A THEORY OF VOTING IN LEGISLATIVE ELECTIONS*

Morris P. Fiorina

and

Roger G. Noll


A THEORY OF VOTING IN LEGISLATIVE ELECTIONS
Morris P. Fiorina and Roger G. Noll

I. INTRODUCTION

The present generation of political scientists has inherited a wealth of knowledge about the logical structure of majority rule processes. Thirty years ago Duncan Black (1948) began to publish a series of discoveries and rediscoveries about the properties of committee decisionmaking under majority rule. At almost the same time Kenneth Arrow (1951) proved a general result about the failings of collective choice mechanisms which included majority rule as a special case. Anthony Downs (1957) insightfully applied these early findings to a political setting -- that of free, two-party electoral competition.

In the 1960s Plott (1967) identified a set of necessary and sufficient (albeit restrictive) conditions under which majority rule processes produce stable outcomes. Sloss (1973) later generalized this work. Meanwhile, in a series of articles Davis, Hinich and Ordeshook (see 1970 for a review) generalized the Downsian model of electoral competition. Hoyer and Mayer (1974), and McKelvey (1975) summarized and synthesized much of this scattered literature.

The 1970s have seen developments on two fronts. On the substantive front majority rule models have been applied to legislative settings (see Ferejohn and Fiorina (1974) for a review). More recently a succession of abstract articles has explored the nature of the indeterminacy characteristic of majority rule processes (McKelvey, 1976; Schofield, 1976; Cohen, 1977; Cohen and Matthews, 1977). For two reasons, however, this latest line of research brings us to an impasse. First, it dashes earlier hopes of finding reasonably broad contexts in which majority rule equilibria would exist. We now know that majority rule is generically unstable: the set of preference configurations which would support equilibria is vanishingly small. Second, earlier conjectures that the area of majority rule indeterminacy would be small and centrally located (Tullock, 1967) also prove unfounded. The area of indeterminacy usually turns out to be the entire policy space: majority rule can result in literally any outcome, depending on what proposals are matched and in what order.

This onward march of knowledge has created an embarrassing situation for those who wish to apply abstract majority rule models to real political contexts. Take the study of electoral competition. If a majority rule equilibrium exists (an exceedingly unlikely possibility, the theorists tell us), both candidates are expected to adopt it and the election can be expected to end in a tie. In the general case of no equilibrium, the candidate who moves last can always win. Several authors have suggested that incumbents, by virtue of their past records, are fixed points in the policy space (Shepsle, 1972; Kramer, 1975). Thus, the challenger can always defeat the incumbent. In short, the application of abstract majority
rule models to the study of electoral competition generates the conclusion that incumbents always lose, except for an occasional tie. This certainly qualifies as a nonobvious conclusion.

Rather than abandon the model at this point, some scholars have tried to make the best of the nonobvious conclusion. Downs, for example, developed his classic concept of "the coalition of minorities" after considering the hapless position of the incumbent party. Kramer (1975) embraces the nonobvious conclusion by constructing a dynamic model in which the stationary incumbent loses every election to the mobile challenger. The ensuing perpetual alternation of the two parties produces a probabilistic convergence to a "centrally located" (the minimax set) portion of the policy space.

Other researchers are less comfortable with the notion that incumbents always lose. To be sure, of the last three American presidents, one lost, one withdrew, and one evidently feared defeat sufficiently to engage in some extraordinary campaign practices. American state governors, moreover, have long been known to experience rough electoral sledding (Turett, 1971). But when we turn to American congressmen, British MPs, legislators of all stripes -- the abstract theoretical prediction fails. Indeed, a major current area of inquiry in the legislative subfield is to explain the apparently overwhelming advantage of incumbency. Obviously, a variety of ad hoc explanations are available. Most of these focus on the invisibility of the challenger and the massive advertising campaigns of incumbents. But such explanations seem to conflict with the basic spirit of rational choice majority rule models, in that citizens are implicitly assumed to respond to advertising regardless of content. Granted, citizens may form their preferences on any basis they choose, but from an epistemological standpoint, to allow any and all preferences no matter how frivolous, is to trivialize the majority rule model. We doubt that many of its adherents would accept this way out.

Our contention in this paper is that existing majority rule models are not empirically wrong, just incomplete, and not incomplete in the sense that they ignore personal psychology, but incomplete in the sense that they ignore certain obvious and easily representable asymmetries between the candidates. Implicitly, existing models presume that candidates compete for executive office. The citizen assumes that if one candidate (or Downsian "team") wins, one platform is implemented, whereas if the opponent wins, another platform becomes public policy. But the situation is different when the citizen chooses between candidates for legislative office. Public policy is determined by the winning candidate from one district acting in concert with the winning candidates from all other districts. Other things equal, this fact diminishes the incentive for a citizen to vote on the basis of the candidate's policy platforms and increases uncertainty about the policy consequences of the election. At the least, the citizen must decide how to deal with that uncertainty, and some ways of dealing with it may involve increased attention to other factors, factors not limited to mere name recognition or a
pretty face.

