the bill and amendment proposers are both A, then $\mathcal{AB}$, $\mathcal{AMB}$, $\mathcal{SAB}$, and $\mathcal{SAMB}$ lead to p^*_A for any MTR proposer.*

2. *If the bill proposer is A and amendment proposer is B, then $\mathcal{AB}$ leads to the point B in Figure V.3. $\mathcal{AMB}$ leads to the points labeled BA through BE, depending on the identity of the MTR proposer. $\mathcal{SAB}$ and $\mathcal{SAMB}$ lead to outcomes on the AC line where C is indifferent to the subgame outcome.*

3. *If the bill proposer is A and amendment proposer is C, then $\mathcal{AB}$ leads to the point C in Figure V.4. $\mathcal{AMB}$ leads to the points labeled CA through CE, depending on the identity of the MTR proposer. $\mathcal{SAB}$ and $\mathcal{SAMB}$ lead to outcomes where B and D are indifferent to the subgame outcome (i.e., outcomes are reflected across the BD line).*

The outcomes of the $\mathcal{MB}$ and $\mathcal{SMB}$ agendas and agendas with amendment proposers D or E are derived similarly.

[1] Since the ideal points are symmetric, these are solved, without loss of generality, assuming that the bill proposer is A and the amendment proposer is one of A, B, or C.

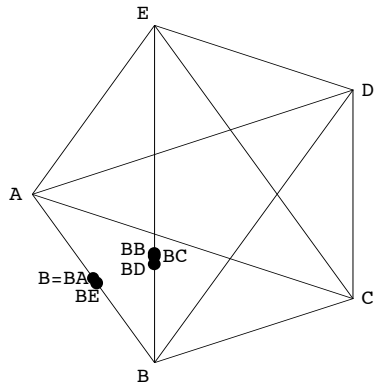

Figure V.3: Outcomes of $\mathcal{AB}$ and $\mathcal{AMB}$ games with bill proposer A, amendment proposer B, and MTR proposer as specified.

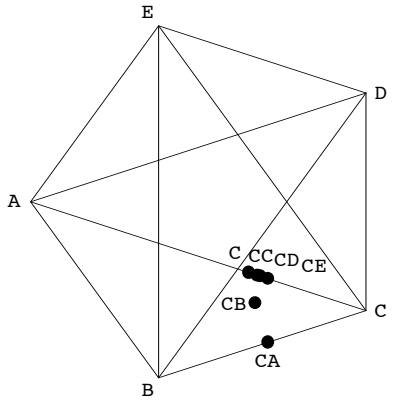

Figure V.4: Outcomes of $\mathcal{AB}$ and $\mathcal{AMB}$ games with bill proposer A, amendment proposer C, and MTR proposer as specified.

Proof: (1): Since there is no status quo, if A is the only proposer the outcome will be p_A^*. If some other legislator is the MTR proposer, then A can choose a bill sufficiently bad that p_{MP}^* will be proposed (if the MTR stage is reached). Then p_A^* will defeat p_{MP}^* in the amendment stage, with one legislator indifferent.

(2,3): The results for $\mathcal{AB}$ are derived from examination of the range of the best response function for the amendment proposer $BR_{AP}(X) = \{BR_{AP}(x) : x \in X\}$. The bill proposer, A, will be able to choose a bill $x_B \in X$ such that the resulting amendment $x_A \succeq_A y$, $\forall y \in BR_{AP}(x)$.

The results for $\mathcal{AMB}$ are derived from examination of the range of the second-order best response function $BR_{AP}(BR_{MP}(X)) = \{BR_{AP}(BR_{MP}(x)) : x \in X\}$. The bill proposer, A, will be able to choose a bill $x_B \in X$ such that the resulting

amendment $x_A \succeq_A y$, $\forall y \in BR_{AP}(BR_{MP}(x))$.

The results for $\mathcal{SAB}$ and $\mathcal{SAMB}$ are derived by examining the best response of the suspension proposer, A, to the subgames $\mathcal{AB}$ and $\mathcal{AMB}$, respectively. If the amendment proposer is B, then the four-member coalitions that can agree to change the outcome are those that exclude A or B. Since A is proposing the coalition, B will be excluded from the suspension coalition and A will choose a proposal where C is indifferent. If the amendment proposer is C, then the possible coalitions exclude B or C. A will choose a proposal where C is excluded while B and D are indifferent. ∎

1.2 Selection of Endogenous Legislative Rules

Given the results of Proposition 29, it is possible to determine the majority-rule top cycle of the legislative rules stage for each fixed set of proposers. Note that, just as in Chapter III, the legislature will always approve adding a motion to suspend the rules to the agenda, since four of the five legislators prefer the suspension proposal to the alternative.

