The Theory of Public Choice - II
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Political Resource Allocation, Controlled Agendas, and the Status Quo

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Economic analysis requires modeling political as well as market resource allocation. Voting institutions, in particular two-candidate majority rule elections and voting on motions, have been a primary focus of recent analytical developments. In the case of a single good to be allocated politically, standard assumptions lead to "single-peakedness" of voter preferences over the set of alternatives. When, in choosing between a pair of available alternatives, every voter votes for his preferred alternative, the allocative equilibrium is the "Condorcet point" or political allocation most desired by the median voter (Bowen 1943, Black 1958, Riker and Ordeshook 1973).

This result concerning the dominance of the median voter's ideal allocation depends importantly on the nature of competition in the allocation process. In the context of the political allocation of economic goods, the "median voter" outcome is typically justified on the basis of an underlying—but usually unmodeled—process of political competition between two candidates for elective office, wherein the dominant strategy for each candidate is to offer to provide the level of public spending that corresponds to the median voter's ideal expenditure.

Such a view of equilibrium under majority rule (when equilibrium exists) may be very unrepresentative of political processes. Many such processes, particularly those related to collective expenditure determination, may be more appropriately characterized as ones in which some group has the power to make a proposal to the voters, and thereby set the agenda. This group, which we call the agenda *setter*, by having monopoly power over the proposal placed before the electorate, can confront the voters with a "take it or leave it" choice. Because "competitive" substitutes to the setter's proposal are not offered, the median voter cannot simply "hold out" until the Condorcet point is proposed.

When the setter has monopoly power, voters are forced to choose between the setter's proposal and the status quo or fallback position. The status quo is the situation that prevails if voters reject the setter's proposed alternative. The rule determining the status quo or fallback position is generally specified by law, and is not subject to the setter's control. Examples of fallback positions are zero expenditure and the previous year's expenditure.

To provide some structure for this monopoly type of process, we analyze a simple model of collective expenditure determination with agenda-setting

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behavior. This model corresponds quite closely to the situation in many local jurisdictions where some collective expenditures are determined through the interaction of citizen-voters and a committee or a bureau charged with the provision of public services. Typically, the bureau/committee formulates a proposal for the coming period's expenditures. This budget proposal is then subject to approval or defeat in a referendum of the jurisdiction's residents.[1]

In this article, we are concerned with a single vote on a tax expenditure decision. We thus do not consider dynamic, sequential aspects of the political process, nor do we investigate logrolling and coalition formation. Voters are characterized as behaving individualistically, making voting decisions independently of others. Decisions are made in a world of certainty, so that we do not deal with questions arising from incomplete turnout and lack of information about voter preferences. Neglecting these aspects of the problem does not mean we feel they are unimportant. Rather, our intention is to explore the implications of agenda control per se, leaving to future work the further elaboration of the basic structure.[2]

To focus as sharply as possible on the role of the setter, we characterize the setter as having a preference for the largest feasible expenditure. The justification for this view of bureaucratic motivation is explored in detail by Niskanen (1971, chap. 4; 1975). Although there has been some criticism of the budget-maximizing assumption when applied to bureaucrats in general (see, for example, Breton and Wintrobe 1975 and Margolis 1975), we find this characterization of setter behavior particularly appropriate for the situations that concern us here. The setter in public expenditure referenda is typically an interested professional, such as a school superintendent, who may quite sincerely believe that provision of the service supplied by his agency is important for the community's welfare. Consequently, he would value incremental units of supply quite highly. A setter, of course, may also find direct personal satisfaction (pecuniary and nonpecuniary in source) from being in charge of an agency with a large budget. It may be argued that neither altruism nor private incentives need make the setter literally a budget maximizer. While acknowledging and agreeing with this contention, we do not believe that introduction of complicating factors—structuring the problem in terms of maximizing the "discretionary budget" or maximizing a setter's utility function, some of whose arguments depend positively on budget size—would provide significantly greater analytical insight in this context. We are interested primarily in exploring the implications of the expenditure-maximizing assumption, since it highlights quite sharply the importance of the setter.[3]

Although an expenditure-maximizing setter obviously prefers a level of supply higher than that desired by the median voter, to pass the proposed expenditure under majority voting, the setter needs the approval of at least half the voters. We are particularly interested in the way that the level of supply that the voters approve depends on the status quo position. We show that the status quo point strongly affects the allocation. In other words, the institutional structure or historical background—the determinants of the status

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quo or fallback position—are very important to the outcome of the expenditure election. We obtain the seemingly perverse and paradoxical result that a large majority of the voters may be better off and allocative efficiency may be more nearly achieved when the setter can impose some tax *without voter approval* than when the setter requires voter approval for all taxes. The reason for this is that, in effect, zero taxes also means zero expenditure. The setter can then use his monopoly power over the agenda to threaten the voters with facing the consequences of zero expenditure if they fail to approve a high level of expenditure. We also show that the setter has a more complex problem than simply choosing a proposal that induces a "yea" vote by a uniquely defined "median" voter, even in the context of a single election with full turnout and perfect information for the setter.

