The Effective Constituency in (Re)Distributive Politics: Alternative Bases
of Democratic Representation, Geographic versus Partisan

Robert J. Franzese Jr.

Associate Professor of Political Science
The University of Michigan, Ann Arbor
franzese@umich.edu
<http://www-personal.umich.edu/~franzese>

Irfan Nooruddin

Assistant Professor of Political Science
The Ohio State University
nooruddin.3@osu.edu
<http://psweb.sbs.ohio-state.edu/faculty/nooruddi>

March 22, 2004¹

¹We thank Chris Achen, Andrea Bassanini, Carles Boix, Steve Casper, Michael Cohen, Fred Cutler, John Ferejohn, Barbara Geddes, Holly Goerdel, Peter Hall, Rick Hall, John Huber, Eric Juenke, Ken Kollman, Margaret Levi, Karen Long, Skip Lupia, José Maravall, Ken Meier, Autumn L. Payton, Eric Reinhardt, Ken Shepsle, Kwang Teo, Rob van Houweling, and Anne Wren for helpful discussions, comments, criticisms, and/or suggestions over the long gestation of this project, in some cases offered without realizing or expecting we might use some benign remark in this way.

Abstract

Theorists broadly agree that democratic policymakers respond to political pressures from their constituents; however, heterogeneity prevails over exactly what comprises the constituency to which policymakers respond. We propose conceiving the bases of democratic representation as a continuum from the interests of the policymaker's geographic constituency, her electoral district, d , to those of her party's supporters, her partisan constituency, p . The *effective constituency*, c , to which policymakers respond would then be some convex combination of these partisan and geographic extremes, with the partisan weight summarized by the degree to which parties act and receive electoral support as units, party unity, u : $c = u \cdot p + (1 - u) \cdot d$. Reexamination of the familiar Weingast-Shepsle-Johnsen (*WSJ*) model of distributive politics (*the law of 1/n*) undergirds empirical evaluation of our conception of the *effective constituency*. Postwar histories of public spending and distributive politics in developed democracies seem not to support a pure-electoral-district *WSJ* model, but postwar public spending in the United States, where data best-suited to evaluate the argument exist, do support a *WSJ* model *as modified to reflect our conception of the effective constituency*. We conclude with some ideas for extending the basic *effective constituency* notion beyond partisan and geographic bases of representation.

Although we begin our analysis from a highly empirically motivated and somewhat narrowly focused theoretical reconsideration, the topic may be construed far more broadly. At the broadest level, we aim to provide some purchase on the question of whom democratically elected policymakers see themselves as, and, more critically, behave as if they are, representing. That is, we seek more precise theoretical and empirical understanding of the *constituency*, a concept, we argue, which manifests differently across representative democracies.

Discussion of the positively operative or normatively optimal bases of representation has long interested a wide variety of political scholars with a great diversity of views. Pitkin, for example, notes: “[W]riters disagree on the appropriate role or conduct for a representative: should he act on his own judgment of what is in the national interest, or should he be a faithful servant of his constituency’s will?” (1969: p. 7) Notice that Pitkin means *constituency* as the electoral district in contrast to a broader constituency of the national interest. Edmund Burke’s (1774) speech to the electors of Bristol as they sent him to Parliament showed similar awareness of this duality of representation:

[T]he happiness and glory of a representative is to live in the strictest union, the closest correspondence, and the most unreserved communication with his constituents. Their wishes ought to have great weight with him; their opinion, high respect; their business, unremitted attention. It is his duty to sacrifice his repose, his pleasures, his satisfactions, to theirs; and above all, ever, and in all cases, to prefer their interest to his own (32).

Later in the same speech, however, Burke continues:

Parliament is not a *congress* of ambassadors from different and hostile interests; which interests each must maintain, as an agent and advocate, against other agents and advocates; but parliament is a *deliberative* assembly of *one* nation, with *one* interest, that of the whole; where, not local purposes, not local prejudices, ought to guide, but the general good, resulting from the general reason of

the whole. You choose a member indeed; but when you have chosen him, he is not a member of Bristol, but he is a member of *parliament* (33).

Our contribution at this philosophical level is decidedly modest. We merely suggest the empirical and theoretical utility of viewing the range of potential bases of representation as some continuum extending from pure representation of interests defined by the electoral district, d , or *geographic representation*, to pure representation of the set of interests supporting the party, p , or *partisan representation*. In defining the latter extreme, notice, we have already made two implicit assumptions. First, we imply that the broadest interest a representative might serve would reflect a partisan (i.e., still partial) conception of the national interest. Second, we also assume that partisan representation subsumes interest, ideology, and identity-group representation.¹ Conceiving the possibilities thus, the positive question becomes what determines the relative weight of these polar modes of representation in any particular political system. On this point, we acknowledge and discuss the potential impact of several factors, including district- and national-level electoral competitiveness, partisan polarization, and various other features of electoral and party systems, but focus for now on the degree to which parties are able to act as strategic units and receive electoral support as units, i.e., of *party unity*, u , as a useful summary statistic. We develop this argument further below, but, granting it for introductory purposes, it implies that the *effective constituency*, c , to which a policymaker responds is some convex combination of her electoral district and her party with the relative partisan weight increasing in party unity, *for example*:² $c = u \cdot p + (1 - u) \cdot d$.

This *effective-constituency* conceptualization arises from our attempts to explore the

¹One could imagine theoretically-informed empirical specifications that could model effective constituencies with four end-points reflecting national, party, social-identity group, or district interests. We leave such an extension for future research.

²The *for example* is important: theory does not necessarily specify that the convex combination is a simple linear weighted-average; the suggested empirical methods can easily incorporate other combinatorial forms.

comparative empirical predictions of the Weingast-Shepsle-Johnsen (1981: *WSJ*) model of distributive politics and pork-barrel spending (i.e., *the law of 1/n*), and its implications are perhaps most clearly seen in that specific theoretical and substantive context. *WSJ* demonstrate that, under certain conditions reviewed below, overemphasis of distributive politics, in general, and pork-barrel overspending, in particular, increase with the number of constituencies. *WSJ* do not, however, distinguish *electoral districts* from *constituencies*, and they define *distributive politics* and *pork-barrel spending* very narrowly, creating two mutually reinforcing problems for the comparative empiricist. First, data matching the precision with which the theory distinguishes pork-barrel/distributive from other spending/politics do not exist. Indeed, all politics and spending likely reflect some (varying) degree of distribution, redistribution, public-good provision, and rent seeking. Second, policymakers will likely exhibit varying responsiveness across different democratic settings to their *electoral districts* relative to myriad other potential *constituencies* they might serve. Moreover, these two issues are inseparable because the definition of distributive spending hinges on identification of the politically-relevant constituencies, and, conversely, the number of relevant constituencies depends on the policy at issue. To escape this dilemma, we suggest broader conceptions both of distributive spending and of the constituencies policy-relevant thereto. From there, extending *WSJ*'s logic is exceedingly straightforward yet offers considerable gains in empirical “testability” and theoretical and substantive insight.

We structure the paper to make these points thus. We first briefly review the simplest *WSJ* model of distributive politics and pork-barrel spending. cursory consideration of comparative work on distributive politics and of postwar-average public-spending in developed democracies then suffices to suggest strongly that the narrow definitions of distributive pork-barrel politics and policies and of *constituencies as districts* produce empirically inaccurate and theoretically problematic predictions. Next, we offer our proposed solution and discuss several complementary, alternative, or simply additional considerations. The penultimate section explains how we use the US postwar history of public-spending and politics to evalu-

ate our argument, conducts the analysis, and discusses results. We conclude by returning to the broader issues of representation mentioned above, and considering extensions of the basic *effective-constituencies* concept beyond partisan and geographic bases of representation.