This paper outlines a model of voting in contemporary legislative elections. The model presumes that such elections take place in single member districts. Thus, it is principally applicable to the anglo-American democracies. Like the traditional models, this one too presumes a fully-informed citizen, but information is assumed to extend beyond knowledge of a policy space and the candidates' positions within it. By "fully informed" we mean a citizen who understands the various ways in which legislative activities affect him, the essentials of legislative procedures and processes, and in particular the sources of influence within those procedures and processes.¹

Our contention is that modern legislators do more than participate in the formulation of major national policies. Too often it is assumed that electoral competition is limited to public goods space; this is an assumption which represents the most naive variant of classical democratic theory. Legislators from single-member districts always have indulged and continue to indulge in a second activity: they provide quasi-private goods to their districts. The term "pork barrel" conjures up visions of legislators scrambling to procure dams, locks, irrigation projects, and public buildings and facilities of all kinds. Moreover, the concept now extends to defense contracts, urban renewal and mass transit grants, neighborhood health centers, worker training and retraining centers: the list is lengthy.

In recent years yet a third activity has come to absorb an increasing amount of legislators' time and resources: casework. The large, complex bureaucracies of modern postindustrial societies increasingly impinge on the daily lives of their citizens. Regulations constrain what one can or can not do, and opportunities to profit from government programs are available to an ever larger portion of the citizenry. Although it is casually remarked that bureaucracies have a momentum of their own, it is true that legislators can have an impact on bureaucratic decisions, the more so the more discretionary those decisions. This is particularly true in the United States where legislatures play an important role in the budgetary process and show considerable independence in the authorization process as well. But legislative concern with bureaucratic decisionmaking is evident even in such purportedly "rubber stamp" legislatures as the British Parliament.²

The model we propose simply recognizes that legislators engage in each of the preceding three activities and that their constituents recognize that they do so. Furthermore, the model incorporates an asymmetry between incumbents and their challengers, an asymmetry which we regard as empirically true and deserving of explicit theoretical recognition.

II. THE ANALYSIS: THREE CONCERNS OF THE INFORMED LEGISLATIVE ELECTORATE

We assume that citizens' evaluations of the three varieties of legislative activity are analytically separable, i.e. that we can examine each in isolation then combine them under the assumption that no interactions override the separate analyses.
A. The Policy Component of Congressional Voting

In this section we utilize the following notation:

\( I \) = the incumbent's platform

\( C \) = the challenger's platform

The standard electoral competition model presumes that the citizen's preferences for candidates can be represented by a utility function whose arguments are the policies advocated by the candidates and those preferred by the citizen, i.e. candidate I is preferred to candidate C only if \( U(I) > U(C) \).

Perhaps the preceding formulation is a useful approximation of a citizen's evaluation of candidates for executive office. In that case the citizen presumably gets one platform or the other, although real governors, premiers and presidents find themselves stymied to some extent by legislatures, bureaucracies and courts.

But what about the evaluation of candidates for legislative offices? The winning candidate joins other winning candidates (434 other winning candidates in the case of the U.S. House of Representatives) who collectively determine an outcome.

In a legislative election it seems more accurate to model the citizen as choosing between lotteries. With some probability, \( p(I) \), the incumbent will successfully implement his platform, and with complementary probability will not, and similarly for the challenger. The expected utilities of the legislative candidates based on policy stands are given by:

\[
EU(I_p) = p(I_p)U(I_p) + (1-p(I_p))U(L\setminus I_p)
\]

\[
EU(C_p) = p(C_p)U(C_p) + (1-p(C_p))U(L\setminus C_p)
\]

Just what are the outcomes when the candidates fail to implement their platforms? Letting script \( L \) signify "Legislature," the preceding equations posit that the citizen forms estimates of the outcomes the legislature produces (would produce) if the incumbent and challenger respectively were unsuccessful in implementing their platform. These \( (L\setminus I) \) and \( (L\setminus C) \) outcomes are basically those which obtain when the citizen's representative makes no difference to the policy output of the legislature. In the remainder of this analysis we will assume that the citizen estimates that \((L\setminus I)\) and \((L\setminus C)\) = ND, the "no difference" outcome.

At this point we abandon the symmetry which characterizes existing models by making the following assumption of incumbent effectiveness:

\[
p(I_p) > p(C_p)
\]

There are numerous empirical grounds on which to motivate this asymmetric assumption. Most obviously, the incumbent has a store of experience -- firsthand knowledge of how legislative processes work. Second, incumbents may hold formal positions of authority. Currently in the U.S. House, for example, there are about 150 committee and subcommittee chairmanships as well as a variety of party posts. In any given election probably 40 percent or more of American voters are evaluating an incumbent who holds a leadership post. Third, the odds are that incumbents are members of the majority.
party (roughly 2:1 in the U.S. House at present), and thus more able to influence the committee and party leadership. Of course, the assumption of incumbent effectiveness can go awry in some cases -- particularly for minority party members -- but in general we think it captures an important feature of legislative elections.

