# Veto Points, Policy Preferences, and Bureaucratic Autonomy in Democratic Systems 

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In the development of democratic systems over the past two centuries, a major thrust has been to remove policy-making power from the hands of autocrats and their bureaucrats and place it in the hands of elected political leaders. Hence, it is an irony of twentieth-century governance that, as the social and economic responsibilities placed on democratic governments have increased, their elected political leaders have responded by delegating increasing amounts of policy-making authority back to unelected officials-in particular, back to the bureaucrats.

While the expansion of the modern welfare state has occasionally stimulated claims that modern bureaucrats have become our new rulers, it would be a gross exaggeration to say that the bureaucrats in democracies are generally able to operate independently from elected officials. Nonetheless, these bureaucrats often have at least some independent policymaking power, whether explicitly delegated to them or not. Hence, it is important to determine the conditions under which bureaucrats in democracies have more independent policy-making power and when they have less.

There is some evidence that bureaucrats-both within and across democracies-do vary in the extent to which they are controlled by elected officials. Regarding evidence for differences within democracies, for example, there is general agreement that the Federal Reserve System in the United States is able to operate more independently from the president and Congress as it makes monetary policy than are, say, the Department of Agriculture and the Agency for International Development
as they make agricultural and international aid policies. Evidence for these kinds of differences across democratic systems can be found in studies such as Aberbach, Putnam, and Rockman 1981 and Weaver and Rockman 1993.

These varying degrees of bureaucratic autonomy can have important consequences for the policies that emerge. The reason is that the policy preferences of the bureaucrats are not always representative of the policy preferences of their elected overseers (see Aberbach and Rockman 2000 for the United States and Aberbach, Putnam, and Rockman i98i for additional democracies). To the extent that the bureaucrats have policy preferences that differ from those of the elected officials, and to the extent that the bureaucrats also have some independent policy-making capability, then to that extent their policy choices will differ from those of the elected officials.

There are two major reasons why the bureaucrats might develop an independent policy-making capability. One reason, which follows the tradition established by Weber, is that the bureaucrats may know more than the elected officials about what needs to be done and how to do it. Even if elected officials do not explicitly delegate policy-making authority to the bureaucrats, the bureaucrats' greater information, theoretical understanding, and operating expertise may give them scope for independent action.

The other reason why bureaucrats may develop a capability for independent action is related to an age-old strategy for victory in both warfare and politics: "Divide and conquer!" If the elected officials are divided among themselves (i.e., if they have differing preferences over what they want the bureaucrats to do), then the bureaucrats may be able to conquer (in the sense of maintaining some scope for independent action). But if the elected officials are unified in what they want the bureaucrats to do, the bureaucrats may have to do what they are told.

Most discussions of bureaucratic autonomy have focused on the autonomy that stems from the asymmetries in information, understanding, and expertise; less attention has been paid to the bureaucratic autonomy that may result from divisions among the elected officials. However, recent work-see, for example, Hammond and Knott 1996, 1999, 2000, which build on Hammond and Miller 1987-has begun to explore the extent to which divisions among the elected officials in the United States can also allow bureaucrats some autonomy. This essay further examines
the extent to which divisions among elected officials may generate autonomy for bureaucrats, both within and across democracies.

There are two different kinds of divisions among politicians that might affect bureaucratic autonomy. One involves the political veto points that can reject proposals for policy change. For example, in analyzing why different kinds of political systems respond in different ways to social and economic challenges, Weaver and Rockman (1993) discuss why two-party unicameral parliamentary systems (the "Westminster" systems) might respond more quickly than presidential systems (the separation of powers systems, as in the United States). The basic argument is that because presidential systems are characterized by multiple veto points (e.g., a House, Senate, and president) whose members are able to block attempts at policy change, the systems' responses to social and economic challenges are often problematic. In contrast, the existence of only a single veto pointthe majority party-in Westminster systems enables these systems to respond to challenges more readily.

However, Weaver and Rockman (1993) find that this institutional explanation is insufficient to account for the patterns of policy change that they empirically observe. Instead, a second kind of division among politicians also seems important, focusing on the extent of policy disagreements among the elected officials within and among the veto points. When policy disagreements across institutions are modest, a system's capacity for responding quickly to social and economic challenges may seem to be greater than when policy disagreements among the institutions are more substantial.

These insights have been formalized in Tsebelis 1995 and Tsebelis and Money 1997, which advance two general arguments. First, holding constant the extent of policy disagreements, an increase in the number of veto points will not decrease policy stability and may increase it. The logic here is straightforward: the more veto points there are the more difficult it is to gain approval for a policy change. Second, holding constant the number of veto points, an increase in the extent of policy disagreements among the actors will not decrease policy stability and may increase it. Empirical research by Tsebelis (1999) and Bawn (1999) provides support for this general line of argument.

However, Hammond and Butler (2003) caution that both variables must be considered in evaluating the extent of policy stability in any particular kind of system: just by itself, the number of veto points may not
distinguish policy stability in presidential systems from policy stability in parliamentary systems. Instead, differences in policy stability between two different kinds of systems depend on the interaction between the number of veto points and the distribution of preferences (what may be called the preference profile) of the elected officials populating the veto points in the two kinds of systems. In fact, it was demonstrated that for some preference profiles presidential and parliamentary systems should be expected to select similar policies and exhibit similar patterns of policy change, despite the systems' institutional differences. ${ }^{1}$

In this essay, we utilize these two variables-the number of institutional veto points in a system and the extent of policy disagreements among the elected officials in these veto institutions-to develop an answer to a central question: Are different kinds of democratic political systems necessarily characterized by different degrees of bureaucratic autonomy?

## Policy Equilibria and Bureaucratic Autonomy

To answer this question, we begin by observing that multiple veto points in a system may enable the bureaucracy to adopt new policies unilaterally. The reason is that the multiple veto points may create a set of policies that are in equilibrium; policies in equilibrium cannot be upset by any possible decisive coalition of the elected officials (given their individual policy preferences). ${ }^{2}$ The existence of a set of equilibrium policies means that the bureaucracy could adopt any one of the equilibrium policies, and change from one equilibrium policy to another, without fear that its chosen policy will be upset by any decisive coalition of elected officials. If the set of equilibrium policies is large, then the bureaucracy will have substantial room for unilateral policy change (and thus might be considered relatively autonomous), whereas if the set of equilibrium policies is small the bureaucracy will have little room for unilateral policy change (and thus the bureaucracy might be considered to have relatively little autonomy).

These arguments lead to a clearer and more specific definition of bureaucratic autonomy. Earlier definitions referred to the general ability of a bureaucracy to do what it wants, but the definitions did not embed the bureaucracy in any particular political context. This left it unclear as to whether the bureaucracy could adopt any policy it wanted or just some policies, and if just some policies were feasible the definition did nothing to specify what particular policies were feasible and why.