“The Political Economy of Costs and Benefits” Reviewed and Reconsidered

WSJ ask why representative legislatures routinely pass budgets that manifestly over-emphasize distributive, or *pork-barrel* spending, projects. Their answer stresses the division of democratic polities into electoral districts, noting that democratic representation everywhere is based on “a districting mechanism that divides the economy into n disjoint political units called districts” (p. 643), and defining “*distributive policy* [as] a political decision that concentrates benefits in a specific geographic constituency and finances expenditures through generalized taxation” (p. 644). They thus isolate geographic location as the distinguishing characteristic of distributive policies and politics: “Programs and projects are geographically targeted, geographically fashioned, and may be independently varied” (p. 644). Given these definitions, and assuming legislators follow some log-rolling or universalistic norm, *WSJ* demonstrate that overemphasis on distributive policies, i.e., overspending on pork-barrel projects, is an increasing function of the number of electoral districts.

To be precise, first, index the n electoral district $i \in [1 \dots n]$. Then, assume benefits, B , of any particular pork-barrel project concentrate in district i (for analytic clarity: entirely so) and increase with the size or cost of the project, $B_i = f(C)$, which, with diminishing returns, gives $f' > 0$ and $f'' < 0$ as usual. By definition of a distributive policy, the costs accrue more uniformly across all n districts (for analytic clarity: entirely so): $C_i = \frac{C}{n}$. The individual district then faces a utility-maximization problem, $Max_c f(C) - C/n$, for which the solution is simply $f'(C) = \frac{1}{n}$. The optimal project-size from the individual districts view thus increases in the number of districts.

If legislatures decide democratically, without log-rolling, universalist norms, or side-payments, then all pork-barrel projects lose legislative votes $(n - 1)$ to 1 because only receiving districts derive net benefits, $f(C) - \frac{C}{n}$, while others only pay costs, $\frac{C}{n}$. *WSJ* argue, contrarily, that legislators could adopt a universalistic norm where all legislators vote for distributive bills (“I’ll vote for yours; you vote for mine”), implying the legislature passes the district-by-district optimal, leaving pork-barrel spending proportional to the number of districts. Riker (1962) shows, however, that optimal coalition-building strategies in majority-rule legislatures involve side-payments sufficient to induce bare-majority support (*minimum-winning coalitions*) for distributive projects, meaning $\frac{(n-1)}{2}$ other legislators must receive $\frac{C}{n} + \varepsilon$, which also implies overemphasis on pork proportional to the number of districts, albeit more marginally so. Specifically, under universalism, all projects with $B > \frac{C}{n}$ pass, whereas under majority-rule with side-payments, only projects with $B > [\frac{(n+1)}{2n}] \cdot C$ pass.

INSERT FIGURE 1 ABOUT HERE.

Later scholarship, though, deduced several reasons super-majoritarianism may indeed govern legislative decision-making. Shepsle and Weingast (1981), e.g., note that, given uncertainty over membership of minimum-winning coalitions, legislators prefer supermajorities to insure against their omission. Luebbert (1986) and Strom (1990) argue similarly regarding parliamentary government formation that, with uncertainty over legislative support, which, e.g., secret balloting or lack of party discipline may induce, coalition builders would seek supermajorities. Others stress that legislative procedures affect optimal-coalition size. Caruba and Volden (2000) show that, in fact, all coalitions from minimum-winning to universal may form depending on amendment openness and other procedural rules. For example, Baron (1991) finds universalism on distributive bills unlikely yet over-provision still prevails to a degree mitigated by procedural openness. Similarly, McCarty (2000) and Bradbury and Crain (2001) argue that, respectively, presidents or second chambers dampen without eliminating the $\frac{1}{n}$ effect by—we infer—adding a legislative step in which veto or amendment

may occur.

To these considerations, we would add that, if voters are rationally ignorant, $\frac{C}{n}$ may be too small for non-receiving-district voters to notice even while receiving-district voters readily appreciate their much larger net benefit, $f(C) - \frac{C}{n}$. Thus, with rationally ignorant voters, legislators could more easily forge universalist log-rolls or other super-majoritarian agreements to support each other's porkbarrel requests via some cooperative solution to their iterated-prisoners-dilemma game. Such cooperation is especially likely because legislators number relatively few, have relatively homogenous interests in this regard, and interact repeatedly and indefinitely (Axelrod 1984). Furthermore, voters' rational ignorance also facilitates the side-payment arrangements that forge super-majorities behind distributive policies because legislators will demand smaller payments to support others' distributive proposals the greater is their voters' ignorance. In the limit, rational ignorance revives universalist scenarios wherein distributive projects maximize pork-barrel benefits district-by-district. Moreover, the total size of distributive inefficiencies or side-payment excesses about which voters may rationally remain ignorant also rises with the number of districts over which such costs distribute. Thus, distributive politics generally and pork-barrel spending specifically increase with the number of districts, more strongly so as legislative behavior tends more universalistic and less minimum-winning, which tendency, in turn, heightens as rational ignorance, winning-coalition uncertainty, or legislative-rule closure to amendment or veto rises.

INSERT FIGURE 2 ABOUT HERE.

The logic is elegant, intuitive, and profound; unfortunately, the comparative evidence, which Figure 2 above illustrates summarily, does not correspond. The top row plots two measures of public spending, general-government final-consumption and current-disbursement as shares of GDP in 1985, against 1945 – 85 average numbers of electoral districts in 20 OECD countries.³ The bottom row does likewise with two revenue measures, general-government

³Lane et al. (1991) provides the data. General government includes all levels of government and public

current-receipts and total-taxes. The *WSJ* law of $\frac{1}{n}$ predicts a positive relationship between spending (taxes) and numbers of districts clearly not revealed in Figure 2.⁴ Adding basic economic controls of unemployment, trade openness, aggregate wealth or growth, to these bivariate regressions makes no substantive difference, and more sophisticated empirical research elsewhere likewise finds little support. Franzese (2002: ch. 2-3), e.g., finds little or no significant relationship between numbers of districts and transfers or debt in postwar samples of developed democracies, and he controls for many other economic and political variables and pays some attention to complications in counting electoral districts given multiple-tier systems, bicameralism, varying district-size, etc. In sum, evidence from comparative public fiscal-activity does not support a simplistic application of *WSJ*'s model of electoral-district-based distributive politics.

Consider, furthermore, the model's implications for the relative prominence of distributive politics in different democracies. For example, the UK House of Commons has 651 electoral districts, the US House of Representatives has 435, and Italy's *Camera dei Deputati* had (until the 1994 electoral-law changes) 32 in its first tier. The $\frac{1}{n}$ logic suggests that the UK should exhibit distributive, i.e., district-focused, politics most prominently, followed closely by the US, and more distantly by Italy. Students of comparative developed-democratic politics would generally agree to the contrary that the actual ranking is probably the US, followed closely or possibly preceded by Italy, with the UK a distant last. Regarding the agencies with separate accounting (e.g., social security); using central-government data makes no substantive difference. For effectively bicameral countries, we average numbers of districts (total, all tiers) in each house. For unicameral countries, we use numbers of districts in the primary house (total, all tiers). We consider the US, Japan, Germany, Italy, Belgium, Netherlands, Switzerland, and Australia effectively bicameral for these purposes. The substance of these results, however, seemed independent of how we treated second chambers and of minor permutations in the set of countries considered bicameral. Alternative approaches to multiple-tier systems also altered little.

⁴Omitting the UK or otherwise transforming the highly skewed ED (e.g., $\ln(ED)$), does not help. In fact, as one can discern visually, as one trims countries from the large-ED end of the sample, these relationships become more *negative*.