We begin by characterizing the behavior of voters and setter. Comparative statics of changes in the status quo are analyzed and illustrated with discussions related to educational finance and public works expenditures. In a more speculative vein, we also comment briefly on possible implications of using zero-base budgeting in an environment where expenditure-maximizing setters are active. The article concludes with indications for the direction of future investigation.

Analytical Framework

The Individual Voter[4]

We deal with a set $N = \{1, 2, \ldots, n\}$ of voters. Each voter $i \epsilon N$ has a strictly quasi-concave preference function $U^i(C^i, G^i)$, defined over all pairs of goods (C, G) and nondecreasing in (C, G). C^i represents i's consumption of a bundle of private goods and G^i his consumption of a collectively provided good. This good may be a pure public good, a private good, or some mixed good. Its essential characteristic is that it is financed collectively and allocated politically. The relationship between collective expenditures (in units of private consumption good) E and i's consumption G^i is given by:

$$G^i = f^i(E).$$

We take f^i (E) to be increasing and weakly concave. It follows that

$$u^i\ (C^i,\ E) \equiv U^i\ [C^i, f^i\ (E)]$$

is strictly quasi-concave and nondecreasing in (C^i, E).[5]

Supply of the collective good is financed from (e.g., local) taxes and, possibly, from other (e.g., state or federal) revenue sources. We define a tax structure as a rule that determines, given the level of expenditure E, the tax payments of each voter i. For a given tax structure, each collective expenditure level is associated with some maximum feasible private consumption for each voter.

The status quo for voter i is represented by a (C^i, E) pair that we call q^i. This is a point associated with some constitutionally prescribed "reversion rule" that specifies the level of expenditure (and the reversion tax structure) that occurs if a proposed alternative is voted down.

For a given tax structure, the alternatives to the status quo impose a constraint

$$C^i \leqslant T^i (E) \tag{1}$$

on voter i. The function T^i is determined by the way taxes are apportioned among the voters and the availability of outside revenue. We assume that T^i is nonincreasing and weakly concave for all voters. Individual utility maximization implies that, for given E, (1) will hold with equality. Letting A^i denote the *set of alternatives to the status quo* facing voter i, we have:

$$A^i = (C^i, E) : C^i = T^i (E). \tag{2}$$

The utility for voter i of alternative collective expenditure is given by

$$V^i (E) \equiv u^i [Y^i (E), E]. \tag{3}$$

A straightforward consequence of our assumptions about the utility functions and alternative sets is:

LEMMA 1. $\mathrm{V^i}$ *(*E*) is single-peaked in* E. *Specifically,* $\mathrm{V^i}$ *(*E*) is strictly increasing for* $0 \leqslant \mathrm{E}$ *H* $\bar{\mathrm{E}}^{\mathrm{i}}$ *and strictly decreasing for* $\mathrm{E} > \bar{\mathrm{E}}^{\mathrm{i}}$, *for all* i $\in$ N, *where* $\bar{\mathrm{E}}^{\mathrm{i}}$ *is the voter's "most-preferred" or* ideal expenditure given $\mathrm{T^i}$.

Any proposal by the setter (other than the status quo) implies a point in A^i for each voter. If the financing of the status quo involves the same tax structure as the financing of alternatives to the status quo, then $q^i \in A^i$ for all i. If, on the other hand, in proposing a change in total expenditure from the status quo, the proposing body or *setter* is constrained to using a different financing structure, then q^i may not be in the set of alternatives.[6]

Individuals are asked to vote "yea" or "nay" on a proposed expenditure E. If the status quo for voter i is q^i, then he votes "yea" on the proposed alternative if

$$V^i (E) \geqslant u^i (q\mathrm{i}).$$

Otherwise, he votes "nay." (We arbitrarily—and unimportantly—assume a "yea" vote in the case of indifference between the proposal and the status quo.)

LEMMA 2. *Let* $B^i(q^i_0) \subseteq A^i$ *designate the set of proposals voter* i *approves when status quo is* q^i_0 *and* $B^i(q^i_1) \subseteq A^i$ *designate the set of proposals approved when the status quo is some different point* q^i_1. *If* $u^i(q^i_1) \geqslant u^i(q^i_0)$, *then* $B^i(q^i_1) \subseteq B^i(q^i_0)$.