In choosing between incumbent and challenger the citizen determines whether EU(I) > EU(C) or vice-versa, making no choice if they are equal. Thus the incumbent is preferred on policy grounds if

\[
\frac{p(I_p)}{p(C_p)} > \frac{U(C_p) - U(ND)}{U(I_p) - U(ND)}
\]

(3a)

when \( U(I_p) > U(ND) \)

or if

\[
\frac{p(I_p)}{p(C_p)} < \frac{U(C_p) - U(ND)}{U(I_p) - U(ND)}
\]

(3b)

when \( U(I_p) < U(ND) \)

From the incumbency effectiveness assumption we know that \( p(I_p)/p(C_p) \) is greater than one. This fact permits a determination of the candidate preferences produced by all but two of the possible preference orderings over the alternatives \{I, C, ND\}. These implications are contained in the following table where notation is simplified by suppressing the superscript, \( p \).

<table>
<thead>
<tr>
<th>Candidate Preferences Based on Policy Component of Congressional Voting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incumbent Ranked First:</td>
</tr>
<tr>
<td>( U(I) \geq U(ND) &gt; U(C) )</td>
</tr>
<tr>
<td>( U(I) &gt; U(ND) = U(C) )</td>
</tr>
<tr>
<td>( U(I) &gt; U(C) &gt; U(ND) )</td>
</tr>
<tr>
<td>( U(I) &gt; U(C) = U(ND) )</td>
</tr>
<tr>
<td>prefer I</td>
</tr>
<tr>
<td>Incumbent Ranked Last:</td>
</tr>
<tr>
<td>( U(C) &gt; U(ND) &gt; U(I) )</td>
</tr>
<tr>
<td>( U(C) &gt; U(ND) = U(I) )</td>
</tr>
<tr>
<td>( U(ND) &gt; U(C) &gt; U(I) )</td>
</tr>
<tr>
<td>( U(ND) &gt; U(C) = U(I) )</td>
</tr>
<tr>
<td>prefer C</td>
</tr>
<tr>
<td>Incumbent Middle Ranked:</td>
</tr>
<tr>
<td>( U(C) &gt; U(I) &gt; U(ND) ) - depends, IE favors I</td>
</tr>
<tr>
<td>( U(ND) &gt; U(I) &gt; U(C) ) - depends, IE favors C</td>
</tr>
<tr>
<td>Indifference:</td>
</tr>
<tr>
<td>( U(I) = U(C) = U(ND) ) - indifference between I and C</td>
</tr>
</tbody>
</table>

[Table 1 here]
The striking thing about Table 1 is the perfect symmetry which exists even under the asymmetric assumption of incumbent effectiveness. For every preference ordering which produces a preference for the incumbent, there is a "mirror image" which produces a preference for the challenger. Even the two indeterminate cases contain a curious symmetry: the comparative statics are precisely opposite. That is, if \( U(C_p) > U(I_p) > U(ND) \), increased incumbent effectiveness is more likely to produce an incumbent preference (the citizen may vote for a more effective second choice). But if \( U(ND) > U(I_p) > U(C_p) \), increased incumbent effectiveness is less likely to produce an incumbent preference.

The underlying basis for all this symmetry is clear upon a moment's reflection. Incumbent effectiveness is a two-edged sword. Those who favor the incumbent's platform (relative to the C and ND alternatives) naturally value incumbent effectiveness. But those who dislike the incumbent's position to the extent that they would prefer the position the rest of the legislature would adopt do not attach positive value to incumbent effectiveness. Quite the contrary. They would sooner countenance an incompetent challenger than an effective incumbent whose policies they loathe. In short, incumbency effectiveness does not translate directly into incumbency advantage.

There are a variety of perspectives from which to view Table 1. One of the more interesting is from the point of view of a world in which policy preferences are randomly distributed. If we were to take 100,000 citizens (a low estimate of average turnout in an off-year American election) and assign them values of \( U(I_p) \), \( U(C_p) \), and \( U(ND) \) on a random basis, then have them vote in accord with 3a and 3b, the expected outcome of the election would be a tie. Thus, the incumbency advantage is not the simple product of incumbent effectiveness.

Random worlds aside, a second possible perspective is that taken by existing models of electoral competition. What happens when a majority rule equilibrium exists? When one does not? To address these questions it is necessary to make a rather strong assumption: all citizens in a district form the same estimates of legislative output when their representative makes no difference, i.e. all citizens agree upon the policies signified by ND (they may of course differ about the desirability of ND).

If a majority rule equilibrium exists, electorally rational candidates choose it. Thus, only three preference patterns can be observed among the citizenry:\(^7\)

\[
\begin{align*}
U(I_p) = U(C_p) > U(ND) \Rightarrow & \text{ prefer } I \\
U(I_p) = U(C_p) = U(ND) \Rightarrow & \text{ indifference} \\
U(ND) > U(I_p) = U(C_p) \Rightarrow & \text{ prefer } C
\end{align*}
\]

From the definition of a majority rule equilibrium a minority of citizens has the third ordering.\(^8\) Moreover, assuming indifferents split their vote exactly 50-50, the definition precludes the third group from being larger than the first. Thus incumbency effectiveness gives the incumbent an edge.

In the much more likely case of no majority rule equilibrium, the incumbent, who moves first in the electoral game (by
casting roll call votes, for example), can be outmaneuvered by the electorally rational challenger. Thus, a majority of citizens has one of the following preference orderings:

\[
\begin{align*}
U(C_p) &> U(ND) \geq U(I_p) \\
U(ND) &> U(C_p) > U(I_p) \\
U(C_p) &> U(I_p) > U(ND)
\end{align*}
\]

which produce challenger preferences.