UK, Rose (1986) states unequivocally:

... the role of constituency [i.e., district] representation... is of little importance to government. MPs can devote time to looking after the concerns of individual constituents[... , and] this relationship can flatter an MP who is a small fish in a big pond at Westminster[... , b]ut an MP cannot gain government favors for his constituency by trading his vote in return for local benefits; the whip [i.e., the party], *not constituency interest, determines an MP's vote* (pp. 100-1; emphasis added).

Contrarily, party-organized and -directed *patronage* and *clientelism*, complicated theoretical concepts that involve strong distributive-politics and pork-barrel aspects *inter alia*, were long-acknowledged central features of Italian democracy (see, e.g., Banfield 1958; and Powell, Silverman, Graziano, and Schneider et al. in Schmidt et al. 1977). Spotts and Wieser (1986), speaking of parliament's legislative role in Italy, clarify the extent to which MP's local-service pervades the legislative agenda (n.b., local civil-service jobs are a preferred currency of clientelistic payments in Italy):

... the Chamber and Senate have produced a flood of legislation that generally well surpasses the output of other Western European parliaments and the US Congress[... , b]ut the product tends to be narrow in scope, clientelistic in nature, and fragmented in its treatment of national problems. The great majority of these... *leggine*, "little laws" [were] devoted to bettering the condition of government employees. Fully 37% of the legislative proposals between 1963 and 1972, e.g., concerned [various] civil service [... compensation and job conditions] (110-1).

In the US, meanwhile, district-oriented politics certainly plays a much larger role than in the UK and perhaps even than in Italy, though also perhaps less "clientelistically" so.⁵

⁵The contributions to Bogdanor (1985) contain more case-studies that may be relevant. In future work, we

Thus, discrepancy between theory and comparative evidence is wide and seems not to derive from deficient methodology or controls.⁶ Contrarily, Gilligan and Matsusaka (1995, 2001) find support in comparing US states; Levitt and Snyder (1995) find indirect support in the pattern by spending category of partisan effects on the district distribution of US spending; Lee (1998, 2000) finds US Senate malapportionment to affect distributive politics consistently with the *law of 1/n*; Alvarez and Saving (1997) find that US Representatives do derive electoral benefits from spending in their districts; and Bickers and Stein (1996) find that US district spending increases with challenger quality. In our view, these conflicting results do not suggest that the $\frac{1}{n}$ logic only applies in the US; rather, they highlight an important substantive problematic that *WSJ* and many others (e.g., Burke) ignore: namely, conflation of the theoretical *constituency* with the empirical *electoral district*.

“The Effective Number of Constituencies” Concept

WSJ’s *law of $\frac{1}{n}$* equates the physical boundaries of electoral districts with the conceptual borders of constituencies. We suggest that one instead conceive the number of constituencies in a political system as lying on a continuum with only one of its endpoints, that corresponding to pure geographic representation, at the number of electoral districts. Representative policymakers certainly may see themselves as representing and so act legislatively in the interests of their electoral districts, implying identity of *constituencies* and *districts*. At the other extreme, however, they may view themselves and act legislatively as representatives of the entire nation, as, e.g., presidents often claim, implying that only one *constituency*, the nation, exists. More realistically, executives or legislators may be pure partisan actors, representing the interests and ideologies of their party’s supporters, which equates *effective*

hope to use these for a broader comparative-empirical study of the nature of representation and distributive politics.

⁶Recently, however, Bradbury and Crain (2001) report some cross-sectional evidence for a bicameralism-dampened law of $\frac{1}{n}$ as per their hypothesis (see above).

constituencies and governing parties in number. Thus, the US case could have any number of *effective constituencies* from 1, if presidents fully control policy and solely represent the entire nation or, more realistically, if partisan presidents and legislators of one party share policy-control, or 2, if president and legislators act as purely partisan representatives in divided government, to 435, if Congress completely controlled policy and each congressperson solely represented her own district.⁷ Another example: the UK has 651 electoral districts and 2 parties, Tories and Labour (ignoring small parties). Assuming each party represents some distinct group of people, the UK has minimally 2 constituencies, Tory- and Labour-supporters, of which government usually reflects only 1. Conversely, if the voters in each individual MP's district define the constituency, the UK has maximally 651 constituencies. Where along this range lies the *effective number of constituencies* that will be represented in government policy is a function, we contend, of the degree of party unity in the UK.

To clarify the intuition behind this contention, imagine varying the degree of party unity in the UK. The more apt is a unitary-actor characterization of the parties, the more an individual MP's legislative behavior is given by her party label.⁸ This being so, voters will also choose party-labels more than individual MPs. Therefore, individual MPs neither act as independent legislative actors nor have much to gain by abandoning party unity to make some localistic appeal in their electoral districts. Partisan constituencies come to the fore. Conversely, the party label becomes less meaningful as the independence of MPs as legislative actors increases. Absent meaningful policy-labels, both as electoral draws and as prescriptions for legislative behavior, individual MP's electoral districts become more relevant to them and constituency service (including distributive projects) becomes more important to them and their supporters. Thus, the 651 electoral-district constituencies become more dominant.

⁷To complete the example, if the Senate completely controlled policy and each Senator acted solely as a representative of her district, there would be 50 effective constituencies.

⁸We will be using party unity as an empirical summary statistic, so we need neither assume it nor endogenize it theoretically here.

Therefore, the UK’s *effective number of constituencies* lies between 651 and 1, with the extremes reflecting perfect party-disunity (i.e., legislative and electoral irrelevance of party label) and perfect party-unity (i.e., legislative and electoral irrelevance of any individual MP or district characteristics). More fully, *effective constituencies* lie on a continuum from pure partisan- to pure geographic-representation, therefore a convex combination of the numbers of governing parties, p , and electoral districts, d , gives the *effective number of constituencies*, c , in a political system, and the relative weight of p increases with the degree of party unity, u , characterizing that system. We adopt the simplest possible convex-combination, a linear weighted-average: $c = u \cdot p + (1 - u) \cdot d$ with $u \in [0 \dots 1]$.

Given any two countries with nearly equal numbers of parties and electoral districts, therefore, more (fewer) effective constituencies exist in the system with lesser (greater) party-unity. Thus, distributive politics may be much more prominent in the US than UK, despite their roughly equal numbers of governing parties (1 – 2) and electoral districts (435 – 651), because British parties exhibit far greater party unity, making the UK’s effective number of constituencies radically lower.

Applying our conceptualization to the $\frac{1}{n}$ logic of distributive politics and pork-barrel spending is exceedingly straightforward. First, redefine distributive policies as those that concentrate benefits within a single *effective constituency* but spread costs more evenly across all constituencies. Then, “distributive overemphasis and pork-barrel overspending” so defined increase with the number of *effective constituencies* rather than *districts*. A trivial corollary is important to the empirics evaluating this re-conceptualization below: holding constant the numbers of parties and of electoral districts, distributive politics and spending decrease with party unity. Before proceeding, however, we conduct several further thought-experiments to illustrate how *effective numbers of constituencies* depend on considerations beyond numbers of electoral districts and governing parties and degrees of party unity.