Proposition 30 *The majority rule relation $\triangleright$ over agendas in $\mathcal{P}^L$ leads to the top cycles $TC_{\triangleright}(\mathcal{P}^L)$ as follows for each set of proposers (BP, AP, MP):*

$$\begin{aligned}
(A, A, A) &\implies TC_{\triangleright}(\mathcal{P}^L) = \mathcal{P}^L \\
(A, A, \neg A) &\implies TC_{\triangleright}(\mathcal{P}^L) = \{\mathcal{SMB}\} \\
(A, B, A), (A, E, A) &\implies TC_{\triangleright}(\mathcal{P}^L) = \{\mathcal{SAMB},\ \mathcal{SAB}\} \\
(A, B, E), (A, E, B) &\implies TC_{\triangleright}(\mathcal{P}^L) = \{\mathcal{SMB},\ \mathcal{SAMB},\ \mathcal{SAB}\}.
\end{aligned}$$

All other agendas with $BP = A$ result in $TC_{\triangleright}(\mathcal{P}^L) = \{\mathcal{SAMB}\}$.

Even though the multi-dimensional spatial model setting provides for a large preference cycle over policy outcomes, for almost all sets of proposers there is a Condorcet winner among the agenda structures.

1.3 Selection of Endogenous Recognition Rules

The existence of Condorcet winners at the legislative rule stage allows the set of outcomes associated with each set of proposers to be identified, so that the legislature can choose among the recognition rules. Define the set of possible recognition rules to be

$$\mathcal{P}^R = \{(BP, AP, MP) | BP = A \text{ and } AP, MP \in \{A, B, C, D, E\}\}.$$

That is, the bill proposer is fixed to be legislator A but any legislator can be the amendment or MTR proposer.

Theorem 31 *The five-player endogenous recognition and legislative rule game with bill proposer A makes the following equilibrium predictions.*

- *The set of potentially chosen recognition rules is exactly those recognition rules that lead to the $\mathcal{SAMB}$ legislative rule.*

$$TC_{\triangleright}(\mathcal{P}^R) = \{(BP, AP, MP) | TC_{\triangleright}(\mathcal{P}^L) = \{\mathcal{SAMB}\}\}$$

- *The only legislative rules chosen in equilibrium are $\mathcal{SAMB}$, the rules providing for motions to suspend the rules, amend, and recommit.*

- *The set of chosen outcomes is fairly moderate, as shown in Figure V.5.*

Note that the prohibited sets of proposers are those where proposal power is concentrated, so that the bill proposer A is also the amendment proposer or the amendment proposer is adjacent to BP and the MTR proposer is either BP or adjacent to BP.

1.4 Summary

A model of an endogenous process for adopting the standing rules of a legislature predicts significant stability, even in an environment where majority rule provides

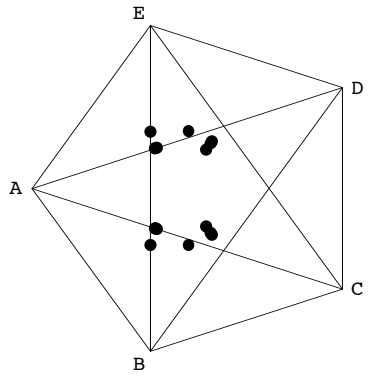

Figure V.5: Outcomes in the top cycle of the endogenous rule game with fixed bill proposer A.

little guidance for choosing policy outcomes. The model developed here finds that the legislature will always choose to use the same legislative rules, and thus that these could be the standing rules of the legislature. There is a majority rule cycle over the exact identity of the legislators who can make amendment proposals, but there is a pattern in those who can be excluded. The excluded sets of proposers all satisfy two criteria: (1) all proposers are adjacent to the bill proposer and (2) if anyone makes multiple proposals, they are the bill proposer. Thus, any set of proposers that the legislature chooses will either have diverse preferences or will concentrate all amendment power in a single legislator other than the bill proposer.

The model's predictions are broadly consistent with the rules of the House of Representatives. The standing rules of the House provide for the three equilibrium motions. The House also provides that the motion to recommit is reserved for the minority party. To the extent that members of a party have similar preferences and the majority party controls the access of bills to the floor,[2] a member of the minority party should have an ideal point distant from that of the member responsible for the bill. The model also has the interesting feature that the motion to recommit is vital for the equilibrium but is not used. In the House, the motion to recommit appears to be a matter of concern (e.g., *Roundtable*), but motions to recommit almost never pass.[3]

[2]As predicted by Cox and McCubbins (2004).
[3]See Cox, Den Hartog, and McCubbins (2004).