In this case the incumbent can only win if the third category is sufficiently numerous and sufficiently unresponsive to differences in \(C\) and \(I\) to deny a majority to the challenger because of greater effectiveness of incumbents. And what is the incumbent's strategy? Those in the third category are susceptible to arguments for incumbency effectiveness -- campaigns based on experience, seniority and the like. But remember, there is a "mirror image" category \((U(ND) > U(I) > U(C))\), some of whom are already in the incumbent's camp, who will be repelled by that very strategy. In sum, given the likely nonexistence of a majority rule equilibrium, the electoral prospects of the incumbent are not generally predictable; they depend on the precise configuration of voter preferences.

All of the foregoing can be summarized in a fairly simple statement. In a full information model of competition for legislative office, where competition is restricted to the policy domain, and incumbents are more effective than challengers in influencing policy, incumbency carries no general electoral advantage.

B. The Pork Barrel Component of Legislative Voting

Once a program is in operation the concern of the legislator may change. The costs of national activities are spread across all districts but the benefits typically can be and are appropriated by specific areas and/or groups. Whether a particular legislator favors the virtually unlimited construction of water treatment plants, for example, once the legislature has made that decision a legislator should attempt to procure as many plants for his or her district as possible. After all, construction of the plants creates jobs and perhaps cleaner water, most of which will be paid for by taxes raised in other districts. In addition, the plants serve as visible reminders of the efforts of the legislator on behalf of the district.

In the pork barrel sphere the informed voter has no difficulty in specifying the ND outcome: nothing. In the legislature it is every district for itself. If one's representative does not bring home the bacon, no one does. This fact severely restricts the domain of reasonable preferences for the informed voter: some is better than none. The incumbent and challenger may have a different emphasis (urban pork vs. rural pork, construction pork vs. services pork, etc.) but the pork package advocated by either should be preferred to the ND outcome which is simply no benefits with virtually the same taxes. Thus, the citizenry will fall into the following two categories:

\[
\begin{align*}
U(I_b) &> U(C_b) > U(ND) \\
U(C_b) &> U(I_b) > U(ND)
\end{align*}
\]

If we let \(b(I_b)\) and \(b(C_b)\) denote the incumbent's and challenger's
respective probabilities of bringing home the bacon they promise, the expected utility of the incumbent from pork barrel programs, $EU(I_p)$, exceeds that of the challenger, $EU(C_b)$, if

$$\frac{b(I_b)}{b(C_b)} > \frac{U(C_b) - U(ND)}{U(I_b) - U(ND)} \quad (5)$$

Again we assume incumbent effectiveness:

$$b(I_b) > b(C_b).$$

All citizens with the first preference ordering listing in (4) satisfy (5), i.e. prefer the incumbent. In addition some of those with the second ordering also satisfy (5). Moreover, if the relative effectiveness of the incumbent increases, the proportion of voters with the second ordering who will vote for the incumbent will also increase.

Considering a random world again, the conclusion for the pork barrel component of an election is different from that suggested for the policy component. With randomly assigned preferences (subject to the restrictions embodied in (4)), the incumbent would expect a minimum of half the votes, expecting a vote proportion in the interval [.5, 1.0] rather than exactly at .5 as previously. This advantage results directly from the relatively greater homogeneity of preferences in the pork barrel sphere. All constituents would rather have something than nothing, so to speak.

If a majority rule equilibrium exists in the pork barrel arena,

$$U(I_b) = U(C_b) > U(ND) \quad \text{for all citizens}$$

and the incumbent is unanimously preferred. If there is no majority rule equilibrium, the incumbent can be outmaneuvered so that for a majority,

$$U(C_b) > U(I_b) > U(ND) \Rightarrow \text{indeterminate preference}$$

while for the remainder,

$$U(I_b) > U(C_b) > U(ND) \Rightarrow \text{prefer I}$$

The incumbent can win if enough of those in the first category prefer a more effective second choice to a less effective first choice. Ceteris paribus, the greater is the relative effectiveness of incumbents, the greater is the likelihood that "enough" of those in the first category will prefer the incumbent to the challenger.

The upshot of all this clear. If we were incumbents, we would rather campaign on pork than on policy, unless we had some prior assurance that policy preferences would be as homogeneous as pork references are expected to be.

C. The Casework or Service Component of Legislative Voting

The service component is essentially the same as the pork barrel component. The incumbent and challenger may differ in emphasis, but the package of ombudsman services offered by either is preferred to the ND outcome, which again is no services. In the U.S., for example, if your Representative will not oblige you by tracking down a lost social security check or interceding with OSHA, no one else will. Thus, the informed citizen should have one of
the following two preference orderings for packages of services:

\[ U(I_s) > U(C_s) > U(ND) \]

\[ U(C_s) > U(I_s) > U(ND) \] (6)

If we let \( s(I_s) \) and \( s(C_s) \) stand for the incumbent's and challenger's respective probabilities of delivering their promised package of services, the expected utility of the incumbent from services, \( EU(I_s) \), exceeds that of the challenger, \( EU(C_s) \), if

\[ \frac{s(I_s)}{s(C_s)} > \frac{U(C_s) - U(ND)}{U(I_s) - U(ND)} \] (7)

As in the pork barrel case the incumbent would have an expectation in the interval \([.5, 1.0)\) if the service component alone were operating in a random world. If a majority rule equilibrium exists, the incumbent would win a unanimous victory. If no such position exists, the incumbent should stress effectiveness. Again, if we were incumbents who wished to stay incumbents, we would rather run as ombudsmen than as the architects of national policy.