The definition advanced here links bureaucratic autonomy to the policy preferences of the elected leaders and resulting equilibrium policies. This definition of bureaucratic autonomy makes it clear that a bureaucracy can be more or less autonomous, depending on the size of the set of equilibrium policies. Moreover, by relating the extent of bureaucratic autonomy to the size of a set of equilibrium policies, there is always a boundary to the set. This boundary sets limits on what the bureaucracy can and cannot do: it can move from policy to policy within this equilibrium set, but it cannot sustain a policy that lies outside this equilibrium set. While this definition makes it clear that the preferences of the elected officials will always collectively constrain the range of bureaucratic choices, it also suggests that as long as the bureaucracy selects some new policy from inside the boundary the disagreements among the politicians will keep them from upsetting the bureaucracy's choice and imposing some other policy.

The possibility that presidential and parliamentary systems may have sets of equilibrium policies that differ in size has been examined by Hammond and Butler (2003). However, while an increase in the number of veto points can increase the size of the set of equilibrium policies, it remains to be determined whether we should necessarily expect to find systematic differences in the size of the set, and thus in the extent of bureaucratic autonomy, across democratic systems. The problem is that the preference profile will almost invariably differ from country to country, even for countries with the same number of veto points. Determining what, if anything, should thus be expected from the relationships among veto points, preference profiles, equilibrium policies, and bureaucratic autonomy is the general problem we must consider in the rest of this essay. As we will demonstrate, variation in both key variables makes it difficult to develop logically valid expectations, for hypothesis-testing purposes, about how much bureaucratic autonomy we should find in the different kinds of systems.

## Policy Equilibria in Democratic Systems

To assess the size of the sets of equilibrium policies, and thus the extent of bureaucratic autonomy, in different kinds of democratic political systems, we construct several unidimensional spatial models of policymaking. A political system is defined here as a set of rules used to aggregate the preferences of the individuals in the system into the choice of
a policy. Two political systems are thus different if their policy-making rules are different. Understanding policy choice thus requires understanding both the nature of the policy-making rules and the nature of the individual preferences to be aggregated. Because the argument explored here is that bureaucratic autonomy stems from the existence of a set of equilibrium policies, how the policy-making rules interact with the individual preferences to produce different-sized sets of equilibrium policies will be our focus.

Six models are developed. Four are models of unicameral parliamentary systems: two kinds of majority party systems (one with majority party discipline, one lacking majority party discipline) and two kinds of multiparty systems (one with coalition party discipline and one lacking coalition party discipline). The last two are a model of a bicameral system with two legislative chambers but no parties and a model of a presidential system with two legislative chambers and a president but no parties.

For each of these six systems, our central purpose is to determine what set of equilibrium policies is created. In particular, we identify the policies that are in the core, that is, the policies that no decisive coalition of elected officials could replace with some alternative policy, given their preferences and their system's policy-making rules. If a policy is in the core, it is in equilibrium and cannot be upset. A large core thus indicates a large amount of bureaucratic autonomy, while a small core indicates a small amount.

We assume that each individual-for example, a member of Parliament, a president, a representative, or a senator-has a most-preferred position on a unidimensional issue space. This most-preferred position maximizes the individual's utility and so is called his or her "ideal point." The farther some policy is from the individual's ideal point (either to the left or to the right), the less utility it provides; the individual's utility functions are thus single peaked.

We assume that each individual knows the location of the ideal point of each other individual. And we assume that there is no disjunction between a formal policy choice by some authoritative actor or set of actors (i.e., by the bureaucracy, a winning coalition in a parliament, or a winning coalition of the president, House, and Senate in a presidential system) and what policy is actually implemented. That is, I am developing complete-information models.

To illustrate these concepts, in figure $\mathrm{I} A$ we assume that a member of


B: When SQ is not at the median, the majority win set is not empty: odd number of MP's


C: When SQ is at the median, the majority win set is empty: odd number of MP's


D: When SQ is between the two medians, the majority win set is empty: even number of MP's


Fig. I. Preferred-to sets and win sets
parliament (MP) has an ideal point at MP and that the status quo (SQ) policy is at SQ. The dashed line with the brackets at each end encompasses the set of points that the member prefers to SQ; every point within the brackets is closer to MP than is SQ, but the member is indifferent between SQ and a policy at the right-hand bracket. The set of points that the member prefers to $S Q$ is labeled $\mathrm{P}_{\mathrm{MP}}(\mathrm{SQ})$; it is this member of parliament's "preferred-to" set of SQ.

Assume that some nine-member unicameral parliament chooses policies via majority rule, as in figure $\mathrm{I} B$. With SQ lying between $\mathrm{MP}_{4}$ and $\mathrm{MP}_{5}$, four members- $\mathrm{MP}_{1}$ through $\mathrm{MP}_{4}$ - wish to move policy to the left, and they could agree on some point to the left of SQ in the region where their preferred-to sets overlap; this region is labeled the "minority win set of SQ" in the figure. ${ }^{3}$ However, their four votes do not comprise a majority of the parliament, so they would not succeed in moving policy leftward. In contrast, the other five members- $\mathrm{MP}_{5}$ through $\mathrm{MP}_{9}$ do comprise a majority, and they all wish to move policy to the right. In particular, they could all agree on some point in the region where their preferred-to sets overlap; this region is labeled the "majority win set of SQ" in the figure. They could thus succeed in moving policy rightward.

Next consider an SQ at the ideal point of the median member, $\mathrm{MP}_{5}$, as in figure $\mathrm{I} C$. In this case, no mutual improvement is possible for any majority-sized coalition: members $\mathrm{MP}_{\mathrm{I}}$ through $\mathrm{MP}_{4}$ wish to move policy leftward from MP, into the region where their preferred-to sets overlap (into the left-hand minority win set of SQ), member MP ${ }_{5}$ wants policy to stay at the MP ${ }_{\varsigma}$ location (i.e., at his or her own ideal point), and members $\mathrm{MP}_{6}$ through $\mathrm{MP}_{9}$ wish to move policy rightward from $\mathrm{MP}_{5}$. Since there is no region where a majority-at least five-of the pre-ferred-to sets overlap (i.e., the majority win set of SQ is empty here), the SQ at MP ${ }_{5}$ cannot be upset. In fact, with an odd number of MPs the only equilibrium policy lies at the median member's ideal point.

When there is an even number of members, there is no unique median member. Instead, there are two median members and a set of equilibrium policies that spans the ideal points of the two median members; the set of equilibrium policies is the region between (and including) the ideal points of the two median members. (We assume that the two median members do not have identical ideal points here.) In figure ${ }_{I} D$, for example, there are eight members- $\mathrm{MP}_{\mathrm{I}}$ through $\mathrm{MP}_{8}$ - and $\mathrm{MP}_{4}$ and $\mathrm{MP}_{5}$ are the median members. Because SQ lies in the $\mathrm{MP}_{4}$ to $\mathrm{MP}_{5}$ space,
it cannot be upset, for there is no region where at least five of the pre-ferred-to sets overlap.

