

Political Preferences for the Pork Barrel: A Generalization

Author(s): Kenneth A. Shepsle and Barry R. Weingast

Source: *American Journal of Political Science*, Vol. 25, No. 1 (Feb., 1981), pp. 96-111

Published by: Midwest Political Science Association

Stable URL: <https://www.jstor.org/stable/2110914>

Accessed: 07-05-2025 19:27 UTC

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at <https://about.jstor.org/terms>



Midwest Political Science Association is collaborating with JSTOR to digitize, preserve and extend access to *American Journal of Political Science*

*Political Preferences for the Pork Barrel: A Generalization**

Kenneth A. Shepsle, Barry R. Weingast, *Washington University*

This paper provides a rational explanation for the observation of oversized coalitions, often approaching unanimous size, in the realm of distributive policies. Distributive policies are those which concentrate benefits in specific geographic areas (states, congressional districts) while spreading costs through general taxation. The explanation offered here—that legislators may rationally prefer universalism to “hard-ball” coalition politics—generalizes earlier work of Weingast and Fiorina. In particular, it extends their results to pork-barrel politics, i.e., projects that are economically inefficient, and demonstrates how packages of economically inefficient projects can nevertheless be politically popular. The main theoretical feature that induces preferences for universalism is uncertainty over the composition of winning coalitions and, consequently, the desire for the political “insurance” that universalism provides.

The purpose of this brief paper is to establish some general conditions under which rational legislators institute and maintain the norm of universalism in the realm of distributive politics. This practice, often noted to be the predominant feature of congressional land and resource policy, rivers and harbors omnibuses, and the traditional tariff, is characterized by legislative support coalitions well in excess of minimal winning size and often approaching unanimous size. This empirical fact, moreover, is not restricted to the traditional pork barrel. Congressman David Stockman (1975) finds “the distributive tendency” in many of the recent social policies is such that, while the initial authorization and/or appropriation establishing a program may be controversial (and hence associated with a barely winning support coalition and a large opposing coalition), after a time legislative support grows for subsequent reauthorizations as more and more districts become beneficiaries of the program. As noted, this practice of universalism has long been apparent in decisions on the traditional pork barrel of rivers and harbors (Maass, 1951; Ferejohn, 1974). More recently, universalistic coalitions have emerged in such diverse realms as model cities and urban renewal (Plott, 1967), tax loopholes (Manley, 1970), private member

*Mr. Shepsle is Professor of Political Science and Research Associate at the Center for the Study of American Business, Washington University. Mr. Weingast is Assistant Professor of Economics and Research Associate at the Center for the Study of American Business, Washington University. The authors thank the editors and referees for their comments.

American Journal of Political Science, Vol. 25, No. 1, February 1981
©1981 by the University of Texas Press 0092-5853/81/010096-17\$01.45

bills (Froman, 1967), military procurement (Rundquist, 1973), and categorical grants-in-aid (Mayhew, 1974). In each of these areas it is not uncommon to observe something for (nearly) everyone in omnibus authorizations and appropriations.

The empirical regularity of universalism in the realm of distributive policies stands in stark contrast to the predictions of many early (essentially game-theoretic) models of simple majority rule. These theories imply that a minimum winning coalition (MWC) will form in order to capture all of the benefits of a program while paying only a fraction of the costs; yet, distributive policy decisions rarely can be described in these terms.

Because most real-world legislatures are not simple majority rule institutions, several modifications of the basic game-theoretical model are required to make them relevant for legislative behavior. Several of these are explored in the concluding chapter of Ferejohn's study of pork-barrel politics (Ferejohn, 1974). There he notes three qualifications to majority rule models as they apply to real legislatures: the instability of winning coalitions, the distribution of relative veto-power, and the agenda power of committees.

Instability of Winning Coalitions

The simple game-theoretic models predict MWCs, but, as is well-known, there are many of these, no one of which is uniquely dominant. Therefore, in the view of Buchanan and Tullock (1962), some particular MWC will form, pass a distributive policy concentrating benefits on its members, and, in most instances, fail to survive to the next iteration, being replaced instead by some different (though partially overlapping) MWC which passes its own program. This view accommodates a kind of over-time universalism in which legislators take turns as members of the victorious MWC, but it does not explain near-universal coalitions on any single occasion.

Distribution of Relative Vetoes

Barry (1965) observes that real-world legislatures are not suitably characterized as symmetric games, since some (many?) legislators possess relative vetoes. Ferejohn (1974, p. 238), for example, lists eight veto-individuals or veto-groups concerned with Corps of Engineers appropriations, ranging from the chairmen of the Public Works Appropriations Subcommittees of the House and Senate to the conferees from those two chambers. The more widely distributed these relative vetoes are, the more inclusive the final winning coalition must be. However, unless these vetoes are so widely distributed as to destroy the basic majority-rule character of a legislature, in most instances the relative-veto argument only constrains *which* MWC will

form. That is, the relative-veto argument specifies who must be included in the victorious MWC (otherwise he will exercise his veto); rarely does this require dramatically oversized coalitions.