D. Summary of the Voting Model

In the preceding pages we have tried to develop a model which would allow incumbents an edge in legislative elections rather than place them at a disadvantage as interpretations of existing models seem to do. Our model differs from its forerunners in two respects. First, it recognizes the varied nature of legislative activity. The formulation of national policy is not the only task engaged in by contemporary legislators. Constituents expect other things as well, and these other expectations are likely to be more homogeneous than those concerning policy formation. Second, our model recognizes that election of a legislator is not equivalent to selection of a policy program; election only sends legislators into another game with other elected candidates. Thus, in legislative elections citizens are choosing between platforms which will be realized only probabilistically. Moreover, in very large legislatures and with a strong executive, these probabilities may be quite small in most elections. As a result, voters must consider what happens in the event that neither contending candidate is effective, a third prospect not apparent in models of two candidate competition for executive office. Moreover, in choosing between two legislator-lotteries citizens presumably are discerning enough to recognize that experience in holding office has certain consequences. Is it not reasonable to assume that a subcommittee chairman with six years experience will be more effective than a freshman Republican, for example? We have shown that the interaction between incumbent effectiveness and preference homogeneity generates an incumbency advantage. Interestingly, however, where preferences are heterogeneous, as they may be in the policy realm, incumbency effectiveness cuts both ways.

III. IMPLICATIONS OF THE THEORY

One mark of a useful theory is its ability to illuminate facts beyond those it was constructed to explain. In this section we propose a variety of empirical hypotheses which are implied by our
model of legislative voting. These hypotheses fall into two
categories: process implications and policy implications.

A. Process Implications

The model suggests that incumbents will place a heavy
emphasis on project, grant, and service activities in their electoral
campaigns, because it is in these areas that incumbency generates
an electoral advantage. Thus, we expect incumbent advertising to
focus heavily on the aforementioned activities. Incumbents will
emphasize their role as spokespersons for local interests, ever on
the lookout to insure that the district gets its share of nationally
funded largesse. It is no accident, for example, that even
conservative U.S. Representatives herald their success in bringing
federal monies to their districts. Moreover, we should observe
incumbents attempting to build an image of concern with the personal
problems of constituents, and of general availability to them.
Fenno (1978) has studied the efforts of congressional incumbents
to build feelings of amorphous trust and accessibility among
constituents. The preceding argument implies that incumbents are not
just playing on affective feelings on the part of constituents. In
addition, they may be rationally encouraging constituents to form high
estimates of incumbent effectiveness in an area (personal servicing)
where high estimates lead to electoral successes. Only when issue
positions enjoy overwhelming majority support among constituents
would we observe incumbent emphasis on issues. It is easy and safe
to be policy oriented if one is on the right side of an 80:20 split.

A second set of process implications concerns comparisons
across legislatures. Although legislative incumbents in general are
expected to shy away from an issue emphasis relative to a service
and project emphasis, certain features of legislatures may reinforce
that tendency. For example, in the U.S. House we find a strong
committee system, the components of which are relatively autonomous
when overseeing the bureaucracy, but much less so when drawing up
national policy. Thus, for the typical U.S. Representatives,
b(I) > p(I), s(I) > p(I), providing all the more reasons for a project
and service emphasis. In contrast, legislatures with a weak or
nonexistent committee system (such as the British Parliament) provide
a more balanced incentive system to their members and in turn to
their electorate. In proportional representation (PR) systems the
model ceases to apply. In a PR system projects and services may
provide benefits to a party, but not directly to a particular
legislator. As with public goods generally, individuals will tend
to shirk the cost of providing the general (i.e. party) benefit.
Thus, legislative systems probably can be arrayed along a rough
continuum according to the incentives they provide their members
and voters to emphasize projects and services relative to policy
formation.

A third set of process implications follows from a
consideration of estimates of incumbency effectiveness. Other things
equal (usually overlooked in existing empirical studies) the size of
the incumbency advantage should vary with certain objective charac-
teristics of incumbents. Most obviously, members of an apparently
permanent majority party should have an even greater advantage.
Voters will realize that the minority party candidate has little
chance to implement a policy proposal. And when voters turn to the project and service components, the majority party candidate — especially if incumbent — will typically have the advantage there because the party controls the committee structure. Once the legislative party balance appears to depart permanently from an even split, the incentives facing voters will lead to eventual eradication of the minority party unless some exogeneous shock to the system overrides the micro-motives we have identified.