We can now develop our six models. There are several variables whose values collectively define each system. Phrased as questions, these variables are as follows.
I. Does the system have one institutional veto point (as in unicameralism), two institutional veto points (as in bicameralism), or three institutional veto points (as in a presidential system with a bicameral legislature)?
2. Within each institutional veto point, is there one party, two parties, or three parties?
3. Does the governing party or coalition have monopoly agenda authority (i.e., it alone can present motions on the floor) or can the opposition party or parties propose a motion on the floor?
4. Will a governing party or a coalition send a proposal to the floor only if it is sure to be approved on a floor vote or will such a proposal be made even if it could be defeated on a floor vote?
5. Do any parties in the system exhibit perfect party discipline (i.e., each party member always votes for some official party position on a floor vote) or are party members free to vote for or against any official position their party adopts?
6. Do the members of any opposition party automatically vote against a proposal by some governing party or coalition or do the members of the opposition consider voting for such a proposal?

Our six models represent just some of the many possible combinations. Nonetheless, these models demonstrate that the size of a system's set of equilibrium policies, and thus the extent of its bureaucratic autonomy, are very sensitive to the details of these procedures and practices.

## A Two-Party Unicameral Parliament with <br> Perfect Majority Party Discipline

Our first model involves a unicameral parliament in which the majority party has perfect party discipline. In particular, we assume that the majority party adopts its most preferred policy via majority rule within the party and once this party position is adopted all party members will support it in a vote against SQ. We further assume that the majority party has monopoly control over the legislative agenda (i.e., the minority party
cannot propose its own motion). Next, we assume that minority party members automatically vote against the majority party motion; the majority party cannot count on help from minority party members to pass its bills. Finally, we assume that the majority party will propose a motion to the floor only if that motion will defeat the status quo policy.

To illustrate, assume there are nine members of parliament who are partitioned into the Labor and Conservative parties. As indicated in figure $2 A$, we assume that the Conservative Party has five members, $\mathrm{C}_{\mathrm{I}}$ through $\mathrm{C}_{5}$, and that the Labor Party has four members, $\mathrm{L}_{1}$ through $\mathrm{L}_{4}$. As the majority, the Conservative Party's most-preferred policy position lies at its party median at $\mathrm{C}_{3}$. Because the Conservative Party has a majority and because of its party discipline, any $S Q$ will be replaced by the official party policy at $C_{3}$. Because this policy at $C_{3}$ cannot be upset, it is the Majority Party Unicameral Core.

If an election is held and Conservative Party member $C_{I}$ is replaced with Labor Party member $\mathrm{L}_{5}$ (and everyone else remains the same), then the Labor Party has the majority. The ideal point of its median member, $\mathrm{L}_{3}$, would then become its most-preferred policy position, which would thus become the Core (see fig. $2 B$ ).

If the majority party has an odd number of members, as in figures $2 A$ and $2 B$, then the Majority Party Unicameral Core will be the single policy at the ideal point of the median party member. If the majority party has an even number of members, then the size of the Core depends on how far apart are the ideal points of the party's median members. For example, if the two median members of a six-member Conservative Party have identical ideal points, as in figure $2 C$, then the Core will include just their common ideal point. If their ideal points are far apart (e.g., when the party is divided into two distinct factions), the Core would be rather large, spanning the set of policies between the median members' ideal points. In figure $2 D$, for example, the Conservative Party has two distinct three-member factions; hence, the Core spans the region between the two median party members, $\mathrm{C}_{3}$ and $\mathrm{C}_{4}$.

## A Two-Party Unicameral Parliament without Perfect Majority Party Discipline

Assume now that the majority party's discipline is not perfect: any member may vote against any proposal of his or her own party if the member prefers the status quo. Assume that minority party members continue to
A. The Conservative Party has a majority

B. The Labor Party has a majority

C. The Conservative Party has an even number of members, with medians at the same ideal point

D. The Conservative Party has an even number of members, with two dissimilar factions


Fig. 2. A two-party unicameral parliament with perfect majority party discipline
vote automatically against any majority party proposal. If enough majority party members vote against their party's own proposal, their votes when combined with the minority party votes could defeat this proposal. With its monopoly agenda control, the majority party could avoid such defeats by not proposing changes to any status quo policy that would risk this kind of defection. The result can be a Majority Party Unicameral Core that is substantially larger than the party median alone (or than what is spanned by the party medians).

For example, in figure $3 A$ the Conservative Party has a bare majority in parliament (five of the nine members) and its median member is $\mathrm{C}_{3}$. For any $S Q$ to the left of $C_{I}$, there exists a policy at or to the right of $C_{I}$ that would upset the SQ with the support of all five Conservative members; hence the Core cannot include any points to the left of $\mathrm{C}_{\mathrm{r}}$. However, for any $S Q$ lying between $\mathrm{C}_{\mathrm{I}}$ and $\mathrm{C}_{3}$ a proposal to move policy rightward toward $C_{3}$ would be rejected, at least by $C_{1}$, because he or she would prefer SQ; lacking the vote of $\mathrm{C}_{\mathrm{I}}$, at most only four Conservative Party members $\left(C_{3}, C_{4}, C_{5}\right.$, and perhaps $\left.C_{2}\right)$ would support the proposal, and these three or four members do not constitute a majority of parliament. Thus, the proposal would fail (since the Labor Party members would all vote against it as well). Hence, the Core must include the policies from $C_{1}$ to $C_{3}$. Similar arguments hold for policies lying on the right side of the Conservative Party, and so the Core would also include the policies from $\mathrm{C}_{3}$ to $\mathrm{C}_{5}$.

Overall, then, the Core here would be the set of policies from $C_{I}$ to $\mathrm{C}_{5}$; that is, this Core spans the ideal points of all Conservative Party members. Since the Core with perfect party discipline was just the policy at $\mathrm{C}_{3}$ (see fig. $2 A$ ), the prospect of defection by majority party members can thus increase the size of the Core. ${ }^{4}$

For another example, consider figure $3 B$. The Conservative Party here has seven members (two more than a bare majority of the ninemember parliament), so policy change requires the votes of only five of the seven Conservative Party members. In this case, the Majority Party Unicameral Core need not include the ideal points of all the members of the Conservative Party. For example, for any SQ to the left of $\mathrm{C}_{3}$ there exists some policy at or to the right of $\mathrm{C}_{3}$ that would gain both a party and a parliamentary majority against $S Q$ : five members- $C_{3}, C_{4}$, $\mathrm{C}_{5}, \mathrm{C}_{6}$, and $\mathrm{C}_{7}$, who collectively comprise both a party and a parliamentary majority-could agree on some policy at or to the right of $\mathrm{C}_{3}$ that would upset this SQ. Hence, the Core cannot include any points
A. The Conservative Party has a bare (five-member) majority

B. The Conservative Party has a seven-member majority

C. The Conservative Party has a nine-member majority


Fig. 3. A two-party unicameral parliament without perfect majority party discipline
to the left of $\mathrm{C}_{3}$. Similarly, for any SQ to the right of $\mathrm{C}_{5}$ there exists some policy at or to the left of $\mathrm{C}_{5}$ that would gain both a party and a parliamentary majority against $S Q$ : seven members- $C_{1}, C_{2}, C_{3}, C_{4}$, and $\mathrm{C}_{5}$, who collectively comprise both a party and a parliamentary majority, plus $L_{1}$ and $L_{2}$-could agree on some policy at or to the left of $\mathrm{C}_{5}$ that would upset this SQ. Hence, the Core cannot include any points to the right of $\mathrm{C}_{5}$.

