Pork Barrel Politics in Presidential Elections*

by

Walter R. Mebane, Jr.†

and

Gregory J. Wawro‡

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† Associate Professor, Department of Government, Cornell University.

‡ Assistant Professor, Department of Government, Columbia University.

Abstract

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Based on analysis of data measuring the geographic distribution of federal spending and county-level economic conditions during 1985–88, we argue that Presidents target federal benefits to local areas to promote their reelection chances. Targeting for elites appears to be induced by patronage delegation implemented using elite appointments. Intergovernmental transfers are institutionally more complex than other kinds of expenditure, and so are targeted for elites and not voters.

> "Forget the polls," I said. "You can't beat an incumbent president. Remember, he's got a hundred billion dollars at his disposal to distribute to local governments, and he can send that money anywhere he wants. Everybody from Alabama to Alaska files for projects, and the administration decides which ones to approve. In an election year, they go where the votes are."
> —Tip O'Neill (O'Neill and Novak 1987:326)

How might a President manipulate the geographic distribution of federal government spending to help win election? Consider the following scenario. Shortly after he is first elected, the President rewards people who worked especially effectively in that effort, by appointing them to public offices. The appointees do their jobs but also use their positions to return some rewards in terms of federal spending to the interests and constituencies they represent. By midterm most of these appointees have left office (Heclo 1977, 103–104). After the midterm election, the President redirects some kinds of government spending to build support among voters for his reelection bid.

That Presidents use appointments to deliver political patronage is a well established fact (Tolchin and Tolchin 1971; Heclo 1977, 92–99; Macy, Adams and Walter 1983; Pfiffner 1988, 68–89). Patronage that affects federal spending most benefits the President electorally if it goes to those geographic areas where the marginal gain from each unit of spending is the largest (Wright 1974). We argue that such a pattern occurs in local federal expenditures (LFEs) during the Reagan administration's second term, subject to two essential complications that concern the timing of patronage-induced distortions in spending and the extent to which patronage is bound up with the institutions of American federalism.

The institutional complexity of many kinds of LFEs ought to make it difficult for anyone who is not immediately involved in the disbursement process to trace responsibility for the spending results back to the President. Among those not closely involved are most voters. The insulation makes it easy to please both local elites and voters.

A rich literature has focused on "pork barrel politics" and the U.S. Congress, but scholars have given less attention to the topic as it pertains to the presidency. Some have argued that "bringing home the bacon" is central to reelection bids of members of Congress (Mayhew 1974; Arnold 1979; Fiorina 1989), but it is not known whether an incumbent President faces similar demands. We argue that vote-seeking Presidents are concerned with delivering federal benefits to local constituencies, in the form of local federal expenditures (LFEs).

From the perspective of reelection, a President will care about the geographic distribution of federal expenditures if the distributional outcomes are going to affect his reelection chances. Either individual voters or elites who can influence the election (by organizing or by other campaign activity) may hold the President responsible for distributional outcomes. Direct responses by voters may require outcomes to be *traceable* to presidential decisions (compare Arnold 1990, 47). Traceability would mean that the outcomes involve LFEs that each voter can both observe and attribute to presidential actions. Elite responses may also require such causal and retrospective analysis, but the connection to elites probably involves quite different kinds of engagement focused on anticipated spending patterns. Presidential *patronage* may lead many elites to expect that they will enjoy special advantages in competing for LFEs when spending decisions are made.

In either case, if either voters or elites will trace LFEs to the President, then the President ought to anticipate this and try to target expenditures to secure the best possible electoral advantage. We argue that these targeted deliveries of LFEs are pegged to the electoral support—i.e., the share of the votes—the President receives or expects to receive in each local area. Before the election, targeting ought to be based on the support expected from each area. After the election, targeting ought to depend on the amount of support actually received. In our analysis we estimate *targeting functions* to test for these relationships. We use those estimates to try to determine whether elites or ordinary voters are the primary targets of presidential targeting efforts.

Strategic Interactions with Local Elites: Delegating Patronage

The President's efforts to target LFEs ought to depend on the effects he expects spending in different geographic areas will have on his election prospects. The biggest effects, and therefore the most vigorous targeting efforts, may or may not reflect direct responses to LFEs by voters. If it is difficult for voters to trace responsibility for particular expenditures back to the President, it may not pay the President to target based on their anticipated direct reactions. Plainly it is not easy for ordinary voters to sort out exactly what the President has and has not done. Usually a multitude of public officials and private groups claim credit for each governmental action or inaction. The scope of federal spending is so vast that even the most dedicated voter would not be able to comprehend it in detail in its entirety (cf. Bureau of the Census 1984–90). The fact that a large amount of federal spending reaches voters indirectly further complicates the tracing task. A lot of spending is passed through State governments, for example, often with each State supplementing the federal amount. Sometimes the level of federal spending is pegged to the amount of State spending, as in the case of matching requirements in grants for transportation construction. A voter who tried to measure the President's unique contribution across the full range of LFEs would face an impossible task.

It may be more effective for the President to target spending to appeal to the elites who have interests in each local area, and who control resources that can help or harm the President's reelection chances. It is such *local elites* who file for projects ("from Alabama to Alaska," as Tip O'Neill said). Such local elites are more capable than ordinary voters of knowing both where money is being spent and where money is not being spent when it might have been (Haider 1974). Such local elites can trace responsibility for particular spending decisions back to the President.

Especially because of credibility problems, actions to target spending may be undertaken either early or late in the President's term. If the plan is to reach voters and voters are prospective, then the President's main problem is to convince voters that after the election he will deliver the amounts of LFEs they prefer. Mere promising is likely not to be sufficient, for the challenger can make promises as well (Downs 1957; Fiorina 1981). The only thing the President can do that the challenger cannot do is to target some LFEs before the election, and to do so in a highly visible way.[1] An appeal to retrospective voters will almost certainly require targeting actions late in the term, but may require efforts earlier on as well.