A Proofs

A.1 Best Response Function

Proposition 28 in the main text provides the solution to a basic policy proposal game that is used extensively in solving the full legislative game. This basic game is a five-player analogue to the Banks and Gasmi (1987) three-player, one-amendment game. Compare Figure V.2 with their Figure 7, p. 143.

The equilibrium concept used is subgame-perfect equilibrium (which in this context is effectively a Stackelberg equilibrium, Banks and Gasmi 1987, 135). At each stage of the game, the strategies continuing from that point are equilibrium strategies. To ensure equilibrium existence, the legislators are presumed to vote strategically (taking into account the results of future votes) and, if indifferent between two proposals, they vote for the later proposal.[4] Then, legislator A faces the problem of choosing the best response to the alternative sq, given that strategic voting will follow. This means that A is choosing the point in the win set (the points that will beat sq in the voting stage) that is closest to her ideal point.

As legislator A is considering which bill to propose, she must consider which winning coalition will support her bill. Any set of three legislators forms a winning coalition, every winning coalition contains at least three legislators, and, by proposing $bill = sq$, A will (weakly) prefer her best response to the status quo; thus A will choose a winning coalition that includes at least two of the other four legislators.

The six minimum-size winning coalitions generate a total of 12 different potential best response bills:

$$
\begin{aligned}
A\text{'s IP:} &\quad A\text{'s ideal point, } p_A^* \\
B \rightsquigarrow AB\text{:} &\quad x \text{ on } AB \text{ such that } \|x - p_B^*\| = \|sq - p_B^*\| \\
C \rightsquigarrow AC\text{:} &\quad x \text{ on } AC \text{ such that } \|x - p_C^*\| = \|sq - p_C^*\| \\
D \rightsquigarrow AD\text{:} &\quad x \text{ on } AD \text{ such that } \|x - p_D^*\| = \|sq - p_D^*\| \\
E \rightsquigarrow AE\text{:} &\quad x \text{ on } AE \text{ such that } \|x - p_E^*\| = \|sq - p_E^*\|
\end{aligned}
$$

[4] Otherwise, the proposer of the later policy may want to propose a policy arbitrarily close to someone's indifference curve while staying off the curve. In such a case, the proposer would be attempting to maximize over an open set. For the same reason, when considering longer agenda games, it will be assumed that later proposers react to indifference by choosing the option preferred by the previous proposer.

BC Flip: x such that $\|x - p_B^*\| = \|sq - p_B^*\|$ and $\|x - p_C^*\| = \|sq - p_C^*\|$

BD Flip: x such that $\|x - p_B^*\| = \|sq - p_B^*\|$ and $\|x - p_D^*\| = \|sq - p_D^*\|$

BE Flip: x such that $\|x - p_B^*\| = \|sq - p_B^*\|$ and $\|x - p_E^*\| = \|sq - p_E^*\|$

CD Flip: x such that $\|x - p_C^*\| = \|sq - p_C^*\|$ and $\|x - p_D^*\| = \|sq - p_D^*\|$

CE Flip: x such that $\|x - p_C^*\| = \|sq - p_C^*\|$ and $\|x - p_E^*\| = \|sq - p_E^*\|$

DE Flip: x such that $\|x - p_D^*\| = \|sq - p_D^*\|$ and $\|x - p_E^*\| = \|sq - p_E^*\|$

SQ: Status quo, sq .

By definition, A's ideal point is preferred by A to any other point, so A will propose it if enough support can be found. Similarly, since the status quo is always available, A's overall best response must be weakly preferred to the status quo; the status quo will be chosen only if no other potential best response can be supported.

Since a contract curve defines the Pareto optimal points for the involved parties and circular preferences lead to straight-line contract curves, the point x in AB such that $\|x - p_B^*\| = \|sq - p_B^*\|$ will be preferred by A to any other point on B's indifference curve. Similar logic will apply to the points on AC, AD, and AE.

These observations take care of most of the pairwise comparisons between the potential best responses. The remaining cases fall into three classes, where W, Y, and Z are distinct legislators:

1. Compare a point on AY to a point on AZ. ($Y \rightsquigarrow AY$ versus $Z \rightsquigarrow AZ$)
2. Compare a point on AY to a point where W and Z are indifferent. ($Y \rightsquigarrow AY$ versus WZ Flip).
3. Compare two points where pairs of legislators are indifferent.