Committee Agenda Power

Yet another qualification of the simple majority rule model is the existence of committees with the power to propose alternative policies to the legislature and, within limits specified by the rules, to restrict amendments to their proposals. This qualification, associated with the work of Niskanen (1971), suggests not only that authorizing and appropriating committees possess relative vetoes; it also suggests (owing to the unrepresentative character of most committees) a bias toward particular kinds of policies, e.g., big dams with lots of “bells and whistles.” But it provides no basis for concluding that powerful committees will be disposed toward omnibus bills with projects for nearly every constituency.

Although these qualifications are important, they do not provide much purchase on explanations of universalism. We still do not know, that is, why universal or, at any rate, oversized coalitions are observed with considerable frequency in the politics of distributive policy. Two recent studies—those of Fiorina (1978) and Weingast (1979)—as well as Ferejohn’s “Conclusion” (1974) have addressed this anomaly directly. The results we report below generalize some of their conclusions. Elsewhere (Weingast, Shepsle, and Johnsen, 1979) we examine the policy consequences of a universalistic system, with special emphasis on the incentives for inefficiency contained in its operation. Here we provide, by way of explanation, a general condition which insures that rational legislators prefer it to a pure majority-rule system, on the one hand, and to the constitutional abolition of the pork barrel on the other.¹

Theoretical Forerunners

The logic of previous analytical work on distributive politics (Weingast, 1979; Fiorina, 1978) establishes legislator preferences for universalism over pure majority rule. We briefly summarize Weingast’s results, with occasional reference to Fiorina, to lay the foundation for our more general

¹There are really two questions that need to be addressed. The first is explanatory. Why, or under what general conditions, does an oversized coalition form around a distributive policy? Put differently, when will a rational legislator hold an *ex ante* preference for universalism as opposed to strict majority rule? An answer to this question provides an explanation for an empirical regularity, namely the routine observation of large supporting coalitions for distributive policies. A second question is more descriptive or predictive, viz., what are the policy consequences of a universalistic system of decision? That is, what kind of policies, with what characteristics, are produced by a universalistic system?

conclusion. Consider a distributive policy or project P_j with the following characteristics:

1. Total project benefits (present-value adjusted), b , are concentrated entirely in district j .
2. Total project costs, c , are covered through taxes with each of n districts paying $(1/n)c$.

Thus, if a coalition of legislators $S \subset N = \{1, 2, \dots, n\}$ forms in order to pass an omnibus of projects, one for each district represented in the coalition, the net benefits for $i \in S$ is $b - (1/n)(|S|c)$, where $|S|$ is the number of legislators, and hence the number of proposed projects, in S . That is, the constituents of a coalition member receive the benefits of their project, b , and bear $1/n$ of the costs derived from $|S|$ projects— $(1/n)(|S|c)$. For $i \notin S$, on the other hand, net benefits consist only of costs, namely $-(1/n)(|S|c)$. Weingast establishes, first, that the set of MWCs are dominant in this game, i.e., $|S| =$

$(n+1)/2$. Thus, without further cooperation, one of the $\binom{n}{(n+1)/2}$ MWCs will

form, its members receive net benefits in the amount $b - (1/n) \left(\frac{n+1}{2}\right)c$

and nonmembers receive $-(1/n) \left(\frac{n+1}{2}\right)c$. This result, as Weingast notes, “fails to explain universalism, i.e., the tendency to seek unanimous passage of distributive programs through the inclusion of a project for all legislators who want one. Indeed, this tendency constitutes evidence against the model” (Weingast, 1979, p. 249).

Weingast establishes, secondly, that an (expected) cost is borne by all legislators not taken into account in this simple legislative model and that, by taking this cost into account, the tendency toward universalism can be explained. In the simple legislative game, a MWC forms, but which one? There are many and, while there are some models that attempt to predict which MWC will form (Ferejohn, 1974, pp. 233–252; Buchanan and Tullock, 1962, pp. 131–171; Fiorina, 1978), it is reasonable to suppose that

each legislator, *ex ante*, is uncertain whether one of the $\binom{n-1}{(n-1)/2}$ MWCs of

which he is a member, or one of the $\binom{n-1}{(n+1)/2}$ MWCs of which he is *not*

a member, will form. This uncertainty may be contrasted with the certainty of universalism. Under the latter arrangement, every legislator ob-

tains a project for his district so that his net benefits are $b - \left(\frac{1}{n}\right)(nc) = b - c$. Weingast contrasts the *expected* net benefits of simple majority rule (making reasonable assumptions about the probability of inclusion in the winning MWC) with the *certain* net benefits of universalism, obtaining his Universalism Theorem:

If legislators maximize the net benefits which accrue to their districts, if all MWCs are equally likely, and if $b > c$ (with b and c the same for each district), then the net benefits under universalism exceed the expected net benefits of majority rule for every legislator.