Consider, for instance, two hypothetical UKs, each with 2 parties, 651 electoral districts, *and* the same degree of party unity. These two UKs, however, differ in the ideological

distance between their 2 parties. For concreteness, think of party ideologies on a single left-right dimension; in one of these UKs, the left and right parties are closer together than in the other. We expect the UK with the more-distinct party-ideologies to appeal less to the pork-barrel precisely because electoral competition in that UK will be more ideological. In the polarized UK, representatives and candidates compete to considerable degree on ideological-partisan bases as members of two opposing teams. In the UK with little ideological distance between parties, conversely, electoral competition has less ideological content. There being no broader “team” on which to base competition, distributive politics comes forward in the UK with less partisan-polarization, so it will exhibit relatively more distributive spending. The Irish party system may exemplify a case of such relative absence of ideological conflict between the parties (on economic dimensions) fostering greater emphasis on distributive politics.⁹

Electoral competitiveness of the districts may also enter. Imagine two other hypothetical UKs, each with 2 parties, 651 districts, and the same degrees of party unity and of partisan ideological polarization. One UK, however, has 651 *competitive* electoral districts while the other has 651 *uncompetitive* districts. I.e., all districts in the competitive UK have either Labour or Tory expecting a 51% to 49% victory; in the uncompetitive UKs districts, either Tory or Labour expects a 100% to 0% victory. If voters reward pork-barrel district projects with votes, both parties will have greater incentives to allow their candidates to promise, and their MPs to deliver, district projects and services in the more competitive UK. Moreover, in the district-competitive UK, distributive overemphasis increases with national-level competitiveness (*i.e.*, the closeness of the expected balance of seats in parliament) also because winning a marginal district is more critical. Thus, distributive politics and pork-barrel spending increase with electoral competitiveness.¹⁰

Notice the similarity of the role of partisan polarization and electoral non-competitiveness in dampening distributive-policy incentives to the role of party unity, u , in the *effective*

⁹We thank Anne Wren for describing the Irish case to us in these terms.

¹⁰We thank Andrea Bassanini and Carles Boix for emphasizing this consideration to us.

constituencies defined above: $c = u \cdot p + (1 - u) \cdot d$. As party unity, partisan ideological-proximity, and/or electoral competitiveness decline, electoral districts weigh more in determining *effective constituencies*. One could, therefore, replace the constant u in this heuristic model with a function reflecting the factors that push democratically elected policymakers to represent more their partisan than their geographic constituencies. These factors would include party unity (or, alternatively, some set of conditions that induce it) but also partisan polarization, ρ , and electoral competitiveness, e . The new heuristic would be $c = f(u, \rho, e) \cdot p + 1 - f(u, \rho, e) \cdot d$, with $0 \leq f(\cdot) \leq 1$,¹¹ $\frac{\delta f}{\delta u} > 0$, $\frac{\delta f}{\delta \rho} > 0$, and $\frac{\delta f}{\delta e} < 0$. We return to this extension of the conceptualization in the conclusion.

Because all of these hypothetical UKs conduct pure single-member-simple-plurality elections, the distributive overemphasis that electoral competitiveness heightens is geographical in nature. In systems with larger district-magnitudes, electoral competitiveness would likewise foster distributive overemphasis, but constituencies would likely have less geographic than partisan base. Thus, using the extended heuristic above, $\frac{\delta f}{\delta e}$ should be conditional on the electoral system with $\frac{\delta f}{\delta e} > 0$ in larger-magnitude systems and $\frac{\delta f}{\delta e} < 0$ in smaller (Long 2003).¹² The discussion above suggests national-level electoral-competitiveness enters $f(\cdot)$ similarly to district-level electoral-competitiveness.

In sum, we are suggesting most fully that (a) the degree to which parties are able to act as units should determine the capacity of democratic policymakers to *budgeteer*, (b) national and district-level electoral competitiveness should determine the magnitude of their incentives to *budgeteer*, and (c) party-system polarization, electoral-system and district magnitude, and the degree to which parties receive their electoral support as units should determine the nature of the *budgeteering*, the relative shares of partisan-redistributive and geographic-distributive policies, that they will pursue. We do not dispute the validity of

¹¹To ensure $0 \leq f(\cdot) \leq 1$, $f(\cdot)$ could be the logit (i.e., $[1 + e^{-X\beta}]^{-1}$ or probit (i.e., cumulative normal: $\Phi(X\beta)$) function.

¹²(Long 2003) derives a similar conclusion focusing on representative incentives to distribute benefits more or less broadly within their electoral district.

these complicating considerations but reserve them for future research. In this paper, we concentrate on the effect of different levels of party unity on representation and spending using the simpler conception of party unity and the *effective constituency* as $c = u \cdot p + (1 - u) \cdot d$.

Empirical Exploration: US Fiscal Policy & Party Unity, 1956-94

To evaluate our base concept, we need data on amounts of distributive activity, degrees of party unity, and numbers of electoral districts and governing parties. Two difficulties emerge immediately.

First, unavailability of comparable measures of party unity across many countries makes cross-sectional or pooled cross-sectional-time-series analysis difficult. (Future work could utilize cross-US state data effectively or apply nonlinear techniques as discussed below.) Few countries appear to have the necessary legislative-vote records to produce direct measures of legislative voting-unity. For fewer still have scholars compiled such measures, almost exclusively in the US. However, whereas numbers of US electoral districts hardly changed postwar, providing almost no leverage to test the pure-electoral-district WSJ model directly with aggregate US data, and whereas governing-party numbers also held relatively constant, party unity varied sufficiently and measurably across time (see, e.g., Cox and McCubbins 1993) to yield empirical leverage on our effective-constituency concept.¹³ Thus, our conceptualization offers a practical testability benefit at least. Even so, using just one country severely limits empirical leverage (degrees of freedom) because dependent variables (taxation and expenditure components) are annual, and they and certain controls are unavailable until 1956.

Second, we must decide whether and how to distinguish distributive from other categories of spending and whether to measure such activity as a share of GDP or of total public

¹³We thank John Ferejohn for thus suggesting US historical data as a test-bed for our ideas.

activity. Having defined distributive policies broadly as those that spread costs across while concentrating benefits within particular *constituencies*, not necessarily in particular *electoral districts*, all but the most universal of public goods may count as distributive. Accordingly, one measure of distributive spending is simply government final-consumption expenditure. However, some spending-types are harder to target to as specifically as others, so we still want to retain some emphasis on distributive as opposed to redistributive spending or, in Persson and Tabellini’s (2000) useful terminology, *special-interest* from *general-interest* politics. Thus, our other spending measure is non-transfers spending. We acknowledge expressly that the relative weakness of these measures as dependent variables that match precisely our theoretical conception of distributive spending implies that we must view the results to follow as highly preliminary indeed.

The model’s emphasis on overspending, moreover, might as easily suggest a focus on the share of the budget or of GDP spent on distributive projects. Rather than decide, we use final consumption and nontransfers spending as shares of GDP *and* of total spending¹⁴ simultaneously, thus mildly alleviating the limited-degrees-of-freedom problem. By jointly estimating a set of four equations, each regressing a spending measure on several controls and a variable capturing our conception of the effective number of constituencies, we gain leverage. Even if we apply no cross-equation restrictions on estimated coefficients, residual correlation across regressions offers information that can increase the efficiency of estimation. Accordingly, we propose to estimate a system of four seemingly unrelated regression equations (SURE)¹⁵ in which the dependent variables are federal-government final-consumption-expenditure as

¹⁴We emphasize again that we consider this empirical evaluation highly preliminary. In future work, we hope to leverage Levitt and Snyder’s (1995) idea of using cross-district variation in disbursement to identify *porkier* budgetary categories and Hird’s (1991) approach to estimating the over- (i.e., inefficient) spending.

¹⁵The Beck-Katz (1995, 1998) criticism of the Parks procedure for estimating equations from pooled time-series-cross-section data applies here also; we will effectively have 4 time-series equations estimated in parallel. However, with 4 equations and 39 observations each, T here is almost 10 times the equivalent to N. Thus, feasible generalized least squares, in this case SURE, should provide *bona fide*, not misleading, smaller standard-errors.

shares of (i) GDP and of (ii) federal-government expenditures, and federal-government non-transfers spending as shares (iii) of GDP and of (iv) federal-government expenditures. All data are annual and taken from the University of Michigan's *Research Seminar in Quantitative Economics*¹⁶.