This follows directly from our assumptions about $u^i(\cdot)$ and A^i. The lemma is illustrated in figure 1. With point q_0 on contour I^0 the voter will support any expenditure level between E_1 and E_4. For q_1 on contour I^1, only expenditures between E_2 and E_3 would be supported. Note also that for status quos such that $u^i(q^i) > V^i(\bar{E}^i)$, $B^i(q^i)$ is empty. (This is the case with q_+ in fig. 1.)

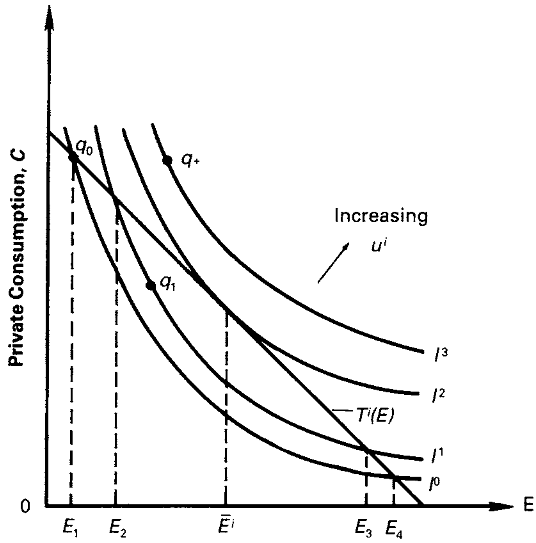

Fig. 1. Decision making for individual voter

The Setter's Behavior

The setter or group making expenditure proposals is assumed to know voters' preferences. For a given expenditure proposal E, define $b_i(E) = 1$ if voter i votes "yea" and $b_i(E) = 0$ if "nay." Then the setter's objective is to

$$\text{maximize } E \qquad \text{subject to } \sum_{i=1}^{n} b_i(E) > 0.5n. \tag{4}$$

The rest of this article considers how changes in the status quo affect the solution of this maximization problem. In particular, we are concerned with how the solution changes with increases in the status quo level of expenditure.

Changes in the Status Quo Expenditure: Some Comparative Statics

Let $Q = \{q^1, q^2, \ldots, q^n\}$ be the set of status quo points under a given fallback rule, and let $E(Q)$ denote collective expenditures when the status quo is Q.

DEFINITION. *An alternative expenditure* E′ *is* viable *against a status quo* Q *if:*
(a) the number of voters for whom $V^i(E') \geqslant u^i(q^i)$, $i \in N$, *is greater than* 0.5n; *and*
(b) $E' > E(Q)$; *i.e., the setter prefers* E′ *over* E (Q).

The setter's problem is trivial for status quos without viable alternatives: stick with the status quo. The more interesting cases involve status quos which do have viable alternatives. Our discussion therefore focuses on these cases.

Dominant Status Quo Points

DEFINITION. *A status quo* $Q_0 = \{q_0^1 \ldots, q_0^n\}$ dominates *another status quo* $Q_1 = \{q_1^1, \ldots, q_1^n\}$ if $u^i(q_0^i) \geqslant u^i(q_1^i)$ *for all* $i \in N$, *and* $u^i(q_0^i) \geqslant u^i(q_1^i)$ *for some* $i \in N$.

Proposition 1. *Consider two status quos* Q_0 *and* Q_1, *each with at least one viable alternative. Let the solution to the setter's problem (4) be* $E^*(Q_0)$ *when the status quo is* Q_0 *and* $E^*(Q_1)$ *when the status quo is* Q_1. *If* Q_0 *dominates* Q_1, *then* $E^*(Q_0) \leqslant E^*(Q_1)$.

Proof.

1. Consider some proposal E' such that when the status quo facing voter i is q_0^i, he votes in favor of E'. By Lemma 2 and dominance of Q_0 over Q_1, this voter will vote "yea" on E' when the status quo is q_1^i.
2. Now suppose that $E^*(Q_0) > E^*(Q_1)$. By the above argument, at least as many voters would vote "yea" on $E^*(Q_0)$ when the status quo is Q_1 as when the status quo is Q_0. Thus $E^*(Q_1) < E^*(Q_0)$ cannot be a solution to (4) when the status quo is Q_1. Therefore $E^*(Q_0) \leqslant E^*(Q_1)$.

Discussion

As our definition of dominance did not depend on the actual expenditure levels associated with the status quo points, Proposition 1 holds even in the somewhat paradoxical case where the expenditures are less for the dominated status quo than for the dominating status quo. If it is dominated, the lower status quo expenditure leads the setter to a higher approved budget. Of course, since higher status quo expenditures will not always dominate lower status quo expenditures, it is important to analyze the response of the solution to (4) to higher status quo expenditures in the absence of dominance. The next section looks at an important case that usually will not involve dominant status quos.