B. Three Public Policy Implications

If the theory developed in section II accurately describes a portion of electoral reality, three public policy tendencies should exist. For shorthand we refer to these as the bureaucratic tendency, the distributive tendency, and the growth tendency. We stress the use of the term "tendency." Public policy will be more bureaucratically organized, more distributive in nature, and more extensive in scope than it would be in the absence of a legislative incumbency advantage, but the theory does not enable us to say how much more — perhaps a little bit, perhaps a lot. Moreover, while these tendencies constitute inefficiencies or costs associated with an incumbency advantage, any ultimate assessment of net impact should take account of positive aspects of service and project activities as well. After all, the expertise and influence of a representative in speeding bureaucratic actions and lowering the cost of dealing with government are valuable to society generally. Nevertheless, an incumbency advantage arising from service and project activities does change the nature of democratic government in potentially troubling aspects.

The Bureaucratic Tendency

Because of the electoral advantage arising from influence over the bureaucracy incumbents should hesitate to create programs which are beyond discretionary control. In practice this means that programs will require more in the way of bureaucratic inputs than might be ideal. The point is best illustrated by American examples. There is something to be said for razing the present jerry-buil structure of income security programs and replacing it with a guaranteed annual income implemented entirely through the tax laws. The marginal cost of expanding IRS would be less than the savings accomplished by closing down numerous existing transfer programs. Similarly, we could abandon the existing structure of educational grants and replace it with a simple voucher system. The savings in bureaucratic inputs are evident. Again, we could eliminate entirely the congeries of federal grant-in-aid programs to states and localities and replace it with general revenue sharing. As before, the bureaucratic savings are manifest. In each of the preceding cases there are arguments on both sides, of course, but one argument that is seldom recognized is the congressional stake in maintaining the more bureaucratic way of doing things. Naturally, legislators dislike the uncertainty attendant upon any major program shift. But beyond that, if benefits are distributed automatically (through tax refunds, quarterly revenue-sharing checks, vouchers, etc.) constituents may come to expect them as their due and not regard them at least in part as the gift of benevolent legislators. And if costs are imposed automatically
(tax payments), fewer citizens are likely to seek the aid of their representative in efforts to avoid those costs.

The preceding argument focuses on the credit-claiming aspect of constituency service: more bureaucratically administered programs present representatives with greater opportunities to claim credit for helping constituents procure benefits or escape costs. The bureaucratic tendency also arises from another consideration which we might call the "avoiding responsibility" principle. Lowi (1969) argues, for example, that Congress writes legislation -- especially regulatory legislation -- in so general a fashion that an agency must make numerous detailed decisions before implementing it. While he attributes this practice to a public philosophy which emphasizes flexibility over uniformity and bargaining over the rule of law, others take a more cynical view:

A major reason for the power of the bureaucracy in policy formulation is the frequent lack of congressional incentives to adhere to the Schechter rule and establish explicit standards for administrative action. This is particularly true in the regulatory realm, an area involving political conflict that legislators often wish to avoid. Congress is always willing to deal rhetorically with problems requiring regulation and with the area of regulatory reform, but real decisions on the part of the legislature will undoubtedly raise the ire of powerful pressure groups on one side or the other that are affected by government regulation. (Woll, 1977, p. 173)

Why should representatives take political chances by setting detailed regulations sure to antagonize various political actors? Why not allow an agency to do the dangerous work then step in to redress the grievances which result from its activities? The agency takes the blame and representatives claim the credit. But in the end both benefit. Representatives successfully wage their campaigns for reelection, and while popularly villified, bureaucrats receive favorable budgetary reviews in the committee rooms of Congress.

In sum, our theory of voting in legislative elections suggests the existence of a bureaucratic tendency -- greater than optimal use of personnel, resources and government authority in the administration of public policies. This tendency arises from the dual desire of incumbents to maintain day to day influence on the operation of federal programs and to avoid the larger responsibility for the overall consequences of those programs.

The Distributive Tendency

This second tendency is related to the first. Again, let us consider American examples. There is widespread agreement among professional economists that tax schemes are superior to subsidies and mandatory standards as means of attacking some important pollution problems. Yet one of the most popular congressional programs provides localities with grants to construct water treatment plants to conform to congressionally mandated standards. The Model Cities program, originally conceived as a demonstration project in a handful of carefully selected locations, was immediately extended to a pork barrel project for hundreds of communities, many of which were not even cities.
Why did Congress show so little enthusiasm for the planned rebate of Carter's proposed energy tax increases, and so much more enthusiasm for returning the same money through a large trust fund which might have provided a fixed rail system for Southern California, more roads for Wyoming, and perhaps even canals for Oklahoma? The common thread in each of the preceding examples is the distributive tendency.

Put most simply, Representatives favor the creation of policies that appear as a federal (i.e. congressional) "gift" to their districts. Building thousands of sewage treatment plants may be an uneconomic way of cleaning up our nation's water, but the political benefits are no doubt positive, while taxing those who spoil the water might entail a net political cost. Spreading Model Cities projects around the country was the cost of getting any program at all through Congress. Returning constituents' money through transportation projects may create the illusion that the district has gotten something that the rest of the country has paid for, but universal rebates create no such illusion.