Next we consider the strong serial correlation of these dependent variables and the possibility of unit roots. For each variable, first-order correlation far exceeds 0.9, so, given the sample size, none rejects unit-root tests. An error-correction format therefore seems appropriate (Beck 1992), and, in our models, the format accommodates serial correlation and allays unit-root concerns adequately. Error-correction models regress changes in the dependent variable on (i) its lagged level plus any lagged changes the data suggest are necessary to model serial correlation, (ii) lagged levels of each independent variable theory suggests as a potential cointegrating factor, and (iii) any changes in the independent variable theory suggests. In this format, coefficients on *changes* represent *momentum-like* relationships between independent-variable *changes* and dependent-variable *changes*; coefficients on lagged *levels* represent *equilibrium-like* relationships between *levels* of the independent and dependent variables. In the usual dynamic-equation fashion, both propagate through the dependent variable over time as the estimated coefficients on lagged dependent-variable levels and changes dictate. Having no strong priors on the momentum or equilibrium nature of the spending effects of our theoretical and control variables, we enter all variables in contemporaneous differences and in lagged levels.

Finally, we need an appropriate set of controls. Obviously, public spending will respond to economic conditions regardless of constituency conditions fostering distributive politics. Thus, we control for real GDP *per capita* growth and levels (*Y*: from *Penn World Tables v. 5.6*), unemployment rates (*UE*: from *OECD sources*¹⁷), and CPI inflation rates (*CPI*:

¹⁶Available at <http://www.econ.lsa.umich.edu>.

¹⁷"OECD sources" means *OECD National Accounts, Volume II: Detailed Tables*, diskette version (1996), *OECD Economic Outlook and Reference Supplement* No. 62, diskette version (1998), and the hardcopy versions thereof and of *OECD Labor Force Statistics* (various issues).

from *IMF sources*¹⁸). Similarly, spending may respond to government ideology (Hibbs 1977) and/or to the incentive to manipulate the economy for pre-electoral purposes (Tufte 1978), so we also include a pre-electoral indicator (*ELE*)¹⁹ and a control for the left-right partisan “center-of-gravity” of the US government (CoG).²⁰

In error-correction form, then, each seemingly-unrelated-regression equation (SURE) reads:

$$\begin{aligned}\Delta(GS_{i,t}) = & \beta_0 + \beta_1\Delta(GS_{i,t-1}) + \beta_2\Delta(GS_{i,t-1}) + \beta_3\Delta(\Delta(Y_t)) + \beta_4\Delta(Y_{t-1}) + \beta_5Y_{t-2} \\ & + \beta_6\Delta(CPI_t) + \beta_7CPI_{t-1} + \beta_8\Delta(UE_t) + \beta_9UE_{t-1} + \beta_{10}\Delta(CoG_t) + \beta_{11}CoG_{t-1} \\ & + \beta_{12}\Delta(ELE_t) + \beta_{13}ELE_{t-1} + \beta_{14}\Delta(ENoC_t) + \beta_{15}ENoC_{t-1} + \varepsilon_i\end{aligned}\quad (1)$$

where subscripts t and i indicate year and equation. GS_i is the measure of spending used in equation i and $ENoC$ is our measure of the *effective number of constituencies* in the US

¹⁸“IMF sources” means *IMF International Financial Statistics*, CD-ROM version (June 1996), supplemented by hardcopy where necessary and possible.

¹⁹For simplicity, we consider the president and each house 1/3 the government, and only 1/3 of the Senate faces election each congressional election-year. Thus, House and presidential elections rate 1/3, and Senate elections $(1/3) * (1/3) = (1/9)$. Finally, all elections are assumed to occur November 7, so the indicator in the election year is $ELE = [(1/3)*P + (1/3)*H + (1/9)*S] * [311/365]$ where $P(H, S) = 1$ if there is a presidential (House, Senate) election that year, and 311/365 is the proportion of the year past by election-day. The year prior to an election thus equals $[(1/3) * P + (1/3) * H + (1/9) * S] * [1 - M/12 + (d/D)/12]$. This produces a pre-electoral indicator that cycles [.0491, .2843, .1145, .6633], with the last being the presidential-election year.

²⁰The partisanship data use “expert” codings of the left-right positioning of parties available from Appendix B to Laver and Schofield (1990) to measure the partisan position of the average government member. A left-right code for each party is obtained by rescaling the several source indices for all countries from 0 $\equiv$ extreme-left to 10 $\equiv$ extreme-right and then averaging available indices for each party. The Democrats are 4.8213 and Republicans 7.61 in this scale. These party scores are then used to calculate the government’s partisan position as the average of the party positions of the governments members. The US government’s position is assumed to be 1/3 the President’s, 1/3 the average Senator’s, and 1/3 the average Representative’s.

that year. That measure is the core of our empirical exercise, and we expect, following our augmented *WSJ* model, that its coefficients will be positive in each equation. By measuring the *effective number of constituencies* before and outside estimation of these empirical models, we set the null hypothesis as that this measure relates (positively) to spending and as alternative merely that it does not. A more direct and revealing test would allow the data to adjudicate whether numbers of governmental parties and of electoral districts affect spending in the manner hypothesized, i.e., in a convex combination with weight a function of party unity, against a stronger alternative that these factors might affect spending linearly additively or not at all (as, e.g., Franzese 1999, 2002, 2003 do in monetary-policy contexts). However, as noted, US electoral-district numbers do not vary and governmental parties numbers hardly vary in our sample, offering very little empirical leverage for such more-direct and -powerful empirical evaluation of our argument: another key reason we view these results as highly preliminary.

As argued, the *effective constituency* to which a particular representative responds is some convex combination of her legislatively exhibited allegiance to her party and to residents of her electoral district. Thus, for an individual representative, the effective constituency is given by $c = u \cdot p + (1 - u) \cdot d$, where u measures her party loyalty, p represents her partisan constituency, and d her electoral-district constituency. Generalizing from here to the *effective number of constituencies* represented by many legislators, i.e., summing over all representatives, the formula remains unchanged, except that p becomes the number of parties and d the number of electoral districts in the political system. Specifically for the US case, our measure of the *effective number of constituencies*, $ENoC$, is therefore given by:

$$\begin{aligned}
 ENoC = & 0.5 \cdot [U_{HD} \cdot 1 + (1 - U_{HD}) \cdot N_d^h + U_{HR} \cdot 1 + (1 - U_{HR}) \cdot N_r^h] \\
 & 0.5 \cdot [U_{SD} \cdot 1 + (1 - U_{SD}) \cdot \frac{N_d^s}{2} + U_{SR} \cdot 1 + (1 - U_{SR}) \cdot \frac{N_r^s}{2}]
 \end{aligned} \tag{2}$$

where U_{JK} = party unity amongst House or Senate ($J = H, S$) Democrats or Republicans

$(K = D, R)^{21}$ and N_k^j is the number of House or Senate Democrats or Republicans. The formula assumes the House and Senate equally important in policymaking and that the president's effective number of constituencies is fixed and so may be ignored.²² Thus, the numbers of constituencies in the House and Senate average to produce the effective number in the US political system. We can modify these simplifying assumptions if that proves theoretically or empirically necessary.

We thus divide US *effective constituencies* into 4 sets: effective House Republican and Democratic and Senate Republican and Democratic constituencies. For each legislator, the level of party unity serves to weigh the degree to which her district- or her partisan-constituents' interests govern her behavior. Therefore, the higher the party unity, the fewer the constituencies because legislators appeal more to broadly-based ideological constituencies along party lines than to localistic interests of their electoral district. Conversely, leaders that use pork-barrel projects for their own individual district are, *ipso facto*, less responsive to their partisan and more responsive to their geographic constituency.

INSERT FIGURE 3 ABOUT HERE.