However, for any SQ lying between $\mathrm{C}_{3}$ and $\mathrm{C}_{5}$ a proposal to move policy rightward would be rejected at least by $C_{1}, C_{2}$, and $C_{3}$ (and possibly $\mathrm{C}_{4}$, depending on the location of SQ ), leaving at most only four Conservative members- $\mathrm{C}_{\mathrm{I}}, \mathrm{C}_{2}, \mathrm{C}_{3}$, and possibly $\mathrm{C}_{4}$, depending on the location of SQ - to vote for the move, and they are not a majority in parliament. Similarly, for any SQ lying between $\mathrm{C}_{3}$ and $\mathrm{C}_{5}$, a proposal to move policy leftward would be rejected at least by $\mathrm{C}_{5}, \mathrm{C}_{6}$, and $\mathrm{C}_{7}$ (and possibly $\mathrm{C}_{4}$ as
well, depending on the location of SQ), again leaving at most only four Conservative members $\left(C_{1}, C_{2}, C_{3}\right.$, and possibly $\left.C_{4}\right)$ to vote for the move, and they are not a majority in parliament. (Again, recall that we are assuming that the minority party automatically votes against any majority party motion.) In sum, if the majority party members are not perfectly disciplined, the core will span the policies from $\mathrm{C}_{3}$ to $\mathrm{C}_{5} .{ }^{5}$

For a third example, in figure $3 C$, if the majority party includes every member of parliament the Core will include just the party median, which is the chamber's overall median as well.

When the majority party lacks perfect discipline (but retains monopoly proposal authority) and the members of the minority party automatically vote against any majority party proposal, the size of the Core is an inverse function of the size of the majority party. For example, as the size of the majority party increases from a bare majority toward the whole chamber in size (figs. $3 A$ through $3 C$ ), the size of the Core will $d e-$ crease toward the median of the entire parliament. If the majority party has just a bare majority, the Core spans the ideal points of all the party's members, as from $\mathrm{C}_{1}$ to $\mathrm{C}_{5}$ in figure $3 A$. If the size of the majority party increases to seven, as in figure $3 B$, the Core shrinks to the region spanned by $\mathrm{C}_{3}$ and $\mathrm{C}_{5}$. And if the majority party includes every member of parliament, as in figure ${ }_{3} C$, the Core includes just the party median, which is the chamber's overall median as well. This pattern occurs because as the majority party increases in size a decreasing proportion of its membership is necessary for a proposal to be approved by an overall parliamentary majority; hence, the Core is smaller, and as the party grows in size its own median converges on the median of the overall chamber. Thus, when the majority party reaches its maximum size (i.e., when it includes the entire chamber), the Core becomes the overall medium.

## A Three-Party Unicameral Parliament with Perfect Coalition Party Discipline

When a unicameral parliament has three or more parties, none of which has a majority, a coalition government may have to be constructed. Consider a case in which the nine members of parliament are partitioned into the Labor, Green, and Conservative parties, each with three members, and with the ideal points of the Green Party MPs lying between those of the Labor and Conservative MPs. Assume that a coalition government forms between the Labor and Green parties, that the parties in coalition
have joint monopoly control of the agenda (i.e., the Conservative Party cannot make a proposal), and that a coalition proposal must be adopted by a majority vote of each party in the coalition before the coalition's proposal can be presented in a floor motion. Assume further that the parties in the coalition have perfect discipline, so that all the members of each party vote for any policy proposal made on the floor by the coalition. And assume, finally, that the opposition party automatically votes against any motion made by the governing coalition. What is the set of equilibrium policies in this system?

For example, in figure $4 A$ any policy to the left of $\mathrm{L}_{2}$ could be upset by some coalition proposal at or to the right of $\mathrm{L}_{2}: \mathrm{L}_{2}$ and $\mathrm{L}_{3}$ (who comprise a majority of the Labor Party) would vote for such a proposal, as would $G_{1}, G_{2}$, and $G_{3}$ (all the members of the Green Party), and these five members collectively comprise a parliamentary majority. Similarly, any policy lying to the right of $\mathrm{G}_{2}$ would be upset by some coalition proposal lying at or to the left of $G_{2}: G_{2}$ and $G_{1}$ would vote for such a proposal, as would $L_{1}, L_{2}$, and $L_{3}$, and these five members comprise a parliamentary majority. But no policy in the region spanned by $L_{2}$ and $G_{2}$ could be upset. For instance, an $S Q$ at $\mathrm{L}_{2}$ could not be upset by any proposal to its right because $\mathrm{L}_{1}$ and $\mathrm{L}_{2}$ would vote against it (i.e., a majority of the Labor Party would oppose the move), and an SQ at $\mathrm{G}_{2}$ could not be upset by any proposal to its left because $G_{2}$ and $G_{3}$ would vote against it (i.e., a majority of the Green Party would not support the move). Hence, the set of equilibrium policies is defined by the region spanned by the ideal points of the median members of the two parties-by $\mathrm{L}_{2}$ and $\mathrm{G}_{2}$-in the governing coalition; these policies comprise the Party Coalition Unicameral Core.

An alternative coalition would be for the Green Party to unite with the Conservative Party (see fig. $4 B$ ). In this case, the Core would shift rightward and would span the ideal points of $\mathrm{G}_{2}$ and $\mathrm{C}_{2}$.

To determine the Core, we need only determine the median member of each of the outermost parties in the governing coalition. In figure $4 A$, for example, these median members are $L_{2}$ and $G_{2}$; the Core here is thus the set of points spanning the ideal points of $\mathrm{L}_{2}$ and $\mathrm{G}_{2}$. In figure $4 B$, the outermost median members are $\mathrm{G}_{2}$ and $\mathrm{C}_{2}$ and the Core here is the set of points spanning the ideal points of $\mathrm{G}_{2}$ and $\mathrm{C}_{2}$. In each case, the ideal points of no other members need be depicted.