Status Quo Points in the Alternative Set

We now turn to the situation (common in practice) where the status quo and alternatives involve the same tax structure; that is $q^i \in A^i$ for all $i \in N$. Analysis of this case depends critically on how the status quo expenditure is located relative to the median of voters' ideal expenditures.

Status Quo Expenditure Greater than or Equal to Median Ideal Expenditure

Let $F\ (E)$ denote the proportion of the voters who, given T^i, have ideal expenditures $\bar{E}^i$ less than or equal to E. Define the "median" ideal expenditure $\bar{E}^m$ as the largest expenditure such that $F\ (\bar{E}^m) < 0.5$. If the level of expenditure associated with the status quo is not less than $\bar{E}^m$, then the status quo is the best that the setter can do. No expenditure *greater* than the status quo would be preferred to the status quo by a simple majority of voters, and hence there is no expenditure viable against the status quo.

Status Quo Expenditure Less than Median Ideal Expenditure

The more interesting condition involves status quo expenditure levels less than the median ideal expenditure. For this condition, we show that there is a *negative* relationship between the level of expenditure that solves the setter's problem—which we call the *approved level*—and the status quo level, even in the absence of dominance. This result is formalized in the following proposition.

> PROPOSITION 2. *Let* Q_0 *and* Q_1 *be two distinct status quos such that* $q_0^i \in A^i$ *and* $q_1^i \in A^i$ *for all* $i \in N$. *Let* $E^*\ (Q_0)$ *and* $E^*\ (Q_1)$ *be the approved expenditures when the status quo expenditures are, respectively,* $E\ (Q_0)$ *and* $E\ (Q_1)$. *Suppose that* $E\ (Q_1) < E\ (Q_0) < \bar{E}^m$. *Then* $E^*\ (Q_1) \geqslant E^*\ (Q_0)$.

To prove Proposition 2, we first develop an additional lemma.[7]

> LEMMA 3. *Consider status quos such that* $q^i \in A^i$ *for all* $i \in N$. *For a proposed expenditure greater than a given status quo expenditure, the number of votes in favor of the proposal* cannot decrease *as the status quo expenditure is* decreased.

Proof. Let $E(Q_1) < E(Q_0) < E_0$. Since $q^i \in A^i$ for all $i \in N$, V^i gives voter i's ranking of all collective expenditures, including the status quo. From the single-peakedness of V^i, we must have $V^i[E(Q_0)] > V^i(E_0)$ and/or $V^i[E(Q_0)] > V^i[E(Q_1)]$. If i votes for E_0 against $E(Q_0)$, then $V^i(E_0) \geqslant V^i[E(Q_0)]$, so $V^i[E(Q_0)] > V^i[E(Q_1)]$. Thus, $V^i(E_0) > V^i[E(Q_1)]$ and the voter must vote for E_0 against $E(Q_1)$.

Proposition 2 then follows by noting:

1. The setter will never offer a proposal lower than the status quo expenditure.
2. Assume $E^*(Q_1)$ solves (4) for $E(Q_1)$ and suppose that $E^*(Q_0) > E^*(Q_1)$ solves (4) for $E(Q_0) > E(Q_1)$. But then, from Lemma 3, $E^*(Q_0)$ would get at least as many votes against $E(Q_1)$ as against $E(Q_0)$, implying that $E^*(Q_1)$ is not a solution to (4) for $E(Q_1)$. The contradiction implies that $E^*(Q_1) \geqslant E^*(Q_0)$.

Other Status Quo Points

A more explicit consideration including private consumption bundles as well as expenditure levels allows us to develop a somewhat more general result which includes Proposition 2 as a special case. We consider changes in status quo expenditures such that status quo points lie on or above the $C^i = T^i(E)$ locus for each voter. We generalize Lemma 3 to:

LEMMA 3′. *Let* Q_0 *and* Q_1 *be two distinct status quos, with collective expenditures* $\mathrm{E}(\mathrm{Q}_0)$ *and* $\mathrm{E}(\mathrm{Q}_1)$*, respectively, and* $\mathrm{E}(\mathrm{Q}_0) > \mathrm{E}(\mathrm{Q}_1)$*. Let* $\mathrm{C}_0^{\mathrm{i}}$ *and* $\mathrm{C}_1^{\mathrm{i}}$ *be the private consumption of voter* i *under status quos* $\mathrm{q}_0^{\mathrm{i}}$ *and* $\mathrm{q}_1^{\mathrm{i}}$*, respectively. Suppose that*

$$C_1^i \geqslant T^i[E(Q_1)] \text{ for all } i \in N \tag{5}$$

$$C_1^i - C_0^i \leqslant T^i[E(Q_1)] - T^i[E(Q_0)] \text{ for all } i \in N \tag{6}$$

Consider a proposed expenditure E' (which allows voter i to obtain $(T^i(E'), E') \in A^i$) such that $E' > E(Q_0) > E(Q_1)$. Then the proposal E' cannot receive more "yea" votes when $E(Q_0)$ is the status quo expenditure than when $E(Q_1)$ is the status quo expenditure.