Figure 3 plots the resulting series, *ENoC*, revealing a notable upward-then-downward trend. The numbers of parties and electoral districts barely change in this period, so the pattern reflects a decline then rise in legislative party-unity. Peak party-disunity and so peak effective-constituency numbers occur in the mid-to-late 1960s, and both return to 1950 levels by 1990. If our re-conceptualized *WSJ* model is correct, distributive politics and spending

²¹We use the party unity scores calculated and published by *The CQ Almanac*. Accordingly, party unity is measured as “the percentage of *Party Unity Votes* on which a representative voted ‘yea’ or ‘nay’ in agreement with a majority of her party,” where a *Party Unity Vote* is a vote in the Senate or House that splits the parties, a majority of voting Democrats opposing a majority of voting Republicans.

²²Although senators number two per state, each delegation represents only one constituency (i.e., the state), so the number of senators for each party divided by two is the number of constituencies represented. In future work, presidents may enter *ENoC* by weighted-averaging (2) with another term representing the number of presidential constituencies (to be determined) and a weight given by the policy efficacy of the president.

should similarly rise then decline.

INSERT TABLE 1 ABOUT HERE.

INSERT TABLE 2 ABOUT HERE.

Table 1 summarizes the estimation results. In all equations, the coefficients on changes and levels of *ENoC* are positive, as hypothesized, and the level/equilibrium relationship is significant at minimally the $p < 0.06$ level. The change/momentum and level/equilibrium effects both obtain high significance in the final-consumption-as-a-share-of-GDP equation. Table 2 presents Wald joint hypothesis tests of the significance of both variables in each equation and across pairs of and across all equations. These joint significances are somewhat less impressive, but the effects are still nearly significant in each equation; they are strongly significant in model 2, in models 1 and 2 as a pair, and in all models as a set. However, the pair of coefficients are not significant in models 3 and 4 as a pair. Thus, the effective number of constituencies clearly relates positively to US federal-government final-consumption-spending as a share of GDP (FC/GDP); some, but less robust, evidence of positive relationships with final consumption as a share of total expenditures and with non-transfers spending as a share of either GDP or total expenditures also emerge.

INSERT FIGURE 4 ABOUT HERE.

Let us analyze substantively the magnitude of the estimated relationship from model 2, which relates *ENoC* to FC/GDP . Figure 4 plots the estimated response of FC/GDP (federal-government final-consumption as a share of GDP) to the actual path of the US *effective number of constituencies* 1956 – 94. The simulation assumes FC/GDP was in long-run equilibrium at its 1955 level of 42.4% of GDP and that all other variables remain constant. The actual path of FC/GDP is plotted on the same graph against the right axis for comparison. Generally, the estimated response tracks the peaks and troughs of government consumption quite well, and the downward trend since about 1966 seems to have coincided with a rise in legislative party-unity over that time and the corresponding rise in the number of effective constituencies. However, the right and left scales differ consid-

erably, so the magnitude of the estimated effects are only about 25% those of the actual government-consumption path. That is, very crudely, changes in the effective number of constituencies, which were induced by inverse changes in the degree of party unity, over that period may account for about 1/4 of the developments since 1955 in federal-government final-consumption.

Conclusions

While we view the evidence above as far more suggestive than conclusive, our conceptualization of the effective number of constituencies seems, at the least, to have provided a means to test the *WSJ* model directly for the US case. The evidence from the postwar history of US fiscal policy seems to support the argument and suggests that as much as a quarter of the rising-then-falling path of US federal government final-consumption might be attributable to a parallel path in the effective number of constituencies, which, in turn, stemmed from a mirror-image decline then rise in legislative party unity. However, the argument and evidence above also suggest that the effective-constituencies concept in general and, more narrowly, the argument relating it to distributive politics and pork-barrel spending might be usefully extended in several theoretically interesting and important ways.

First, we conceptualized the effective constituency to which policymakers respond as a simple continuum from geographic representation of electoral districts at most disaggregated to partisan representation of the sets of interests supporting political parties at most aggregated. One may alternatively conceive the endeavor as our attempt to describe the dimensions of the possible bases of democratic representation. From that broader view, we have spanned partisan and geographic bases but may have omitted others such as functional, identity, interest, or social-cleavage representation. We suspect our partisan endpoint covers many of these; i.e., we view partisan representatives as serving the set of interests that support their party, which may subsume interest and social groups. The sufficiency of a uni-

dimensional continuum, though, is an empirical matter. Representatives may, e.g., represent certain industrial interests in a way that cross-sects rather than reflects their partisan affiliations. For example, much comparative-politics research has suggested that corporatist bases of representation pervade many developed democracies (e.g., Berger 1984; Lijphart 1974, 1975, 1977, 1984; see Gallagher et al. 1995: ch. 14 and Lane and Ersson 1994: ch. 7 for textbook review).

Our convex-combination approach remains useful in testing such propositions, e.g., that industrial sectors act as bases of representation distinct from partisanship and geography. In that case, we would advise first estimating the effective number of industries (i) in the political economy using some standard approach: e.g., $i = (\sum_j z_j^2)^{-1}$ where z_j is the j^{th} industry's share of employment or output. Then, the *effective number of constituencies*, c , would be given, as before, by some convex combination of the numbers of parties, p , of electoral districts, d , and, now, also of industrial sectors, i . Again, a linear weighted-average would be simplest, but party unity, u , no longer suffices to give the weight. Substantively, one possibility would be to adopt some measure from the literature of the degree of corporatist representation, cr , in a society; our concept of the *effective constituency*, c , then extends naturally: $c = cr \cdot i + (1 - cr) \cdot [u \cdot p + (1 - u) \cdot d]$. Another possibility would be to estimate a country-by-country constrained nonlinear least-squares regression of some distributive-activity measure on effective numbers of constituencies entered thus: $Y = \dots + \beta \cdot [a \cdot i + b \cdot p + (1 - a - b) \cdot d] + \dots$. Then, β is the estimated impact of the *effective number of constituencies* on Y and a , b , and $1 - a - b$ are the estimated degrees of corporatist, partisan, and geographic representation, respectively, in that country.²³ Also, $\frac{b}{(1-a)}$ is the estimated degree of party unity in the country assuming the causal role attributed to party unity here is correct. This approach effectively assumes the degrees to which representation operates in

²³Just as one could replace the one linear weight in the two-bases-of-representation case with logit or probit functions to confine those weights to the unit interval, one could replace the pair of weights in this three-bases case with the corresponding multinomial logit or probit function to confine those weights to the unit simplex.

various forms and of party unity (i.e., a , b , and $1 - a - b$) are some country-specific constants to be estimated. Alternatively, one could model a and b theoretically as suggested in Section 3. Such a project remains for future research, but the discussion hopefully amply illustrates the potential for usefully extending the effective constituency concept.

The argument and evidence presented here suggest still further considerations related to the effective number of constituencies in general and/or to the political economy of distributive politics and pork-barrel spending in particular. In section three, we acknowledged that lesser partisan polarization and greater district-level electoral-competitiveness were likely to increase the relative prominence of distributive politics and spending. We would now add that aggregate-level electoral competitiveness, characteristics of the electoral system, and the number and relative importance of various levels of government (national, regional, local, etc.) may play a role as well.

Holding constant the number of parties and of electoral districts, and the degrees of party unity, polarization, and district-level electoral-competitiveness; electoral competitiveness at the national level likely increases distributive spending as well. Consider, again, two hypothetical UKs, alike in all the above respects; assume specifically that each electoral district is expected to produce a 55 – 45 split in the next election. In one UK, though, all the 55 – 45 splits favor Labour, and, in the other UK, half favor Labour and half favor Tories. The marginal value to the incumbent of district projects is much greater in the second UK, and so we should expect greater distributive politics and spending there. The logic is a simple extension of Tufte (1978) and follows directly from Schultz’s (1995) demonstration of a similar effect in actual UK data, namely that pre-electoral manipulation of transfer payments occurs only to the degree the coming election is expected to be close. Empirical exploration of this hypothesis, relating it specifically to distributive politics and spending, awaits future research.