As long as neither party of the coalition has a parliamentary majority,
A. A governing coalition of the Labor and Green Parties

B. A governing coalition of the Green and Conservative Parties

C. A small core with a Labor-Green governing coalition

D. A single-point core with a Labor-Green governing coalition

E. A large core with a Labor-Green governing coalition


Fig. 4. A party coalition unicameral parliament with perfect coalition party discipline
the Core will span the ideal points of the median members of the outermost parties in the coalition. Thus, the size of this Core will be a function of the distance between the median members of these two outermost parties in the coalition. For example, if $\mathrm{L}_{2}$ and $\mathrm{G}_{2}$ are close together, as in figure ${ }_{4} C$, the Core will be small; indeed, if $\mathrm{L}_{2}$ and $\mathrm{G}_{2}$ have the same ideal point the Core will be a single policy, as in figure $4 D$. But if $\mathrm{L}_{2}$ and $\mathrm{G}_{2}$ are far apart, the resulting Core will be large, as in figure $4 E$.

## A Three-Party Unicameral Parliament without Perfect Coalition Party Discipline

If the coalition parties' discipline is imperfect, some party members may vote against their coalition's own proposal to replace SQ; if enough members of the coalition parties defect in this manner, the coalition's motion could be defeated. We continue to assume that the majority coalition has monopoly agenda control authority and that the opposition party members automatically vote against the coalition parties' proposal. To avoid defeat, the coalition's leaders would propose no amendments to SQ that would risk this kind of defection. What impact would this lack of party discipline have on the size of the Party Coalition Unicameral Core?

For an answer, consider figure $5 A$, in which the Labor Party has three members and the Green Party has only two; their coalition now has only five members, which is a bare majority in the parliament. Since defection is possible by members of the parties in the coalition, defection of any of either party's members would result in the defeat of any coalition proposal. For any SQ to the left of $\mathrm{L}_{\mathrm{i}}$, there exists some proposal at or to the right of $L_{I}$ that would defeat this $S Q$ with the support of all five coalition members. Similarly, for any $S Q$ to the right of $G_{2}$ there exists some proposal at or to the left of $\mathrm{G}_{2}$ that would defeat it with the support of all five coalition members. But for any SQ lying at or to the right of $\mathrm{L}_{1}$ and at or to the left of $\mathrm{G}_{2}$ there exists no proposal that could defeat it with the support of all five coalition members. Whereas the Core without perfect party discipline would span just the ideal points of $L_{2}$ and $G_{2}$ (the coalition parties' median members), the possibility of defection increases the size of the Core to span the ideal points of $L_{1}$ and $G_{2}$.

However, the possibility of defection does not necessarily increase the size of the Core. Consider figure $\varsigma B$, in which the Labor-Green coalition has six members. Even allowing for the possible defection of members of
A. A Labor-Green governing coalition with a bare (five-member) majority

B. A Labor-Green governing coalition with six members

C. A Labor-Green governing coalition with eight members

D. A single-point core with a Labor-Green governing coalition with six members


Fig. 5. A party coalition unicameral parliament without perfect coalition party discipline
either coalition party, the Core would still span just the ideal points from $L_{2}$ to $G_{2}$ : there exist proposals that could upset an $S Q$ lying to the left of $L_{2}$ with the support of $L_{2}, L_{3}$, and $G_{1}, G_{2}$, and $G_{3}$ (these five members comprise a parliamentary majority); similarly, there exist proposals that could upset an SQ lying to the right of $G_{2}$ with the support of $L_{1}, L_{2}, L_{3}$, and $G_{1}$ and $G_{2}$ (who comprise a parliamentary majority). So the possi-
bility of defection could still produce a Core that is the same size as when defection is not possible (compare the identical Core in fig. $4 A$ ). ${ }^{6}$

If the governing coalition includes only a bare majority of the chamber's members, as in figure $5 A$, the resulting Core will span the ideal points of all the members of all the parties in the coalition. In this case, the size of the Core will depend on the distance between the "outermost" members of the two "outermost" parties in the coalition: the farther apart are these outermost members the larger the Core. In figure $5 A$, for example, the size of the Core hinges on the distance between $L_{1}$ and $G_{2}$.

At the other extreme, if the coalition includes almost all the members of the entire chamber, then the size of the Core might span only the ideal points of the median members of the two outermost parties in the coalition. In figure $\varsigma C$, for example, the governing coalition includes eight of the nine members of the parliament. The Core here spans the ideal points of $L_{2}$ and $G_{3}$, the relevant (e.g., outside) median members of the two outermost parties. While these first three examples show Cores of substantial size, if the ideal points of these two parties were to overlap sufficiently a single-point Core could be produced, as in figure $\varsigma D$.

Overall, then, if the parties in the coalition lack perfect discipline the Core will span at least the ideal points of the median members of the two outermost parties in the coalition and the Core may grow larger as the size of the coalition decreases. And, of course, the size of the Core will depend on the distance between the relevant members of the two outermost parties in the coalition: the closer together their ideal points the smaller the Core.

## A Party-Free Bicameral Parliament

Next we consider a bicameral parliament consisting of two chambers, to be called the House and Senate. In this system, some status quo policy can be upset whenever a majority of the House and a majority of the Senate can agree on some other policy; each chamber has authority to block efforts by the other to change policy. Our goal is to determine the set of equilibrium policies in this bicameral system. We assume there are no parties. Since there are no parties, questions of party discipline, monopoly agenda control authority, and so forth are moot.

We begin with the same nine actors used previously, constructing a model of a bicameral parliament in which the nine individuals are partitioned into a four-member Senate and a five-member House (see fig. 6A).
A. A Party-Free Bicameral Core

B. A Party-Free Bicameral Core simplified

C. A Party-Free Bicameral Core simplified, with median members with identical ideal points


Fig. 6. A party-free bicameral system

Note that three senators constitute a bare majority of the four-member Senate and three representatives constitute a bare majority of the fivemember House.

Finding the equilibrium policies in a bicameral parliament is similar to what occurs when there are two parties in a coalition in a unicameral parliament. First, for each SQ lying to the left of $S_{2}$ in figure $6 A$ there exists some proposal to upset this $S Q$, which would gain the support of three of the four Senate members $\left(S_{2}, S_{3}\right.$, and $S_{4}$, who comprise a Senate majority) and all five House members. But now consider an SQ lying between $S_{2}$ and $S_{3}$ : there exists a proposal to replace this $S Q$ with a policy on or to the right of $S_{2}$, which would be supported by $S_{3}$ and $S_{4}$ and by all the House members, but $S_{1}$ and $S_{2}$ would reject this proposal. Since this proposal would not be supported by a majority of the Senate (three votes are needed for this), the proposal would fail. The same logic holds for status quo policies lying to the right of $\mathrm{H}_{3}$. Hence, the proposal would fail for lack of a House majority. The result is that the points spanned by the line from $\mathrm{S}_{2}$ to $\mathrm{H}_{3}$ are in equilibrium; hence, all these points from $\mathrm{S}_{2}$ to $\mathrm{H}_{3}$ comprise the Party-Free Bicameral Core.