Weingast's Universalism Theorem exploits legislators' uncertainty about the composition of winning coalitions in order to demonstrate the *ex ante* preference for the outcome deriving from a "norm" of universalism over the expected outcome of "hardball" MWC politics. It is, of course, plausible that in some circumstances the uncertainty is insufficient to generate this result, a point to which we return in the conclusion. However, there are some additional features of this theorem which are restrictive and, therefore, will occupy our attention in the remainder of this paper. The result of our analysis is a more general universalism theorem. Specifically, we first discard the assumption that project benefits and project costs are the same for all projects (a point noted by Fiorina, 1978). Second, we distinguish two different kinds of project costs, differentially evaluated by legislators in their net benefit computations—expenditure costs and externalities. Third, and possibly most significantly, we do *not* require (in contrast to both Fiorina, 1978, and Weingast, 1979) that project benefits exceed project costs; thus, unlike previous work, we are able to extend the Universalism Theorem to pork-barrel (read: inefficient) activities. Facilitating this extension, fourth, is a reconceptualization of *political* benefit-cost analysis which allows legislators to seek *expenditures* in their districts even when these are not linked to strictly economic benefits.

Legislator Objectives

Consider a generic distributive policy—project $P(x_j)$, where x_j is a measure of project scale, which has the property of concentrating project benefits in the j th district while spreading costs (through taxation) across all districts. Analytically, we let $b(x_j)$ represent the present value of project benefits, all of which are "consumed" by the j th district. Total resource costs, $c(x_j)$, are represented as the sum of three, politically relevant, categories:

$$c(x_j) = c_1(x_j) + c_2(x_j) + c_3(x_j)$$

Total resource costs, that is, are the sum of

- (i) expenditures for project inputs spent *in the district* in which the project is located [$c_1(x_j)$];
- (ii) expenditures for project inputs spent *outside the district* in which the project is located [$c_2(x_j)$]; and
- (iii) nonexpenditure costs, e.g., externalities, imposed on the district in which the project is located [$c_3(x_j)$].²

Finally, we assume that taxes are raised to cover expenditures so that

$$T(x_j) = c_1(x_j) + c_2(x_j).$$

In particular, there exists a vector of tax shares for each district, $t = (t_1, \dots, t_n)$, with $t_i \geq 0$ and $\sum_{i=1}^n t_i = 1$. If $P(x_j)$ requires expenditures $c_1(x_j) + c_2(x_j)$, and if taxes are required to cover expenditures— $T(x_j) = c_1(x_j) + c_2(x_j)$ —then district i 's tax bill for $P(x_j)$ is its share of the expenditures— $t_i T(x_j) = t_i [c_1(x_j) + c_2(x_j)]$.

A legislator, in order to provide an answer to the quintessential retrospective question on election day, viz., “What have you done for me lately?”, seeks to maximize his district's net benefits. Regarding *own-district* projects, benefits are derived from two distinct sources. First, there are the economic benefits produced by the project, $b(x_j)$. Second there are expenditures made in the district, $c_1(x_j)$, which have the salutary effect of increasing the local demand for project inputs, thereby conferring windfall-like gains on current input owners in the district, as well as producing local economy-wide effects in the form of increased employment, profits, and local tax revenues.³ On the other side of the ledger are the district-earmarked costs of a local project, namely nonexpenditure costs in the form of externalities, $c_3(x_j)$, and the district's tax share, $t_j [c_1(x_j) + c_2(x_j)]$. Regarding projects in *other districts*, the j th district derives “benefits” from expenditures made within its boundaries, say, $c_2(x_i)$ from project i ($i \neq j$)⁴, while shouldering its share of taxes, $t_j [c_1(x_i) + c_2(x_i)]$.

²It is, of course, possible to imagine spillover-like nonexpenditure costs for other districts, complementing $c_3(x_j)$. Owing, however, to the concentrated nature of benefits, we choose to ignore these.

³It is not unusual for these expenditures to be mistaken for and counted as a measure of project benefits. Arnold (1979), for example, equates project benefits with local expenditures. It is important to note that $c_1(x_j)$ is not an economic benefit, but is transformed into and treated as a “benefit” by political actors.

⁴The amount $c_2(x_i)$ is total cost of project i spent in districts other than the i th. Specifically, the amount $c_{2j}(x_i)$ is spent in district j so that $c_2(x_i) = \sum_{k \neq i} c_{2k}(x_i)$.