Remark. Condition (5) requires that the status quo point q_1^i lie on or above the alternative locus.

Condition (6) states that the tax cost to voter i of the increase in expenditure from $E(Q_1)$ to $E(Q_0)$ under the status quo (i.e., $C_1^i - C_0^i$) be no greater than would be the tax cost of such a change under the alternative tax structure [i.e., $T^i(E(Q_1)) - T^i(E(Q_0))$]. Note that conditions (5) and (6) together imply that $C_0^i \geqslant T^i[E(Q_0)]$ for all $i \in N$.

Proof of Lemma 3′. Consider three exhaustive cases:

1. If $u^i(q_1^i) \geqslant u^i(q_0^i)$, then $V^i(E^1) < u^i(q_0^i)$ and voter i will vote *against* E' under both status quos. This follows from the conditions of the lemma, the concavity of $T^i(E)$, and the strict quasi-concavity of preferences (for details, see appendix).
2. If $u^i(q_0^i) > u^i(q_1^i) > V^i(E')$, then voter i will vote *against* E' under both status quos.
3. If $u^i(q'_0) > u^i(q_1^i)$ and $u^i(q_1^i) \leqslant V^i(E')$, then voter i will vote *for* E' when the status quo is q_1^i, and vote *either for* or *against* E' when the status quo is q_0^i.

Consequently, E' cannot get more "yea" votes against $E(Q_0)$ than against $E(Q_1)$. This establishes the lemma.

With Lemma 3′ and arguments similar to those used to demonstrate Proposition 2 we can prove the following:

PROPOSITION 2′. *Consider two distinct status quos* Q_0 *and* Q_1, *each with at least one viable alternative, and satisfying conditions (5) and (6). Suppose that proposal* $E^*(Q_0)$ *solves (4) when the status quo is* Q_0 *with status quo expenditure* $E(Q_0)$, *and proposal* $E^*(Q_1)$ *solves (4) when the status quo is* Q_1 *with status quo expenditure* $E(Q_1) < E(Q_0)$. *Then* $E^*(Q_1) \geqslant E^*(Q_0)$.

Discussion and Examples

The crucial feature of the allocation process we are examining is the existence of "barriers to entry" in the formulation of alternatives. The ability to control the agenda gives the setter a monopoly power which he can exploit to an extent that depends on the status quo. By facing the voters with a "take it or leave it" choice, the setter exercises a threat over the voters. The worse the status quo, the greater this threat and, consequently, the greater the gain to the setter from being able to propose the alternative. The remainder of this article is devoted to elucidation and amplification of our results as they apply to a variety of situations.

A Potential Test of the Model

A number of states use referenda to determine public school budgets. In the state of Oregon, or example, local school district budgets and their implicit tax rates must be approved by the voters annually if the board's proposal exceeds a statutory amount that can be levied without going to the voters. Simplifying somewhat, this statutory maximum expenditure is given by

$$E(Q) = (\text{BASE})\,(1.06)^{t-1916} \qquad [sic]$$

$E(Q)$ is, in effect, the status quo expenditure for the local school district, and status quo points lie in the set of alternatives. BASE is a number directly related to the district's expenditure in the year 1916, and t is the current calendar year. Since BASE varies widely across districts, so does $E\ (Q)$. Moreover, $E\ (Q)$ is independent of current expenditures, and is outside the setter's control. Provided single-peakedness is satisfied—which is likely where there are few private or parochial alternatives to public education—our results would predict that, *ceteris paribus,* current expenditures should be less in districts that had substantial tax base in 1916 than in the many districts that have low BASE and hence must face the voters with a low $E\ (Q)$—in many cases $E\ (Q) = 0$—each year.

Under the "competitive" assumption, variations in the status quo should not affect the outcome of a referendum. An econometric model that takes into account demographic and socioeconomic factors and explicitly incorporates the variations in the status quo would provide an empirical test of our hypotheses. We are currently engaged in developing such a test.[8]

Example: Public Works Expenditures

As an illustration of some of the properties of the controlled agenda process, consider a highway department that proposes to replace an existing bridge with a new structure. Any construction of a new bridge involves destruction of the old facility. The new bridge would be paid for out of a special assessment. The existing bridge yields utility $u^i\ (q^i)$ to voter i. Suppose an expenditure-maximizing bureau were to submit an expenditure proposal to the voters. Our example focuses on the relationship between the quality of the old bridge (as measured by the status quo utilities) and the approved expenditure on the new structure.