The size of this Core is simply a function of how far apart the House and Senate median members are. If they are relatively far apart (as with $\mathrm{S}_{2}$ and $\mathrm{H}_{3}$ in fig. $6 B$ ), the Core is relatively large; if they are close together (in fig. 6C, these two medians are identical), the Core is small.

## A Party-Free Presidential System

Finally, consider a presidential system lacking disciplined parties: there is a bicameral legislature consisting of a House and Senate, plus a president. In this system, each of these three institutional actors has authority to block efforts by the others to change policy; the status quo policy can be upset only when a House majority plus a Senate majority plus the president can agree on some other policy. Our goal is to determine the set of equilibrium policies in this system. We assume there is no veto override. ${ }^{7}$

For example, in figure $7 A$ the president is at P , and the set of equilibrium policies thus spans the ideal points of P and $\mathrm{H}_{3}$; that is, the PartyFree Bicameral Executive Veto Core is the set of points from P to $\mathrm{H}_{3}$. The reason is that an SQ to the left of P could be upset since there exists a policy at or to the right of P that the president, all senators, and all representatives prefer to the SQ. Similarly, an SQ to the right of $\mathrm{H}_{3}$ could be upset since there exists a policy at or to the left of $\mathrm{H}_{3}$ that the president, all three senators, and a majority of House members $\left(\mathrm{H}_{\mathrm{I}}, \mathrm{H}_{2}\right.$, and $\mathrm{H}_{3}$ ) would prefer to the SQ. But no SQ lying in the P to $\mathrm{H}_{3}$ region could be upset; for example, an SQ at $\mathrm{H}_{\mathrm{r}}$ could not be upset by any proposal to its left because all the House members (including $\mathrm{H}_{\mathrm{I}}$ ) would vote against it, and this $S Q$ at $\mathrm{H}_{\mathrm{I}}$ could not be upset by some proposal to its right because the president and all senators (and $\mathrm{H}_{\mathrm{I}}$ as well) would vote against it.

If the president is more centrally located, we can get a different Core. For example, with the president as shown in figure $7 B$ a somewhat smaller Core is produced. Note in figure $7 B$ that the ideal point of the president could be moved anywhere in between $\mathrm{S}_{2}$ and $\mathrm{H}_{3}$ (i.e., within the bicameral core, ignoring the president) without changing the size or location of this Core at all.

Depiction of the Party-Free Bicameral Executive Veto Core can be simplified considerably. First identify the relative locations of the ideal points of the president, the median House member, and the median Senate member; for instance, figure $7 A$ can be reduced without any loss of

B. A Party-Free Bicameral Core with a different president

C. A Party-Free Bicameral Executive Veto Core (Figure 7A simplified)

D. A Party-Free Bicameral Executive Veto Core (Figure 7B simplified)

E. A Party-Free Bicameral Executive Veto Core from a party-unified government

F. A Party-Free Bicameral Executive Veto Core from one kind of party-divided government

G. A Party-Free Bicameral Executive Veto Core from another kind of party-divided government


Fig. 7. A party-free presidential system
information to what is shown in diagram $C$, and figure $7 B$ can be reduced without any loss of information to what is shown in figures $7 C$ and $7 D$. The Core is simply the set of policies spanning the median ideal points of the two "outside" actors. (From this perspective, we are considering the ideal point of the president to be his institution's own "median.") Thus, in figure ${ }_{7} C$ the outside actors are P and $\mathrm{H}_{3}$, and so the Core spans these points; in figure 7 D , the outside actors are $\mathrm{S}_{2}$ and H , and so the Core spans these two points.

The size of this Core depends on the extent of preference differences among the "outside" pair of actors in the simplified representation (as in figs. $7 C$ and ${ }_{7} D$ ). If the outermost two actors have similar median ideal points, the Core will be relatively small. In figure $7 E$, for example, the president, median House member, and median Senate member have identical ideal points, thereby producing a single-point Core; this depicts what may be characteristic of an extreme case of "unified party" government. But if the outermost pair of actors have rather different median ideal points, the Core will be relatively large, as in figures $7 F$ and $7 G$; these are two possible types of "divided party" government.

## Summary

While we have presented results for just six of the many possible systems, some important generalizations can be drawn from these systems that I think are representative of all possible democratic systems. In the next section, I discuss these generalizations.

## Are There System-Related Differences in Core Sizes?

The core for each of our six democratic systems has now been identified. For any pair of systems, if one system always has a core that is larger than the core of the other system, we could then conclude that a bureaucracy in the first system will always have more autonomy than a bureaucracy in the second system. We could even arrange our six systems in decreasing order of bureaucratic autonomy (the smaller the cores the less the autonomy), and we could then base an empirical investigation on this expected (i.e., hypothesized) rank ordering of systems.

However, if for any pair of systems it is not the case that one system always has a core that is larger than the core of the other system, then we may be unable to draw any general conclusions about which system's bureaucracy will have more autonomy. That is, it may be that, for one pair
of preference profiles, one system's bureaucracy will have more autonomy than the second system's, while for some other pair of preference profiles the second system's bureaucracy will have more autonomy than the first. This would mean that we cannot rank the six systems in decreasing order of bureaucratic autonomy. Hence, it would not be clear, for hypothesistesting purposes, what our theoretical expectations should be.

So the question is: To which of these two conclusions do our models lead? To answer this question, we will make three different kinds of comparisons.

## Variations in the Size of Each System's Core

Observe in figures 2 through 7 that the core of each system can take on a wide range of sizes. In particular, the core of each system can contain either a single policy or multiple policies.
I. The Majority Party Unicameral Core (with perfect discipline) can contain either a single policy (figs. $2 A, 2 B$, and $2 C$ ) or multiple policies (fig. 2D).
2. The Majority Party Unicameral Core (without perfect discipline) can contain either a single policy (fig. $3 C$ ) or multiple policies (figs. $3 A$ and $3 B$ ).
3. The Party Coalition Unicameral Core (with perfect discipline) can contain either a single policy (fig. $4 D$ ) or multiple policies (figs. $4 A, 4 B, 4 C$, and $4 E$ ).
4. The Party Coalition Unicameral Core (without perfect discipline) can contain either a single policy (fig. $5 D$ ) or multiple policies (figs. $5 A, 5 B$, and $5 C$ ).
5. The Party-Free Bicameral Core can contain either a single policy (fig. $6 C$ ) or multiple policies (figs. $6 A$ and $6 B$ ).
6. The Party-Free Bicameral Executive Veto Core can contain either a single policy (fig. $7 E$ ) or multiple policies (figs. $7 A$ through $7 G)$.

For each system, then, the core can vary in size from a single policy to a range of policies.

Empirically, this has two implications. First, since the policy preferences of the elected officials in a system may vary from issue area to issue area, the size of the system's core may vary from issue area to issue area. This suggests that bureaucratic autonomy in this system can thus be ex-
pected to vary from agency to agency. Second, since the policy preferences of the elected officials in a system may vary over time (which could happen for a variety of reasons) the size of the system's core may vary over time as well. Hence, bureaucratic autonomy in the system can also be expected to vary over time.