Consider, then, a *vector* or an *omnibus* of projects, $x = (x_1, x_2, \dots, x_j, \dots, x_n)$, where x_j is the scale of the project in district j . Some of these, of course, may be identically equal to zero if a district's legislator is not part of the prevailing coalition. The generic legislator's objective function, which he seeks to maximize, consists of

- (i) own project benefits: $b(x_j)$
- (ii) own project in-district expenditures: $c_1(x_j)$
- (iii) own project externalities: $-c_3(x_j)$
- (iv) own project tax share: $-t_j[c_1(x_j) + c_2(x_j)]$
- (v) other projects' district j —targeted expenditures: $\sum_{i \neq j} c_{2j}(x_i)$
- (vi) tax share of other projects' expenditures: $-t_j \sum_{i \neq j} [c_1(x_i) + c_2(x_i)]$.

Items (i)–(iv) obtain only if j is part of the prevailing coalition. The political objective function of each legislator, then, is a net benefit function $B_j(x_1, \dots, x_n)$:

$$B_j(x_1, \dots, x_n) = \{b(x_j) + c_1(x_j) - c_3(x_j) - t_j[c_1(x_j) + c_2(x_j)]\} + \{\sum_{i \neq j} c_{2j}(x_i) - t_j \sum_{i \neq j} [c_1(x_i) + c_2(x_i)]\} \quad (1)$$

The first collection of terms in equation (1) are “own project” net benefits, while the second collection comprises “other projects” net benefits. Letting $N(x_j)$ represent the former, equation (1) becomes

$$B_j(x_1, \dots, x_n) = N(x_j) + \sum_{i \neq j} c_{2j}(x_i) - t_j \sum_{i \neq j} [c_1(x_i) + c_2(x_i)] \quad (2)$$

Project Evaluations

What omnibus of projects would the j th legislator enact if he had his “druthers”? Since net benefits from “own project” and net benefits from “other projects” are additively separable in equation (2)—total net benefits does not depend on interactions among projects—the j th legislator's optimal omnibus is one in which each project scale is one that equates his marginal benefits and his marginal costs:

own project:

$$N'(x_j) = b'(x_j) + c'_1(x_j) - c'_3(x_j) - t_j[c'_1(x_j) + c'_2(x_j)] = 0 \quad (3)$$

other project:

$$c'_{2j}(x_i) - t_j[c'_1(x_i) + c'_2(x_i)] = 0 \quad (4)$$

(all $i \neq j$)

Let x_j^n be j 's “own project” scale that maximizes equation (2), i.e., the scale that satisfies equation (3). We have shown elsewhere that the own-project scale that maximizes district net benefits, x_j^n , generally exceeds the efficient-

project scale.⁴ This is a consequence of two political mechanisms that transform the economic calculus into a political one:

- (i) *political cost accounting* in which geographically-earmarked expenditures are transformed into political benefits; and
- (ii) *taxation mechanism* in which beneficiaries bear only a fraction (their tax share) of the total expenditure costs.

As well, it follows that x_i^N , the scale of the i th project regarded as optimal by the i th legislator, exceeds what would be regarded as optimal by the j th legislator (that is, the left-hand side of equation (4) is negative for $x_i = x_i^N$).

The consequence of this argument is the following. If, as a general rule, a legislator supports a project or a proposal if and only if it yields his district nonnegative net benefits, then any *single pork-barrel project*, set at the level optimal for its recipient district, can only be assured of the support of the recipient district's legislator. Indeed, not only will equation (4) be violated for nonrecipient districts; total net benefits for nonrecipient districts, as well, will typically be negative— $c_{2j}(x_i^N) - t_j[c_1(x_i^N) + c_2(x_i^N)] < 0$. Thus, in most instances, the *degenerate omnibus* $(0, \dots, 0, x_i^N, 0, \dots, 0)$ will lose by the vote of $n-1:1$. In order to bring home some pork, consequently, legislators must either turn to cooperative logrolling arrangements or (possibly) readjust their respective project scales downward. In the remainder of this paper we explore the former alternative.

Majority Omnibuses and Universalism

Consider, then, a *majority omnibus*, x_w^N , consisting of w projects, where

$$w = \begin{cases} \frac{n}{2} + 1 & n \text{ even} \\ \frac{n+1}{2} & n \text{ odd} \end{cases}$$

and the projects are distributed, one per district, to a winning coalition of legislators, W . Thus, x_w^N is a vector with the j th component equal to x_j^N if $j \in W$ and equal to zero if $j \notin W$. If $j \in W$, then district j receives the b - and c_1 -type benefits from its own project, the c_{2j} -type benefits from projects of its coalition partners, and bears tax and externality costs. These facts may be confirmed from an inspection of equation (2).

⁴See Weingast et al. (forthcoming) for a derivation of this result.