We consider a "community" with three voters, with preferences over new expenditures given by $V^1\ (E)$, $V^2\ (E)$, and $V^3\ (E)$, respectively (see fig. 2). For simplicity, we arbitrarily assume a utility scale such that $u^1\ (q^1) = u^2\ (q^2) = u^3\ (q^3)$, for all the status quos under consideration. Increasing $u(q)$ then implies moving to a status quo that dominates the previous status quo.[9]

In figure 2, we measure utility on the vertical axis and expenditure on the horizontal axis. With status quo utility u_0, for example, the largest expenditure that voter 1 would approve is E_0^1. Any higher expenditure would leave him worse of than he is with the status quo. E_0^1 would not, however, be approved by a majority, since with status quo utility u_0, both voters 2 and 3 would vote *against* E_0^1. In fact, the highest expenditure that will pass against u_0 is E_0^2, the largest expenditure acceptable to voter 2.

The heavy black line in the figure is the graph of the solution to the setter's problem (4) as a function of the status quo. In accord with the results of the previous section of this article ("Changes in the Status Quo Expenditure"), the approved expenditure decreases as status quo quality increases. For status quo values above u_4, no positive amount of new expenditure would be approved. (The discontinuities that occur at status quo values u_3 and u_4 are a consequence of the small number of voters. With many voters, the plot of approved expenditures will usually be "close" to continuous.)

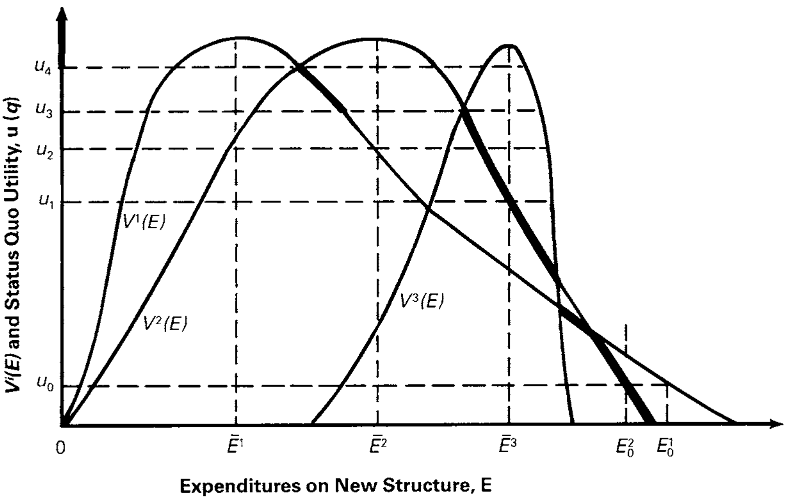

Fig. 2. Approved expenditure and status quo utility. Heavy line shows approved expenditure.

In contrast to the outcome of this controlled agenda process, standard cost-benefit analysis suggests that, provided that the new bridge has positive net benefits (treating as a cost the loss of the utility provided by the old bridge), the optimal scale of the new bridge should be independent of the value of the old bridge. Note also that, for status quo values below u_1, the approved expenditure is such that the voters would unanimously prefer a reduction in expenditure, under the tax/financing arrangements for the new project. (For status quos below u_1, expenditure $\bar{E}^3$ (which happens to be voter 3's ideal expenditure is preferred unanimously to any $E > \bar{E}^3$.)

This example also points out that the voter whose preferences are decisive for the setter depends on the status quo. As the heavy solution line indicates, at low levels of the status quo voter 2 is decisive. As the status quo improves, first voter 1, then voter 3, then voter 2 again, and finally voter 1 again become decisive. Consequently, the critical role Niskanen (1971, chaps. 13–14) and others ascribe to the "middle demand group" (or, in general, voter with median ideal point) is misleading in this context, and would arise only as a result of special forms ascribed to the V^i (E) functions.

In the usual majority rule situation, the median voter does, of course, have a central role. In our example, if there is no status quo alternative, and the "competitive" process is operating, majority rule leads to an expenditure of $\bar{E}^2$, that most desired by voter 2. Even with a status quo, this level, if proposed, would be selected as long as the status quo for each voter is not better than u_2. At status quo just above u_2, voters 1 and 3 both prefer the status quo to $\bar{E}^2$ and would combine to defeat $\bar{E}^2$. In fact, cyclical majorities arise and a Condorcet equilibrium fails to exist until the status quo value passes u_4. At this point, the status quo is a Condorcet winner.