Furthermore, Carey and Shugart (1995) summarize the incentives deriving from the electoral system for representatives to cultivate a personal vote, which here would imply greater

emphasis on district-oriented distributive politics, by four aspects of the system: (i) party-leader control over the ballot, (ii) vote pooling, (iii) type and number of multiple votes, and (iv) district magnitude.²⁴ Once again, one can model u in our *effective constituency* concept to reflect these arguments directly (see Section 3), and one might do so to extend this project comparatively.

The number and relative importance of various levels of government clearly enter as well. In a federal system, e.g., two considerations suggest that the decentralization of fiscal decision-making to provincial government might mitigate the tendency toward over-emphasis of district-level projects hypothesized by *WSJ*. First, especially if federalism comes with a transferal of some revenue-generation authority to the sub-national governments, decentralized decision-making may reduce the effective fiscal authorities' ability to externalize the costs of their locally desired spending to larger, aggregate decision-making units. At the regional level, the degree to which benefits can concentrated relative to costs diminishes simply because regions are smaller, both geographically and in terms of the diversity of interests they encompass. Second, such decentralized fiscal-decision-making may lead to a "race to the bottom" as localities compete for investment by lowering taxes (Peterson 1990). *I.e.*, whatever the impact of decentralized fiscal-decision-making on the *WSJ* problem, it also introduces a prisoners'-dilemma dynamic among the regions which operates in the other direction, toward reducing distributive over-spending.²⁵ However, federalism might also raise the prominence of local relative to national concerns among the electorate and, thereby, among policymakers. If so, the impact of federalism on distributive politics and spending could easily be positive. Even in unitary systems, one can distinguish between stronger unitary-states in which few political decisions occur at the local level and weaker ones in which much political activity is local, including in the weakest cases considerable revenue-generation. One might well expect the relative weight of distributive politics and, thereby, distributive spending to

²⁴On the last, see also (Long 2003) and the discussion in Section 3.

²⁵Sharpe (1988) argues to the contrary, though, that spending increases with decentralization because, he contends, resistance to tax increases is lower at the sub-national than the national level.

rise the weaker the central state in this respect. These considerations, and the question of how they interact, remain open issues.

In conclusion, one advantage of our effective-constituency concept lies in expanding the theoretical and empirical scope of the *WSJ* logic of $\frac{1}{n}$ in distributive politics and spending, as shown in the first part of our paper. Beyond that, however, we believe the theoretical and empirical potential of the *effective constituency* concept extends well beyond this preliminary exposition and evidence to set an interesting, and what we hope is a fruitful, agenda for future research into how the competitiveness and the institutions and structure of electoral competition affect the *capacity* of democratic policymakers to *budgeteer*, the *magnitude* of their incentives to do so, and the *nature*, redistributive vs. distributive, of those incentives.

References

- Achen, C.H. 1978. "Measuring Representation," *American Journal of Political Science*, 22(3): 475-510.
- Alesina, A. and D. Rodrik. 1994. "Distributive Politics and Economic Growth," *Quarterly Journal of Economics*, 109(2): 465-90.
- Alesina, Alberto, Nouriel Roubini, with Gerald D. Cohen. 1997. *Political Cycles and the Macroeconomy*. Cambridge: The MIT Press.
- Alvarez, R.M., and J.L. Saving. 1997. "Congressional Committees and the Political Economy of Federal Outlays," *Public Choice*, 92: 5573.
- Axelrod, R. 1984. *The Evolution of Cooperation*. New York: Basic Books.
- Bailey, M. and D.W. Brady. 1998. "Heterogeneity and Representation: The Senate and Free Trade," *American Journal of Political Science*, 42 (2, April), pp. 524-44.
- Banfield, E.C. 1958. *The Moral Basis of a Backward Society*. Chicago: Free Press.
- Baron, D.P. 1991. "Majoritarian Incentives, Pork Barrel Programs, and Procedural Control," *American Journal of Political Science*, 35(1): 57-90.
- Bickers, K.N., and R.M. Stein. 1996. "The Electoral Dynamics of the Federal Pork Barrel," *American Journal of Political Science*, 40(4): 1300-1326.
- Bogdanor, V. 1985. *Representatives of the People?: Parliamentarians and Constituents in Western Democracies*. Brookfield, VT: Gower.
- Bradbury, J.C., and M. Crain. 2001. "Legislative Organization and Government Spending: Cross-Country Evidence," *Journal of Public Economics*, 82(3): 309-325.
- Burke, E. 1896 [1774]. "To the Electors of Bristol." In *Selections from Edmund Burke*, B. Perry, ed. New York: Henry Holt and Company: 26-35.

- Cameron, D. 1978. "The Expansion of the Public Economy: A Comparative Analysis," *American Political Science Review*, 72: 1243-61.
- Carey, J.M., and M.S. Shugart. 1995. "Incentives to Cultivate a Personal Vote: A Rank Ordering of Electoral Formulas," *Electoral Studies*, 14(4): 417-39.
- Carrubba, C.J., and C. Volden. 2000. "Coalitional Politics and Logrolling in Legislative Institutions," *American Journal of Political Science*, 44(2): 261-277.
- Castles, F. (ed.) 1982. *The Impact of Parties*. London: Sage.
- Cox, G. and M.D. McCubbins. 1993. *Legislative Leviathan: Party Government in the House*. Berkeley: University of California Press.
- Franzese, R.J. 1999. "Partially Independent Central Banks, Politically Responsive Governments, and Inflation," *American Journal of Political Science*, 43(3): 681-706.
- Franzese, R.J. 2002. *Macroeconomic Policies of Developed Democracies*. Cambridge: Cambridge University Press.
- Franzese, R.J. 2003. "Multiple Hands on the Wheel: Empirically Modeling Partial Delegation and Shared Monetary-Policy Control in the Open and Institutionalized Economy," *Political Analysis*, 11(4): 445-74.
- Gilligan, T.W. and J. Matsusaka. 2001. "Fiscal Policy, Legislature Size, and Political Parties: Evidence from State and Local Governments in the First Half of the 20th Century," *National Tax Journal*, 35: 57-82.
- Hibbs, D. 1977. "Political Parties and Macroeconomic Policy," *American Political Science Review*, 71: 1467-87.
- Jackson, J.E., and D. King. 1989. "Public Goods, Private Interests, and Representation," *American Political Science Review*, 83(4): 1143-64.

- Korpi, W. 1980. "Social Policy and Distributional Conflict in the Capitalist Democracies," *West European Politics*, 3.
- Krehbiel, K. 1993. "Where's the Party?" *British Journal of Political Science*, 23(2): 235-66.
- Lane, J-E., D. McKay, and K. Newton. 1991. *Political Data Handbook: OECD Countries*. New York: Oxford UP.
- Lee, F. 1998. "Representation and Public Policy: The Consequences of Senate Apportionment for the Geographic Distribution of Federal Funds," *Journal of Politics*, 60(1): 34-62.
- Lee, F. 2000. "Equal Votes for Unequal Demands: Senate Representation and Coalition Building in Distributive Politics," *American Political Science Review*, 94(1): 59-72.
- Levitt, S.D., and J.M. Snyder. 1995. "Political Parties and the Distribution of Federal Outlays," *American Journal of Political Science*, 39: 958-980.
- Luebbert, G. *Comparative Democracy: Policy Making and Governing Coalitions in Europe and Israel*. New York: Columbia UP.
- Mackie, T. and R. Rose. 1991. *The International Almanac of Electoral History*. DC: Congressional Quarterly.
- McCarty, N. 2000. "Presidential Pork: Executive Veto Power and Distributive Politics," *American Political Science Review*, 94(1): 117-129.
- Miller, W.E., and D. Stokes. 1963. "Constituency Influence in Congress," *American Political Science Review*, 57(1):45-56.
- Peterson, P. E. 1990. *Welfare Magnets: A New Case for a National Standard*. Washington, D.C.: Brookings Institution.
- Pitkin, H.F. 1969. "The Concept of Representation." In *Representation*, H. Pitkin, ed. New York: Atherton Press: 1-23.