From an arbitrary majority omnibus consisting of w projects set at the scale $x_i = x_i^N$ and $n-w$ projects set at the scale $x_i = 0$, it is clear that the net benefits to district j , and consequently the support of the j th legislator, depend on an uncertain event, namely whether $j \in W$ or $j \notin W$. An extension of Weingast's (1979) argument—also see Fiorina (1978)—shows that the solution to this majority-rule legislative game involves minimum winning coalitions (MWCs) only, so that we need only compute expectations over the set of x_w^N vectors.⁶ From the point of view of each legislator j , the principal question is whether the minimum winning coalition that prevails contains him as a member thereby assuring his district a project. If he assumes that each majority coalition (and hence each x_w^N vector) is as likely as any other,⁷ then the probability⁸ that his project is included ($j \in W$) is

$$p = \frac{\binom{n-1}{w-1}}{\binom{n}{w}} = \frac{n+1}{2n} \quad (5)$$

and the probability that he is excluded from the winning coalition ($j \notin W$) is

$$1-p = \frac{n-1}{2n}. \quad (6)$$

Thus, he may compute the *expected value of majority rule*, $E_j(MR)$:

$$\begin{aligned} E_j(MR) &= p(\text{net benefits from inclusion in MWC}) \\ &\quad + (1-p)(\text{net benefits from exclusion from MWC}) \\ &= pR + (1-p)S \end{aligned} \quad (7)$$

To evaluate R and S in equation (7) it is convenient, and in no way restricts our analysis, to incorporate the following expectations about j 's expenditure benefits deriving from other projects ($c_2(x_i^N)$ -type benefits) and j 's tax share of other projects ($t_j[c_1(x_i^N) + c_2(x_i^N)]$ -type costs):

⁶Weingast, like us, assumes that *every* member of a winning coalition obtains a project. Fiorina shows that, in the absence of this condition, "bribe" coalitions may form in which initial losers bid away members of a previous MWC and promise to support *only* the projects of these "bribed" individuals. This latter situation is unstable. However, Fiorina establishes that the imposition of institutional rules of procedure restricting amendments reasserts the importance of (specific) MWCs.

⁷We should note that each member of a winning coalition not only obtains his project, but obtains it at the scale optimal for him (according to the maximization of equation [1]). Fiorina has argued that, when the cost of projects is known, there will be strong pressure for a specific MWC to form—namely that consisting of the w cheapest projects. This, in turn, could set a bidding war into motion. We do not examine this prospect, so there is room for further generalization (or qualification) of our results.

⁸These computations are based on n odd; comparable results are obtained when n is even.

- (i) \bar{c}_{2j} is the expected (or average) expenditure in district j from the $w-1$ other projects represented in the MWC. Since there are $a = \binom{n-1}{w-1}$ MWCs which contain j , then, letting B be the set of these MWCs and C a generic coalition,

$$\bar{c}_{2j} = \frac{1}{a} \sum_{C \in B} \sum_{\substack{i \neq j \\ i \in C}} c_{2j}(x_i^N)$$

- (ii) \bar{T} is the expected (or average) tax bill for the other $w-1$ projects represented in an MWC containing j :

$$\bar{T} = \frac{1}{a} \sum_{C \in B} \sum_{\substack{i \neq j \\ i \in C}} [c_1(x_i^N) + c_2(x_i^N)]$$

Thus, if $j \in W$, he obtains “own project” net benefits, $N(x_j^N)$, and “other project” net benefits, $\bar{c}_{2j} - t_j \bar{T}$:

$$R = N(x_j^N) + \bar{c}_{2j} - t_j \bar{T} \quad (8)$$

If $j \notin W$, on the other hand, then $N(x_j) = N(0) = 0$, i.e., no “own project” benefits, and “other project” net benefits are now based on w other projects. Thus, if $\bar{c}_{2j}/(w-1)$ and $\bar{T}/(w-1)$ are *per project* average expenditures in district j and *per project* average tax burden, respectively, we have

$$S = w \frac{\bar{c}_{2j}}{w-1} - w \frac{t_j \bar{T}}{w-1} \quad (9)$$

Substituting (5), (6), (8), and (9) into (7) yields

$$E_j(MR) = \frac{n+1}{2n} [N(x_j^N) + \bar{c}_{2j} - t_j \bar{T}] + \frac{n-1}{2n} \left[\frac{w}{w-1} (\bar{c}_{2j} - t_j \bar{T}) \right] \quad (10)$$

In equation (10), since $w = (n+1)/2$ (n odd—we develop only this case), $w/(w-1) = (n+1)/(n-1)$ and $[(n-1)/2n][w/(w-1)] = (n+1)/2n$. Thus equation (10) simplifies to

$$E_j(MR) = \frac{n+1}{2n} [N(x_j^N) + 2(\bar{c}_{2j} - t_j \bar{T})]$$

which, since $(n-1)/(w-1) = 2$, is rewritten (for reasons that are clear below)

$$E_j(MR) = \frac{n+1}{2n} [N(x_j^N) + \frac{n-1}{w-1} (\bar{c}_{2j} - t_j \bar{T})] \quad (11)$$

Having determined in equation (11) j 's expected benefits under pure majority rule in which some MWC is expected to form, we may now compute his expectations under a system of universalism in order to compare the two institutions.