If decisiveness is a valued attribute of choice mechanisms, the example illustrates a general advantage of controlled agendas over competitive majority rule. Even though preferences are single-peaked in expenditure, the presence of a status quo point will frequently suffice to rob competitive majority rule of an equilibrium, whereas the controlled agenda always creates a decision.

Agendas Controlled by High Demand Groups

The agenda may not actually be controlled by an expenditure maximizer but by the group with the highest ideal point.[10] If this group is the setter and can pass a budget beyond its ideal point, given single-peakedness, it can also pass its ideal point. Consequently, we may reformulate (4) as

$$\max E$$

$$\text{subject to } E \geqslant \bar{E}^h \tag{4'}$$

$$\text{and } \sum_{i=1}^{n} b_i(E) > 0.5n$$

where $\bar{E}^h$ is the most preferred level of expenditure for the voter with the highest ideal expenditure.

This modification to the objective function only trivially modifies the solution. The solution to the public works example in figure 2 is voter 3's ideal point, $\bar{E}^3$, for status quo utility less than u_1. For greater status quo utility, the previous solution applies.

Implications for "Zero-Base Budgeting"

Going beyond our formal structure, we note that although public projects are rarely built by voters, they are frequently undertaken by legislatures using a Niskanen-type review process. If proposals for an agency's budget are controlled by a high-demand group, our results suggest that the agency may well prefer a reversion rule which makes the status quo fairly low. In the absence of a careful review mechanism in which low- and moderate-demand groups have the opportunity to enter the policy formulation process, lower status quos will tend to lead to higher approved expenditures.

Responding to what appears to be widespread concern over the level of public spending by the U.S. government, pending congressional legislation aims to institute a new review process for federal expenditures. This process would require "authorizations of new budget authority for Government programs and activities at least every five years [and would] establish a procedure for zero-base review and evaluation of Government programs and activities every five years."[11] The major purpose of such legislation—referred to, with varying degrees of precision and vividness, as "zero-base review," "zero-base budgeting," or "sunset legislation"—is, of course, to eliminate unnecessary and outdated programs. Most critics of the legislation, while agreeing with its goals, have focused on the enormity of the reviewing task and on the undesirability of having programs such as national defense or the federal judiciary system go to a zero base pending review.

Drawing on our results, we suggest, in addition, that for many programs whose continuation is deemed desirable, zero-base review and—even more so—zero-base budgeting may tend to increase the monopoly power of the agencies. This seemingly perverse outcome is particularly likely if, swamped with the newly instituted review process (or by crises such as Vietnam or Watergate), congressional committees become lax with respect to appropriations for activities whose budgets a majority would be unwilling to have go to zero. The threat of a zero budget actually occurring for cases when this event would be a very bad outcome (a low-ranked status quo) may then work to the advantage of an expenditure-maximizing bureau (whose motto in this case may well be "*reculer pour mieux sauter*"). As long as agenda-setting power remains with the agencies, for important areas of public spending a nonzero reversion rule would therefore prove to be a more effective way to control the size of the budget.

Concluding Remarks

The need for further elaboration of this basic model is indicated by the importance of referenda and direct voting from Berkeley to Berne and by the likelihood that there is more than a grain of truth in Niskanen's idea that high-interest groups control agendas in legislatures. While the efficiency properties of controlled agendas may indeed be troubling, it is not clear that other democratic procedures, such as conventional majority rule, are always preferable. Moreover, controlled agendas appear (like dictators, beneficient and otherwise) to minimize decision costs.

Our model of political resource allocation focuses on the effects of monopoly power in the form of controlled agendas. As in other monopoly situations, it would certainly be in the interest of some groups to devote resources to attempt to reduce the extent of monopoly power. In particular, low demand groups would make significant gains if they could attenuate the power of a high-demand setter. The incentive to form low- and moderate-demand coalitions is certainly present, though such coalition formation may be very costly—especially if the barriers to entry are high. A most interesting extension of our analysis would be a kind of "imperfect competition" model of the political resource allocation process which recognizes the role of agenda setters and allows for some competition for that position. Would such a process approach, as its dynamic equilibrium, the "median voter" allocation? Or would some of the setter's monopoly power be preserved?

To answer these questions requires further explicit modeling of the political allocation process. Incorporating imperfect information and uncertainty, as well as sequential elements, are necessary steps toward the characterization of equilibrium.