As proven by Banks and Gasmi (1987, 136-138), case (1) is characterized a locus of sq points where A is indifferent between the proposals, namely the hyperbola with foci at p_Y^* and p_Z^* that passes through p_A^*. A's better choice will be to follow Z's indifference curve to AZ if the status quo is on the Y-side of the hyperbola; A should follow Y's indifference curve to AY if the status quo is on the Z-side.

Case (2) characterizes another locus where A is indifferent between two choices. This locus is an ellipse with foci at Y's ideal point and the reflection of A's ideal point across WZ, with a major axis of $\|p_Y^* - p_A^*\|$.

Case (3) is easily resolved, with the indifference locus taking the form of the hyperplane between the two reflections of A's ideal point.

Combining the various results above leads to Proposition 28, the description of A's best response to sq.

Chapter VI

Conclusion

The House of Representatives can and does regularly change its rules to suit the whims of the majority. Through its use of special rules for important bills, adoption of new standing rules for each Congress with additional mid-session changes on occasion, and parliamentary rulings from the Speaker with frequently-used appeals to the floor, the House is a distinctly majoritarian institution satisfying Krehbiel's (1991) "Majoritarian Postulate." This makes the House an important legislature to examine when considering the balance between the power of the majority and the rights of a minority, between populism and liberalism.

Even in the House, Madison's fears of "tyranny of the majority" are not entirely realized. While the House spent much of the 1800s limiting the role of the minority party and of individuals, the changes in the rules during this period had two main effects. The most discussed effect was the limitation of dilatory tactics, supposedly allowing the majority to push through its favored legislation. Prior to the widespread use of special rules, however, dilatory tactics were not precise tools; the wasted time likely did not affect the bill that was being debated, but instead prevented other bills from being considered in the future.

The other major development in the House rules during the 1800s was the development of the previous question. From the founding of the country, the previous question could only be used to ensure that a bill be considered as it stood, cutting off all existing and future amendments and stifling the voices of all who disagreed with the current form of the bill. As the 1800s passed, however, the House adjusted the

previous question rules, providing for the consideration of existing amendments and, in 1880, also allowing one last chance to bring the bill back to a committee for further amendments. To this end, the adjustments in the rules during the 1800s increased the ability of minorities to present their views and obtain a vote.

The last years of the 1800s do produce one more change in House procedure, however: the development of special rules. The first special orders and special rules could be adopted only by a supermajority, explicitly protecting the rights of large minorities. The 1890s saw the development of majority-adopted restrictive rules, however, with their potential to limit access so that only members of the majority party could propose amendments. At the same time, the House made another major change to the previous question by allowing one actual amendment to be proposed before the bill can be voted on. There are suggestions that this final amendment was generally left to the minority opposed to the bill even before this right was officially enshrined in the rules in 1909.

The 1909 change also reveals just how deeply majoritarian the House of Representatives is. The rules were adopted through the influence of a coalition that explicitly rejected the majority party's proposal and then explicitly rejected the minority party's proposed rules. Further, the existence of this coalition indicates that the parties are not always cohesive, providing an anecdote to support Madison's position that large republics prevent stable majorities.

Looking at the House of Representatives today, one sees that the majority party does have control over most legislation but the minority party is able to obtain some of its policies, passing several important bills and amendments every year. Further, the majority party has not been able to restrict the activities of its members completely, so that the majority party is occasionally undermined by one of its own members. Why does the majority party not shut out the minority and its more extreme members?

The results of the endogenous rules model provide some explanation. An important prediction of the model is that endogenous rules (those adopted by the legislature itself) cannot increase the power of any member further than having control of the only amendment. Thus, the leadership of the majority party cannot restrict the role

of both the opposition within their party and the minority. The model also predicts that ideologically-moderate legislators should have a role, in both the one-dimensional and multi-dimensional settings.

Further, when applied to the question of the standing rules of the House, the model makes a clear prediction: an ideologically diverse set of legislators should be able to propose amendments. The model does not find that these amendments will pass, only that the bill and other amendments will be adjusted to reflect the minority's influence.

Even in the most majoritarian institutions, such as the U.S. House of Representatives, minorities will have a voice and will be able to affect policy because the rules of the institution are chosen by a majority. That is, minorities have rights in majoritarian institutions due solely to the fact that the institution is majoritarian, justifying Madison's presumption that stable majorities will not form and be able to control the government, thus protecting liberty.

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