Consider the *universalistic omnibus*, x_j^N , in which every district obtains its optimum scale project, x_j^N . In exchange for the certainty of its own

project, however, is the more unpleasant certainty for j that it must pay its tax share of n projects:

$$E_j(U) = N(x_j^N) + \frac{n-1}{w-1} (\bar{c}_{2j} - t_j \bar{T}) \quad (12)$$

Here, in addition to the net benefits from j 's project, $N(x_j^N)$, we must add the $n-1$ terms representing c_2 -type expenditures and tax shares from the $n-1$ other projects, i.e., $n-1$ times the per-project expenditure and tax terms, $\bar{c}_{2j}/(w-1)$ and $t_j \bar{T}/(w-1)$, respectively.

We are now in a position to pose these questions: (1) under what conditions will rational legislators choose to employ a universalistic omnibus rather than a majority omnibus in the formulation of distributive policy? and (2) is there any basis for abolishing the pork barrel?

The first question directs us to the quantity $E_j(U) - E_j(MR)$. In particular, subtracting equation (11) from equation (12), and dividing through by $(n-1)/2n$, yields

PROPOSITION 1: $E_j(U) - E_j(MR) > 0$ if and only if

$$N(x_j^N) + \frac{n-1}{w-1} (\bar{c}_{2j} - t_j \bar{T}) > 0 \quad (13)$$

To give the reader some intuition on condition (13), consider the symmetric special case in which

- (i) $t_j = 1/n$ —equal tax shares;
- (ii) $c_k(x_j^N) = c_k(x_j^N)$ — c_k -type costs are the same for each project, $k = 1, 2, 3$; and
- (iii) $\bar{c}_{2j} = (w-1)[c_2(x_j^N)]/(n-1) = (w-1)(c_2)/(n-1)$ — c_2 -type expenditures from every project are uniformly distributed across all $n-1$ other districts.

Noting that $\bar{T} = (w-1)(c_1 + c_2)$ in this circumstance, equation (13) reduces to

$$[b + c_1 - c_3 - \frac{1}{n}(c_1 + c_2)] + \left(\frac{n-1}{w-1}\right) \left[\frac{w-1}{n-1} c_2 - \frac{1}{n}(w-1)(c_1 + c_2) \right] > 0$$

which, with some manipulation, becomes

$$b - c_3 > 0 \quad (14)$$

This condition asserts that, in the symmetric special case, if legislator j believes the benefit-cost ratio of his project (and, by symmetry, other projects) exceeds

$$\frac{c_3(x_j^N)}{c_1(x_j^N) + c_2(x_j^N) + c_3(x_j^N)}$$

then universalism is preferred to majority rule. Since this latter ratio is normally much less than unity, it is not an especially demanding or unrealistic

constraint. Moreover, it renders universalism preferable to majority rule despite the fact that there may be an *ex ante* anticipation of pork-barrel (read: inefficient) projects. Put differently, inasmuch as $c_1(x)$ and $c_2(x)$ are often the major cost components of a project, the criterion ensuring a preference for universalism over majority rule— $b - c_3 > 0$ —is astoundingly weak, constituting a considerably weaker requirement than that of efficiency, viz., $b - c_1 - c_2 - c_3 > 0$.

This last fact, however, underscores the importance of the second question above. If the condition that renders universalism superior to majority rule permits inefficient projects as part of the universalistic omnibus, might there not be some basis for constitutionally abolishing the pork barrel altogether? To investigate this possibility, we compare two omnibuses:

- (i) universalistic omnibus $x_N^N = (x_1^N, x_2^N, \dots, x_N^N)$; and
- (ii) the zero omnibus $z = (0, 0, \dots, 0)$

At the individual level, j prefers x_N^N to z if $E_j(U) > 0$ as given in equation (12). An examination of equations (12) and (13) establishes the following:

PROPOSITION 2: $E_j(U) > 0$ if and only if

$$E_j(U) - E_j(MR) > 0$$

Therefore, given the peculiarities of *political* cost accounting, a universalistic system is preferred by political actors to both majority rule omnibuses and a constitutionally restricted zero-omnibus under the same condition—in the symmetric case, this reduced to $b(x_j^N) > c_3(x_j^N)$. So long as pork-barrel projects are not “too inefficient,” this inefficient arrangement is politically popular.