## Comparing the Sizes of the Cores for Any Two Systems

The possible variation in size for each system's core has direct implications for what we might expect from comparisons of bureaucratic autonomy across pairs of systems.

With six systems, one can make a total of $\binom{6}{2}=15$ pairwise comparisons of the sizes of two systems' cores. Fortunately, it is not necessary for our purposes to make all fifteen comparisons. The reason stems from the fact, noted earlier, that every system can have a core with just a single policy or a core with multiple policies. Thus, to compare system $i$ (for $i$ $=\mathrm{I}, 2, \ldots, 6$ ) with system $j$ (for $j=1,2, \ldots, 6$ ) we need only consider four possible situations (for $i \neq j$ ).
I. If the core of system $i$ contains a single policy and the core of system $j$ contains multiple policies, then the core of system $i$ will be smaller than the core of system $j$.
2. If the core of system $i$ contains a single policy and the core of system $j$ contains a single policy, then the core of system $i$ will be the same size as the core of system $j$.
3. If the core of system $i$ contains multiple policies and the core of system $j$ contains a single policy, then the core of system $i$ will be larger than the core of system $j$.
4. If the core of system $i$ and the core of system $j$ both contain multiple policies, the core of system $i$ can be smaller than, the same size, or larger than the core of system $j$.

Because each system could have a single policy or multiple policies in its core (as noted in the previous section), it follows that virtually anything could emerge from a comparison of any pair of systems: the core of system $i$ could be smaller than the core of system $j$, or the core of system $i$ could be the same size as the core of system $j$, or the core of system $i$ could be larger than the core of system $j$. In other words, the two sets of rules defining any pair of systems do not necessarily lead to systematic differences in the extent of bureaucratic autonomy.

## Rank Ordering the Core Sizes for All Six Systems

This "anything can happen" result has a further implication. If we are conducting an empirical study of bureaucratic autonomy in all six systems, we might wish to develop some prior theoretical expectations, for hypothesis-testing purposes, about how to rank these six systems in terms of their bureaucratic autonomy. With six different systems in our study, there are $6!=720$ possible rank orderings of the sizes of their cores (ignoring the possibility of ties).

However, since for any pair of systems one system can have a larger core than the second system, and the second system can have a larger core than the first, it follows that each of these 720 possible rankings could possibly occur. That is, there is no logically necessary rank ordering of bureaucratic autonomy across our six systems.

## Discussion

These three sets of results-on the possible size of any one core, on the pairwise comparison of the sizes of any two systems' cores, and on the rank ordering of the sizes of the cores of all six systems-suggest that there does not exist a logically necessary relationship between the policymaking rules defining a particular system and the size of the system's core. This means that knowing just the systems' policy-making rules does not allow us to develop any logically valid expectations about which systems will have bureaucracies with more autonomy and which will have bureaucracies with less. And if it is not clear what the expectations should be it is not clear what testable hypotheses can be derived. Hence, it is not clear what could be learned from the empirical research. If anything could happen theoretically, then empirical research that focuses only on the impact of the systems' policy-making rules on bureaucratic autonomy will not be theoretically informative.

The key implication is that we cannot rely just on the institutional variables-that is, on the number and variety of veto points and the other policy-making rules-to structure and inform our cross-national research on bureaucratic autonomy. Because results from any empirical study will always be due to the interaction among veto points and preference profiles, if the preference profile variable is omitted from the empirical analysis these empirical results will be ascribed, erroneously, to just the impact of the institutional variables.

Of course, an identical argument can be made about the hazards of relying just on the beliefs and preferences of the elected politicians-that is, on the characteristics of the preference profile-to structure and inform our empirical research. Note that some comparative politics research uses results from public opinion surveys as indicators of various kinds of national cultures and then attempts to explain trends in national policy-making on the basis of these changes in cultures (see, e.g., Inglehart 1990). However, such studies rarely integrate their preference profile data with any institutional variables. Unfortunately, if the institutional variables are omitted from an empirical analysis of policy trends any results that are due to the interaction among the veto points and the preference profiles will be ascribed, erroneously, just to the preference profile variable.

So if we wish to empirically examine bureaucratic autonomy in a comparative perspective it is imperative that measures of both the institutional and preference profile variables be included. Unfortunately, this will greatly complicate cross-system empirical research. It is a difficult though manageable task to gather cross-system data on the institutional variables. However, gathering data on each system's preference profile is likely to be much more difficult (as well as time consuming and expensive). For this reason, it will be difficult to conduct meaningful crossnational empirical research on bureaucratic autonomy.

## Possible Criticisms

A number of criticisms might be aimed at the approach from which these conclusions have been derived. In reviewing these criticisms, what must be considered is whether the two broad conclusions-the "anything can happen" results and the necessity of including both preference profile and institutional variables in our theoretical and empirical re-search-would have to be modified if any one criticism is valid. In general, even where there is some basis for the criticisms it is not apparent that either of the two central conclusions is significantly undermined.

## More Complex Sets of Rules for Each System

The set of rules characterizing each of our six systems is undoubtedly far simpler than the full set of rules actually characterizing any real world country. Inclusion of a wider range of institutional variables could be expected to change the size, shape, and location of each system's core.

For example, committees with gatekeeping authority could be included (especially in presidential systems) along with a veto override, the nomination and confirmation process for bureaucratic leaders, procedures for their dismissal or removal, and the courts (see Hammond and Knott 1996 for details on how these all might be included in a spatial model of bureaucratic autonomy in a presidential system). Agency budgets and the appropriations process could be included as well. For coalition governments in parliamentary systems, how cabinet seats are allocated to various parties might affect the extent of autonomy for the bureaucracies involved. And if bureaucratic autonomy also stems from informational asymmetries between the bureaucrats and the elected officials, as Weber hypothesized, then these asymmetries could also be included.

Changes in any of these factors may well change the size, shape, and location of the resulting cores, given some preference profile. However, it is unclear what the net impact of these additional factors would be: inclusion of some variables might increase the size of a system's core (e.g., if more veto points are added, as with legislative committees or multiparty coalition governments), whereas the inclusion of other variables (e.g., the appropriations process and the chief executive's ability to dismiss the agency head) would seem likely to decrease the size of the system's core. Moreover, it could be argued that some aspects of our models, such as the number of political parties, should be endogenized and treated as a product of the systems' electoral rules (which would also have to be included in our models).

Nonetheless, the key issue is not whether these models are sufficiently descriptive of real world countries but whether our central conclusions would change if more complete rules were developed for each system. In part because it is not clear what the net effect of including all these additional variables would be, it is not clear that these conclusions would be undermined.