Appendix: Elaboration of Step 1 of Proof of Lemma 3′

$$\text{Let } \lambda \equiv \frac{E' - E(Q_0)}{E' - E(Q_1)}, \text{ so that } \lambda E(Q_1) + (1 - \lambda)E' = E(Q_0).$$

From concavity of T^i:

$$T^i[E(Q_0)] \geqslant \lambda T^i[E(Q_1)] + (1 - \lambda)T^i(E'),$$

so that

$$\begin{aligned} T^i[E(Q_0)] - T^i[E(Q_1)] &\geqslant (1 - \lambda)T^i(E') \\ &\quad - (1 - \lambda)T^i[E(Q_1)] \end{aligned} \tag{A1}$$

Using (6):

$$C_0^i - \lambda C_1^i - \{T^i[E(Q_0)] - T^i[E(Q_1)]\} \geqslant (1 - \lambda)C_1^i$$

and (A1):

$$\begin{aligned} &C_0^i - \lambda C_1^i - \{(1 - \lambda)T^i(E') - (1 - \lambda)T^i[E(Q_1)]\} \geqslant (1 - \lambda)C_1^i \\ &\quad \Rightarrow C_0^i - \lambda C_1^i - (1 - \lambda)T^i(E') \geqslant (1 - \lambda)\{C_1^i - T^i[E(Q_1)] \\ &\quad \geqslant 0 \end{aligned} \tag{A2}$$

i.e.: $C_0^i \geqslant \lambda C_1^i + (1 - \lambda)T^i(E')$, and therefore:

$$u^i(q_0^i) = u^i[C_0^i, E(Q_0)] \geqslant u^i[\lambda C_1^i + (1 - \lambda)T^i(E'), E(Q_o)] \tag{A3}$$

From strict quasi concavity of u^i:

$$\begin{aligned} &u^i[\lambda C_1^i + (1 - \lambda)T^i(E'), E(Q_0)] \\ &\qquad > \min \{u^i[C_1^i, E(Q_1)], u^i[T^i(E'), E']\} \end{aligned}$$

i.e.:

$$u^i[\lambda C_1^i + (1 - \lambda)T^i(E'), E(Q_0)] > \min [u^i(q_1^i), V^i(E')] \tag{A4}$$

By assumption:

$$u^i(q_1^i) \geqslant u^i(q_0^i)$$

This, together with (A3) and (A4), implies:

$$u^i(q_0^i) > V^i(E')$$

NOTES

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1. In the area of public education alone (the most important item of collectively provided goods at the local level), Holcombe (1975) lists twenty-two states in the United States that require a referendum process to determine local school taxes and budgets.
2. In addition to public expenditure processes characterized by direct referenda, the controlled agenda framework is an appealing model for voting on California-style popular initiatives, where there are significant costs to generating new alternatives. We also suggest, following Niskanen (1971), that setters may play an important role in legislative voting, although we recognize that legislative processes may differ significantly from referendum voting in the extent of opportunities for logrolling, coalition formation, and generating new alternatives.
3. An important question arises when the proposing party is an elected board rather than a civil service bureau. One might contend that the desire for reelection might not lead the board to make expenditure-maximizing proposals. Yet it might just as well be argued that the personal investment of time and money needed to obtain reelection to the board results in the board being drawn only from high-interest individuals. If this is the case, an entry barrier may allow board members to disregard the threat of challenge from low-interest individuals. Another possibility is that the board members maximize the budget subject to an upper bound, either as a hedge on reelection or as an expression of personal preference. As we indicate in the "Discussion and Examples" section, the analysis is not materially affected by taking the setter as the group or person with the highest ideal expenditure, rather than actually expenditure maximizing.

   Oblique support for viewing the setter as a budget-maximizing entrepreneur comes from evidence, presented by Edwards (1977), that managers of private firms operating in a regulated industry behave as expense maximizers. Edwards also finds that increasing monopoly power intensifies expense-preference behavior.
4. The assumptions that lead to Lemma 1 are by now standard in the literature. We develop them mainly as a convenient way of indicating the notation that will be followed in the paper.
5. If G is a pure public good, $G^i = E$. For publicly provided private goods, such as socialized health care, a simple formulation would be $G^i = a_iE$ with $0 < a_i < 1$, where a_i represents individual i's perception of his "benefit share."
6. This might be the case if, for example, the status quo involves different amount of outside financing than would be available under the proposed alternative.
7. The suggestions of an anonymous referee helped abbreviate the proof of Lemma 3.
8. For an attempt to test the "competitive" model, see Inman (1978).
9. The assumption of equal utilities for a given status quo enables us to carry on the discussion using only one diagram. It is by no means necessary for the results we are illustrating. In the current context, what matters is that voters agree on the ranking of status quos.

10. This assumption is used in Niskanen's model (1971, chap. 14).
11. The quote is from the title of a prominent recent legislative document of this type, S.2925, the "Government Economy and Spending Reform Act of 1976."

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