Lowi (1972) argues that political science operates according to the axiom that "politics determines policy" whereas he contends that "policy determines politics." His observation is insightful but we should recognize too that politicians prefer some kinds of politics to others. In particular, passing out federal plums is more pleasant than reforming the nation's tax laws. Lowi is quite correct in asserting that redistributive policy creates a different kind of politics than does distributive policy. The former creates a more dangerous and difficult kind of politics, and for that reason politicians prefer the latter arena to the former.

Recall the old concept of the "life cycle" of an issue. Issues arise from the agitation of intense minorities, some eventually become the subject of a great national debate, and some of these eventually become public policy after a difficult fight. But then the policy supposedly becomes widely accepted -- "legitimated" is the term often applied -- and controversy wanes. One explanation is that opponents of the policy see its worth after it is implemented. An alternate account is that great issues typically arise in the redistributive or regulatory arenas. By the time they become law, however, they have become infused with distributive elements in order to buy critical congressional support. This transition from regulatory or redistributive policy to distributive then continues as the policy is administered. Controversy wanes precisely because the class of beneficiaries grows so large. David Stockman (1975) describes just such a process in his discussion of the "social pork barrel." Republicans who originally went to the mat against various Great Society programs quietly voted for renewal when the programs came up for reauthorization.

To return to the general point, the distributive tendency seems to be a natural concomitant of our theory. When the choice is available, legislatures should prefer to structure programs so that decisions are project-by-project, or grant-by-grant. Automatic distribution according to fixed formula is not nearly so attractive politically. Perhaps an overlooked reason for Lyndon Johnson's success in steering Great Society programs through Congress was his appreciation for and willingness to use distributive politics.
Correspondingly, failure to appreciate (or willingness to deal with) distributive policymaking may be one of Carter's principal problems vis-à-vis his party in Congress (Davis, 1978).

One final remark. The distributive tendency no doubt reinforces the bureaucratic tendency. Project-by-project decisions require more bureaucratic resources than automatic distribution programs. Additionally, once a program is enacted, the game changes (Weingast, 1977). As may have happened to Republicans vis-à-vis the Great Society, upon enactment of a program constituents no longer evaluate representatives solely on the basis of their attitude toward the program. Diehard opponents of a program may only succeed in penalizing their districts, perhaps as a result of direct bureaucratic action, but more likely by foregoing what would be their due under the (increasingly distributive) program. In short, the incentives shift as the policy is implemented. Given that a program will be enacted, a representative faces better reelection prospects if the program is designed to be distributive in nature and bureaucratic in administration.

C. The Growth Tendency

This third tendency is in part a consequence of the preceding two, and in part a consequence of factors not explicitly included in the theory. Stated simply, our model suggests that a legislative incumbency advantage contributes to a larger government establishment. In explaining why, it is useful to recognize at least three dimensions of government growth.

First is the size of the bureaucracy for any given level of public activity. The bureaucratic and distributive tendencies contribute to growth along this dimension. To the extent that legislatures choose policy instruments which entail a larger commitment of personnel and resources than is necessary, the size of the government establishment is larger.

Second is the intrusiveness of government activity. Bureaucratic means of implementing programs impose a burden on citizens -- the burden of providing detailed information to the bureaucratic decisionmaker, and then waiting for a decision. For example, a guaranteed annual income seems rather less intrusive than proving eligibility for the numerous income supplement/security programs now in existence. General revenue sharing seems less burdensome to local government than applying for numerous categorical grants. A tax to curtail energy use, perhaps returned by reductions in other taxes, is simpler for all concerned than detailed regulations regarding "entitlements" to domestic oil, conversion of certain boilers to use coal, and mandatory gas curtailments for particular types of users. Again, the bureaucratic and distributive tendencies appear to contribute to a more intrusive kind of government than would otherwise be the case. Moreover, the tendency of legislatures to avoid responsibility may be particularly important here. When legislatures abdicate responsibility, bureaucracies try to protect themselves by promulgating detailed regulations to handle all possible contingencies. The result is an increase in the extent to which government constrains private actions.
Finally, a third aspect of size is an expansion in the scope of government activity. This occurs when the government chooses to regulate an area not previously regulated, subsidize a sector not previously subsidized, tax something not previously taxed, etc. What does our model say about this third kind of government growth? As representatives increasingly attain reelection on the basis of their broker and ombudsman roles, programmatic electoral accountability as traditionally conceived weakens. That is, incumbents have less need to hew closely to the policy positions of their constituents if the latter do not vote on the basis of such positions. As the policy ties loosen, what do representatives do with their increased flexibility? The model addresses only one aspect of that question -- we have given our theoretical representatives no preferences other than reelection, and that only narrowly defined. In that limited context, a representative would favor enacting programs that increase the demands for the service of the incumbent in dealing with the bureaucracy, for such expansion of government increases the ability of the incumbent to give favors -- and hence to be reelected. It would be natural, however, to expand the model to have representatives take a broader view of their personal interests. They might use their policy freedom to maximize campaign contributions and other political credits from well-organized groups. In principle, such efforts need not lead to government growth. But we suspect that the preponderance of demands on government takes the form of requests for additional government activity -- new regulations for the consumerists, environmentalists, and good government types, new subsidies and/or tariffs for business interests, new licensing provisions for various professional groups, new grant programs for common interest groups of all types, and so forth. Thus, to the extent that representatives are free to depart from close agreement with their constituents, the existing pressures appear to suggest departures in the direction of expanding the sphere of government activity.