Discussion

One of the limitations of the analyses of Weingast (1979) and Fiorina (1978) is their respective discoveries that there is an *ex ante* preference for universalism over pure majority rule *if project benefits exceed project costs*. One might reasonably ask, however, “Where’s the pork barrel?” The pork barrel consists of *inefficient* projects—those for which benefits do not exceed costs. Thus, their conclusions do not cover the observation of the universalism norm in such traditional pork-barrel policies as the rivers and harbors omnibus, which often consists of a set of inefficient projects. Our results given in Propositions 1 and 2 provide a more general rationale for the universalism practice in all realms of distributive policy including the pork barrel in several respects.

First, along with Fiorina (1978), we do not require project benefits and costs to be identical across districts. Rather, associated with each project $P(x_j)$ are its own distinct benefits and costs.

Second, we regard the geographic incidence of costs as well as benefits as profoundly important in Lowian distributive politics. The hallmarks of these policies are (1) economic benefits concentrated geographically, (2) financing burdens dispersed geographically through the taxation mechanism, and (3) expenditures for project inputs with their associated geographic incidence. Discussions of distributive politics tend to focus exclusively on the first two points to the exclusion of the third. This, we believe, is a significant omission, especially in light of the recent emphasis in congressional scholarship on the role of legislators in chasing down grants, contracts, and other program expenditures for their districts.

As a consequence of point (3), our third variation on the analytical themes of Weingast (1979) and Fiorina (1978) is to include c_1 -type and c_{2j} -type expenditures in legislator evaluations. Indeed, in some pork-barrel contexts, e.g., the siting of military bases, expenditures constitute the principal "benefit" legislators secure for their constituents since the alleged public good (in this case, defense) is often a fiction.⁹

Finally, as noted above, our conclusion about the universalism norm does not require the restrictive condition that projects be efficient. Universalism, in our model, applies without serious qualification in the realm of pork-barrel omnibuses because *political* net benefits systematically differ from their economic counterparts; pork-barrel collections of *economically* inefficient projects, that is, are not political liabilities.

In concluding, we offer three observations which may, though we do not pursue them here, provide some empirically testable consequences. The primary culprit in Weingast's Universalism Theorem and our generalization (Proposition 1) is uncertainty. In a pure majority-rule system, MWCs prevail (Weingast's Proposition 1), but there may be considerable uncertainty about which of the many MWCs actually forms. The norm of universalism is a hedge against this type of uncertainty. Uncertainty, however, may manifest itself in various ways. We have chosen a particularly simple (and perhaps extreme) representation, namely that of maximal uncertainty in which no MWC is more likely to form than any other. Like Rawls (1971) we employ a "veil of ignorance" behind which legislators rationally opt for the security of universalism. And, as in Rawls' analysis, this hypothesis may well be implausible in those circumstances in which prior knowledge about group structure and coalitional possibilities is present.

⁹One referee noted that our result derived from a fiscal illusion, namely, the one in which in-district expenditures are counted as benefits. He noted further that similar results might well be derived from related illusions, for example, from underestimating tax share, or from not taking externalities into account. We agree with his latter point, though we are more uncertain about tagging expenditure-related benefits an "illusion." In fact, expenditures are beneficial in a very real way to their recipients (current input owners).

In a tightly organized partisan legislature, for example, in which inter-party MWCs are proscribed, a legislator knows (with certainty) that he will be a member of the victorious MWC, and his project authorized, *only if* he is a partisan of the majority party. Equations (5) and (6)—and hence (7)—are now inappropriate: if m is the number of members of the majority party, then there are $\binom{m}{w}$ feasible MWCs, $\binom{m-1}{w-1}$ of which the j th majority legislator is a member; thus, for j , the probability he is in the victorious MCW, p_m , is zero if he is not a majority partisan and, if he is, $p_m =$

$\frac{\binom{m-1}{w-1}}{\binom{m}{w}} = (n+1)/2m > p$ —see equation (5). For the majority party members, who organize and control the legislature, majority rule, that is, $E_j(MR)$, is much more attractive than in the higher-uncertainty, veil-of-ignorance, nonstratified legislature. However, in accord with precisely the same logic by which Proposition 1 was derived, one should expect to observe a “distributive tendency” *within the majority party*. Majority-party universalism, then, is the *ex ante* expectation. This suggests that highly stratified legislatures, e.g., the British House of Commons or the nineteenth-century U.S. House of Representatives, should exhibit a restricted form of universalism (namely, majority partism) in comparison to less stratified legislatures, *ceteris paribus*. Additionally, the degree of inefficiency in pork-barrel projects will vary with the degree of stratification (that is, the size of the dominant group within which universalism operates).