## The Unidimensionality Assumption

It could be asserted, with some plausibility, that policy-making in many political systems is usually multidimensional and not unidimensional. Nonetheless, even with a multidimensional representation of policymaking in each of our systems it seems likely that the anything can happen results would emerge from a theoretical multidimensional analysis. The reason is that, even in a multidimensional setting, for each pair of
systems there probably exist pairs of preference profiles that would produce sets of equilibrium policies that vary greatly in size, thereby reproducing the anything can happen result.

Of course, for any one system preference profiles that produce any cores at all may be less common in higher dimensional issue spaces than in lower dimensional spaces. The implication is that bureaucratic autonomy would be less likely in multidimensional settings: for any policy the bureaucracy might adopt, the absence of a core means that there exists some other policy that some decisive coalition of elected officials would prefer. Hence, the bureaucracy would not be in a position to play a "divide and conquer" game with these officials.

However, Humphreys (200I) presents formal and simulation results indicating that cores are not completely improbable in higher dimensional spaces. Moreover, a different line of work-see, for example, Baron and Ferejohn 1989-indicates that even in multidimensional spatial settings policy stability may exist if elected officials find the unending decision making implied by policy disequilibrium to be costly. In either case, policy equilibrium may be maintained, with the result that some bureaucratic autonomy may still be possible.

## The Empirical Improbability of Particular Preference Profiles

Several of the core sizes generated by our models stem from preference profiles that may seem empirically improbable. If these empirically improbable profiles are eliminated from consideration, this might place at least some constraints on what we should expect theoretically when comparing two or more systems.

Nonetheless, while it may be possible to rule out some preference profiles as empirically improbable for particular systems it remains unclear whether as a result any one system, given the restricted range of profiles, will necessarily produce a core that is always larger than, or always smaller than, the core of some other system. Hence, it is unclear that these restrictions would undermine our central conclusions.

## Conclusion

The major conclusions thus remain the same. First, even with all the modifications just proposed, different preference profiles can still be expected to change the size of a system's core, holding constant whatever set of policy-making rules is attributed to this system. And, second, this
means that any effort to empirically investigate the impact of policy-making rules on bureaucratic autonomy (either within or across systems) should incorporate the preference profiles as a variable. As a general rule, then, policy choices by a system must be seen as the product of an interaction between the policy-making rules and the preferences of the actors in the system. Hence, empirical efforts to explain variations in the extent of bureaucratic autonomy within and across democratic systems must take both sets of factors into account.

## Notes

I. Tsebelis (1995) does explicitly talk about the impact of the preference profile on policy stability (see, e.g., his proposition 2, p. 298, and also pp. 308iI), and his empirical work (see, e.g., Tsebelis 1999) takes into account the ideological range of governing coalitions. However, the general nature of the interaction between the number of veto points and the preference profiles in various kinds of systems remains underexplored.
2. A "decisive coalition" is one that, by the system's policy-making rules, is empowered to select some new policy. Thus, in the United States there are two possible decisive coalitions in the policy-making process: (I) a coalition of the president, a House majority, and a Senate majority; and (2) a coalition of twothirds of the House and two-thirds of the Senate. In a unicameral parliament, a decisive coalition would be simply a majority of the single chamber.
3. This is slightly nonstandard terminology, for if some legislators comprise a minority they cannot generate a win set. Instead, I am using the term win set to indicate the area where several preferred-to sets overlap and then modifying the term to indicate whether it is generated by a minority or a majority.
4. If the minority party does not automatically vote against the proposal of the majority party but each of its members instead simply votes in terms of whether the majority party's proposal is better or worse for him or her than the status quo, then the Majority Party Unicameral Core could again be different. To illustrate, consider a case in which SQ lies just to the right of $\mathrm{C}_{3}$ in figure $3 A$. A majority party proposal to replace this $S Q$ with a policy at $C_{3}$ would be rejected by $\mathrm{C}_{4}$ and $\mathrm{C}_{5}$ but would be supported by the other party members- $\mathrm{C}_{1}$, $\mathrm{C}_{2}$, and $\mathrm{C}_{3}$-as well as all four Labor Party members. Hence, points to the right of $\mathrm{C}_{3}$ are not in equilibrium. However, if SQ lies between $\mathrm{C}_{1}$ and $\mathrm{C}_{3}$ a majority party proposal to replace it with a policy at $\mathrm{C}_{3}$ would be supported at most only
by $\mathrm{C}_{3}, \mathrm{C}_{4}$, and $\mathrm{C}_{5}$ (and possibly $\mathrm{C}_{2}$, depending on the location of SQ ); it would be rejected at least by $\mathrm{C}_{\mathrm{I}}$ and all four Labor Party members, who collectively comprise a parliamentary majority. Hence, the Core would span the ideal points from $\mathrm{C}_{\mathrm{I}}$ to $\mathrm{C}_{3}$.
5. If the minority party members here do not automatically vote against the majority party proposal but instead vote on the basis of the utility of the proposal to them, then the Majority Party Unicameral Core here spans just the $\mathrm{C}_{3}$ and $\mathrm{C}_{4}$ ideal points. Consider a case in which SQ lies to the right of $\mathrm{C}_{4}$. A party proposal to replace this $S Q$ with a policy at $\mathrm{C}_{4}$ would be approved by four Conservative Party members- $\mathrm{C}_{1}, \mathrm{C}_{2}, \mathrm{C}_{3}$, and $\mathrm{C}_{4}$-as well as $\mathrm{L}_{1}$ and $\mathrm{L}_{2}$, for a total of six votes; these six votes comprise a parliamentary majority. Hence, status quo policies to the right of $\mathrm{C}_{4}$ cannot be in equilibrium. Similarly, SQ policies to the left of $\mathrm{C}_{3}$ are not in equilibrium. However, if SQ lies between $\mathrm{C}_{3}$ and $\mathrm{C}_{4}$ any proposal to replace this SQ with a policy to its left would be opposed by $\mathrm{C}_{4}, \mathrm{C}_{5}, \mathrm{C}_{6}$, and $\mathrm{C}_{7}$, who comprise a majority of the Conservative Party. While a majority of the parliament would support this proposal (i.e., $\mathrm{C}_{\mathrm{I}}, \mathrm{C}_{2}$, $\mathrm{C}_{3}, \mathrm{~L}_{1}$, and $\mathrm{L}_{2}$ ), since a majority of the majority party (the Conservative Party) opposes the proposal it would never be sent to the floor. And if SQ lies between $\mathrm{C}_{3}$ and $\mathrm{C}_{4}$ any proposal to replace this $S Q$ with a policy to its right would be opposed by $C_{1}, C_{2}$, and $C_{3}$ as well as $L_{1}$ and $L_{2}$. Hence, the Core here spans just the $\mathrm{C}_{3}$ to $\mathrm{C}_{4}$ interval.
6. If the members of the opposition party vote simply on the basis of their own individual valuation of SQ and the policy proposal, the Core here will also span just the ideal points of the median members of the coalition.
7. The creation of a veto override will never increase the size of the core but can decrease it.