D. Summary

The implications of our theory of legislative voting are potentially of great importance, if highly speculative at the present time. In addition to a "rich get richer" relationship between legislative majorities and minorities, we expect a systematic bias against certain types of policy instruments which may well be more efficacious than those actually chosen. Consequently, societies may experience a shortfall in public policy accomplishments which could contribute to increasing cynicism about the potential of democratic government. The same biases work toward the adoption of public policies which impinge on individual behavior more than is necessary and could thus contribute to an increasing resentment of government activity, per se. Finally, though democratic politicians may decry big government, their individual, uncoordinated actions in support of their electoral interests contribute to that which they decry. The paradox is that at least in the short-term these systemically troublesome features of legislative electoral arenas benefit the politicians who participate in them.
VI. CONCLUSION

In contrast to traditional models of electoral competition, we find nothing mysterious about incumbent success in legislative elections. To the extent that representatives act as ombudsmen and pork barrelers rather than policymakers, their political experience and formal positions give voters a legitimate reason to support them over inexperienced challengers, even if the latter offer somewhat more attractive positions on issues. But we caution that the individual rationality of the voter combined with the individual rationality of the candidates need not produce a government which is the embodiment of collective rationality. We have suggested several ways in which myopic individual rationality can produce systematic biases against particular classes of public policy instruments. Moreover, we have observed that an incumbency advantage based on constituency service may weaken electoral accountability as traditionally conceived. The implications of such observations are neither fully worked out nor verified as yet, but a preliminary consideration raises questions which deserve attention.

FOOTNOTES

1. We are well aware that survey data on congressional electorates (e.g. Stokes and Miller, 1962) provide no support for such an assumption. For reasons we will not go into here we think such data underestimate the "true" state of awareness of the congressional electorate. But no matter, theories like that which follows do not have value only if they describe all citizens. If one is interested in examining marginal changes (of which a shift of 5 percent in the value of incumbency is an example), a theory which accurately describes only a marginal number of citizens may be sufficient to explain important changes in political processes and public policy.

2. Preliminary interviews with British MPs lead us to believe that the literature considerably understates the importance of constituency service activities in the UK.

3. Typically additional mathematical structure is necessary. Without going into detail, we will presume the usual standards for well-behaved utility functions such as convexity.

4. In the real world success is seldom an all or nothing proposition as is assumed here. An alternate interpretation of (1) would be that the citizen expects a weighted average of the positions...
of the incumbent (challenger) and the rest of the legislature.

5. This appears to be a harmless assumption. The only time it might be seriously in error would be if the legislature were divided evenly between the two parties. In this case which of the two candidates won in the district under consideration could determine the organization of the legislature, the identity of the prime minister, etc.

6. The reader should not jump to conclusions. As will be seen, assuming incumbent effectiveness is not tantamount to assuming incumbency advantage.

7. This assertion presumes that the citizen's utility function is "neutral." That is, platforms alone have value, not the identity of who advocates them.

8. If a majority had the third ordering, then ND would be majority preferred to I and C, contrary to the definition of a majority rule equilibrium.

9. The reader no doubt can recall some well-publicized examples in which a pork barrel project became a major issue. We concede that exceptions to the general argument exist. But legislators generally avoid pork barrel activities which will arouse opposition within their districts. This means that different legislators emphasize different aspects of the pork barrel, e.g. dams and other construction in one district, health centers in others, defense contracts in still others, etc.

10. This suggestion is consistent with Davidson's (1969) findings that the modal purposive role orientation of U.S. Representatives is "tribune."

11. When Representative Burt Talcott (Republican, California) found himself in a tough race in 1976 he pitched his campaign around the theme that his Monterey district ranked third among 435 Congressional Districts in receipt of federal money. Talcott's 1976 ADA score was ten. He lost the election but the strategy was clear.

12. For a more extensive and more formal analysis of this point, see Fiorina and Noll (1978).

13. These are the water treatment plant construction grants now authorized by the Clean Water Act of 1972 and administered by the Environmental Protection Agency.

14. The question became moot before it was seriously taken up, of course, when Congress killed the proposed energy taxes which would have provided the revenue in question.
15. At the beginning of Johnson's administration exactly two-thirds of all federal grants were project grants (the remainder being formula grants). During the three year period 1964-1966 over 80 percent of new grant programs were of the project variety (Advisory Commission on Intergovernmental Relations (1967)).

16. Elsewhere (Fiorina and Noll [1978]) we prove that: (1) the vote-maximizing policy position for an incumbent is for a larger public sector than is the vote-maximizing stance for a challenger, and (2) an incumbent can deviate from the vote-maximizing policy position in any direction by some amount and still win, given vote-maximizing behavior by the challenger, as long as incumbents are expected to be better facilitators and ombudsmen than are challengers. The second point is the source of some uncertainty as to whether the model we have developed leads to a more extensive public sector than traditional issue-based democratic theory.

REFERENCES


Kramer, Gerald H. "A Dynamical Model of Political Equilibrium," 1975, forthcoming in