Our idea, then, is that if a legislator knows he is a member of the majority party, and if it is supposed that only majority partisans may be included in winning legislative coalitions, then uncertainty over which of his majority partisans will be included in a winning coalition induces each majority legislator to support majority party universalism. The logic may be extended further. If there is uncertainty over the identity of the majority party in the future, then under fairly broad circumstances, career-oriented legislators will prefer full universalism to universalism restricted to the majority party. Consequently, though the results in the body of this paper ignore political parties, the presence of parties does not undermine the logic of universalism.

Indeed, the logic of universalism may undermine parties. Our second observation, then, is that the insurance-like character of the norm of universalism may serve to inhibit or delay party discipline or other bases of stratification, on the one hand, and may contribute to their erosion, on the other. That is, because universalism offers a different basis for distributing benefits than does partisanship, and because legislators may wish to insure

against adverse events (e.g., not being in the majority party), their choice of the former comes at the expense of the latter. This, of course, will depend on a number of factors, perhaps most prominent of which is the time horizon and career perspective of legislators. Thus, the late nineteenth-century development of careerism and professionalism in the U.S. House may, in complex ways, have provided the fertile soil for universalism to flourish and party government to deteriorate.

Finally, let us underscore a theme elegantly developed by Fiorina (1978): reciprocity across committees and policy jurisdictions is universalism as manifested in a structurally differentiated legislature. The basis for this observation is, once again, the implausibility of our veil-of-ignorance argument. While it might appear reasonable to treat as a “stylized fact” the general and pervasive popularity of rivers and harbors projects in the nineteenth century—every district had rivers to be dredged, canals and levees to be built, or harbors to be developed—it is certainly less true in the twentieth century. This fact surely has contributed, as Ferejohn (1974) notes, to the efforts by the Corps of Engineers to redefine its mission. For our purposes, the implication of this development is that districts, their economic and demographic compositions, are sufficiently diverse and dissimilar so as to induce their representatives to seek membership on different legislative committees and influence in different policy domains. Reciprocity replaces universalism as legislative “insurance” in this context.

A theory of legislator uncertainty has been employed here to explain some aspects of legislator preferences for the pork barrel. Because of the political basis for calculating benefits and costs, “pork,” in various forms, will always serve as part of the legislator’s response to his voters’ retrospective question, “What have you done for me lately?” And, consequently, economic inefficiency will likely be a permanent characteristic of the distributive policies of legislative institutions.

Manuscript submitted 31 December 1979

Final manuscript received 8 May 1980

REFERENCES

- Arnold, R. Douglas. 1979. *Congress and the bureaucracy: A theory of influence*. New Haven, Conn.: Yale University Press.
- Barry, Brian. 1965. *Political argument*. London: Routledge and Kegan Paul.
- Buchanan, James M., and Gordon Tullock. 1962. *The calculus of consent*. Ann Arbor: University of Michigan Press.
- Ferejohn, John A. 1974. *Pork barrel politics*. Stanford: Stanford University Press.
- Fiorina, Morris P. 1978. Legislative facilitation of government growth: Universalism and reciprocity practices in majority rule institutions. Paper presented at the Conference on the Causes and Consequences of Public Sector Growth, Dorado Beach, Puerto Rico.

- Froman, Lewis. 1967. *The congressional process*. Boston: Little, Brown.
- Lowi, Theodore J. 1964. American business, public policy, case-studies, and political theory. *World Politics*, 16: 677-715.
- . 1979. *The end of liberalism*, 2nd ed. New York: Norton.
- Maass, Arthur. 1951. *Muddy waters*. Cambridge, Mass.: Harvard University Press.
- Manley, John. 1970. *The politics of finance*. Boston: Little, Brown.
- Mayhew, David. 1974. *Congress: The electoral-connection*. New Haven, Conn.: Yale University Press.
- Niskanen, William A. 1971. *Bureaucracy and representative government*. Chicago: Aldine-Atherton.
- Plott, Charles. 1968. Some organizational influences on urban renewal decisions. *American Economic Review*, 58: 306-311.
- Rawls, John. 1971. *The theory of justice*. Cambridge, Mass.: Harvard University Press.
- Rundquist, Barry S. 1973. Congressional influences on the distribution of prime military contracts. Unpublished Ph.D. dissertation, Stanford University.
- Schattschneider, E. E. 1935. *Politics, pressures and the tariff*. Englewood Cliffs, N.J.: Prentice-Hall.
- Stockman, David. 1975. The social pork barrel. *Public Interest*, 39: 3-30.
- Weingast, Barry R. 1979. A rational choice perspective on congressional norms. *American Journal of Political Science*, 23: 245-263.
- , Kenneth A. Shepsle, and Christopher Johnsen. Forthcoming. The political economy of benefits and costs: A neoclassical approach to distributive politics. *Journal of Political Economy*.