- Riker, W. 1962. *The Theory of Political Coalitions*. New Haven: Yale University Press
- Rivers, D. and K. Krehbiel. 1990. "Sophisticated Voting in the House: A Reconsideration," *The Journal of Politics*, 52(2): 548-578.
- Rose, R. 1986. *Politics in England: Persistence and Change*. Boston: Little, Brown, and Company.
- Schmidt, S.W., J.C. Scott, C. Lande, and L. Guasti, eds. 1977. *Friends, Followers, and Factions: A Reader in Political Clientelism*. Berkeley: University of California Press.
- Schultz, K. 1995. "The Politics of the Political Business Cycle," *British Journal of Political Science*, 25(1):79-100.
- Sharpe, L.J. 1988. "The Growth and Decentralization of the Modern Democratic State," *European Journal of Political Research*, 16:365-80.
- Southwick, Jr., L. 1997. "Local Government Spending and At-Large Versus District Representation: Do Wards Result in More 'Pork'?" *Economics and Politics*, 9 (2):173-203.
- Spotts, F. and T. Weiser. 1986. *Italy: A Difficult Democracy*. Cambridge: Cambridge UP.
- Stein, R.M. and K.N. Bickers. 1995. *Perpetuating the Pork Barrel: Policy Subsystems and American Democracy*. Cambridge University Press.
- Strom, K. 1990. *Minority Government and Majority Rule*. Cambridge: Cambridge UP.
- Tufte, E. 1978. *Political Control of the Economy*. Princeton: Princeton UP.
- Weingast, B.R., K.A. Shepsle, and C. Johnsen. 1981. "The Political Economy of Benefits and Costs: A Neoclassical Approach to Distributive Politics," *Journal of Political Economy*, 89(41):642-64.
- Weissberg, R. 1978. "Collective versus Dyadic Representation in Congress," *American Political Science Review*, 72(2):536-47.

Zuckerman, A.S. 1989. "Bases of Political Cohesion: Applying and Reconstructing Crumbling Theories," *Comparative Politics*, 21(2):473-95.

Figure 1: Benefits required to pass distributive projects by universalism or minimum winning coalition decline with the number of constituencies.

Figure 2: Bivariate Relationships between the Size of Government and the Number of Electoral Districts

Figure 3: The Effective Number of Constituencies in the United States from 1949-1994.

Figure 4: Estimated Response of FC-GDP to the Actual Path of ENoC in the from 1956-94.

Table 1: Government Spending in the US 1956–94

Dep. Var. → Ind. Var. ↓	Model 1 $\Delta(\text{FC}/\text{TS})$	Model 2 $\Delta(\text{FC}/\text{GDP})$	Model 3 $\Delta(\text{NT}/\text{TS})$	Model 4 $\Delta(\text{NT}/\text{GDP})$
Constant	-0.322 (.129) ^{.014}	+ 0.472 (.188) ^{.014}	+1.484 (.810) ^{.070}	+1.925 (.434) ^{.000}
$\Delta \text{DepVar}_{t-1}$	+ 0.039 (.115) ^{.733}	+ 0.248 (.090) ^{.007}	+ 0.196 (.076) ^{.012}	+ 0.157 (.061) ^{.011}
DepVar_{t-1}	- 0.207 (.076) ^{.733}	- 0.382 (.091) ^{.0001}	- 0.133 (.080) ^{.001}	- 0.371 (.076) ^{.000}
$\Delta \text{GDPpc Growth}$	- 0.089 (.183) ^{.631}	-0.758 (.200) ^{.0003}	- 1.962 (.667) ^{.004}	-1.091 (.317) ^{.0009}
$\text{GDPpc Growth}_{t-1}$	- 0.067 (.215) ^{.756}	- 0.804 (.236) ^{.001}	- 1.800 (.789) ^{.025}	- 1.280 (.377) ^{.001}
GDPpc_{t-2}	+ 0.054 (.014) ^{.0005}	- 0.036 (.017) ^{.047}	- 0.160 (.082) ^{.053}	- 0.189 (.043) ^{.000}
$\Delta \text{CPI Inflation}$	$-8.53e^{-4}$ (.001) ^{.463}	- 0.003 (.001) ^{.023}	- 0.011 (.004) ^{.009}	- 0.006 (.002) ^{.003}
$\text{CPI Inflation}_{t-1}$	$-6.93e^{-4}$ (.001) ^{.545}	- 0.003 (.001) ^{.010}	- 0.004 (.004) ^{.323}	- 0.005 (.002) ^{.011}
$\Delta \text{Unemployment}$	$-1.84e^{-3}$ (.004) ^{.664}	- 0.009 (.004) ^{.046}	- 0.059 (.016) ^{.0003}	- 0.029 (.007) ^{.0001}
$\text{Unemployment}_{t-1}$	$-2.67e^{-3}$ (.002) ^{.158}	$-1.23e^{-4}$ (.002) ^{.955}	+ 0.004 (.008) ^{.639}	- 0.006 (.004) ^{.142}
$\Delta \text{Partisan CoG}$	$+1.10e^{-3}$ (.005) ^{.823}	+ 0.009 (.006) ^{.105}	+ 0.022 (.019) ^{.268}	+ 0.011 (.009) ^{.220}
$\text{Partisan CoG}_{t-1}$	$-4.73e^{-3}$ (.004) ^{.214}	- 0.004 (.004) ^{.400}	- 0.004 (.012) ^{.736}	- 0.007 (.006) ^{.263}
$\Delta \text{Pre-Election-Year Indicator}$	+ 0.014 (.009) ^{.124}	- 0.008 (.010) ^{.402}	- 0.042 (.034) ^{.220}	- 0.018 (.016) ^{.272}
$\text{Pre-Election-Year Indicator}_{t-1}$	+ 0.025 (.015) ^{.103}	- 0.006 (.016) ^{.719}	- 0.051 (.054) ^{.348}	- 0.025 (.026) ^{.339}
$\Delta \text{Effective Number of Constituencies}$	$+6.55e^{-5}$ (.0001) ^{.544}	$+2.80e^{-4}$ (.0001) ^{.020}	$+4.86e^{-4}$ (.0004) ^{.224}	$+1.85e^{-4}$ (.0002) ^{.330}
$\text{Effective Number of Constituencies}_{t-1}$	$+1.91e^{-4}$ (.0001) ^{.068}	$+3.54e^{-4}$ (.0001) ^{.003}	$+7.73e^{-4}$ (.0004) ^{.048}	$+3.21e^{-4}$ (.0002) ^{.069}
Adj. R^2 (Std. Err.)	.0527 (0.0103)	.3299 (.0115)	.3789 (.0383)	.2736 (.0183)
Durbin-Watson	2.2586	1.3577	1.722	1.4041

Notes: Equations estimated by seemingly unrelated regressions (SURE) in E-Views©QMS v2.0. Each has 39 observations and 16 independent variables. Coefficients in **bold**, and standard errors in (parentheses) with p-levels from 2-sided t-tests ^{superscripted}

Table 2: Joint Hypothesis Tests of the Significance of ENoC

Null Hypothesis	Equation						
	1	2	3	4	1 and 2	3 and 4	All
$\beta_{14} = \beta_{15} = 0$	$p \approx .1818$	$p \approx .0037$	$p \approx .1155$	$p \approx .1726$	$p \approx .0031$	$p \approx .3534$	$p \approx .0003$