If the plan is to appeal to local elites, then the President has not only to answer concerns elites may have about his credibility, but also to find a way to ensure that the local elites in fact do work on his behalf. At least in the aggregate, the President can verify directly how strongly voters in a locality have supported him, simply by counting the votes cast in his favor. But the effort local elites exert on his behalf is only imperfectly observable. This situation in which local elites must fear presidential shirking after the election while the President has to worry about elites slacking off during the campaign is more complicated than the situation studied formally by Baron (1989). But Baron's analysis nonetheless suggests that some LFE targeting will occur before the election, to signal local elites regarding the President's commitment and skill, even if the bulk of the targeting—the actual delivery of the payoffs the President promised—takes place afterward. [see also Levitt 1995, Levitt and Snyder 1997]

An effective way for the President to deliver targeted post-election benefits is to appoint specially chosen local elites to positions in which they will have some discretion over how LFEs are geographically distributed. We call this *patronage delegation*. The President delegates to appointees the job of learning which LFEs will most benefit the President. The President can expect an appointee to be both especially knowledgeable about the local areas with which he or she is most strongly connected, and especially interested in directing LFE benefits to those areas. Good appointments may allow the President to exploit such knowledge and interest in delivering LFE rewards to those who supported him because they expected to receive *direct patronage*: access to the White House and privileged positions in the competition for government contracts and grants (Tolchin and Tolchin 1971).

How can the President make such good appointments? After the election, the White House is inundated with requests for appointments from those who worked during the campaign (Macy, Adams and Walter 1983, 48–49). Each candidate needs a rule for making appointments that encourages local elites to exert their maximum possible efforts in the most useful way during the campaign. The effort each local elite exerted during the campaign may be imperfectly observable, but the maximum effort the elite was *capable* of exerting is not observable by the candidate at all. So each candidate needs to choose a rule, based on observable information, that leads each local elite to act on the private information each has about his or her own capacity, in the way that most helps the candidate's election chances.

Each candidate would like local elites to work where they think their effort will convert a probable loss

[1] Systematic analysis regarding such actions is lacking. Anecdotal evidence abounds. For examples from the 1992 presidential election see James Gerstenzang, "Santa Claus is an incumbent, states find as Bush dips into his federal goody bag," *Los Angeles Times* (March 11, 1992): 13A; Jack Anderson and Michael Binstein, "Chowing down in 'Porkland,'" *Washington Post* Aug. 24, 1992:12C; Brian Kelly, "Pigging out at the White House," *Washington Post* Sept. 6, 1992:1C.

into a probable win. To encourage this, those who convert a pre-election expectation of $p_b < .5$ into a election-day result of $p_e > .5$ ought to have the highest probability of getting an appointment. To observe increases in support, each candidate must be able to measure the level of support he has in each local area before the campaign period begins. It is reasonable to assume that focused opinion polling and other sources give the major candidates fairly accurate information about such levels.

A downside of such a *converted-loss* approach is that the President cannot be confident that the local elites he appoints will share his policy goals. Voting in presidential elections is strongly partisan. Elites who would be most effective in mobilizing votes in a candidate's geographic areas of strongest support are likely to endorse at least the broad, partisan outlines of the candidate's policy preferences. But local areas that can be converted from $p_b < .5$ to $p_e > .5$ are likely to be areas in which many voters do not identify with either party and are weakly committed to the core policy stands of any candidate. The elites who can best swing voters in such areas to support a particular candidate may not be the elites most strongly aligned with that candidate's policy commitments.

Appropriate procedures for screening and for defining the authority appointees will have can substantially reduce this defect in the converted-loss approach.[2] Calvert, McCubbins and Weingast (1989) show that under a wide variety of conditions an appointee's decisions will be constrained to lie in a region bounded by the President's and the Congress's goals. So local elites ought not exert campaign effort for a candidate whose policy goals—including especially preferences for spending—are very different from their own, if they expect that candidate to use effective screening and review procedures. Seriously discrepant local elites ought to anticipate that they will not receive appointments, or that the President's central organization (e.g., the Office of Management and Budget [OMB]) will veto their efforts to implement their preferred spending patterns. A converted-loss approach coupled with screening and review can therefore give the President appointees who worked as effectively as they could to support his election, and who support his preferences for the distribution of LFEs as closely as possible given the preferences and powers of the Congress.

But if each elite-appointee has information superior to the President's (and the Congress's) about the capacity or tastes for LFEs in at least one local area, then there will be an element of uncertainty that increases each appointee's discretion in making spending decisions (Calvert, McCubbins and Weingast 1989, 597). Local elites who secure appointments can use this discretion to extract the rewards that presumably motivated them to work for the winning candidate in the first place—e.g., extra LFEs being directed to the local areas the elites are associated with. Being a patron-delegate may be a good way to ensure that one receives one's share of direct patronage. If an appointed local elite has only a small informational advantage over the President's central monitor (such as OMB, Pfiffner 1979), then the amount targeted through such discretion will be small relative to the total amount of expenditure over which the elite has authority (compare Chubb 1985).

Targeting and Institutional Complexity

LFEs can help attract active support from many local elites. They may also help win votes directly, if voters like the patterns of expenditure they see. If LFEs can have such effects, the President ought to try to distribute them among local areas so as to produce the biggest possible election advantage. We assume the President is already committed to an overall election plan that includes such decisions as which States to go after in the Electoral College (Brams 1978, 98–107). Our concern is the targeting strategy the President may be expected to use in the context of such a plan.

The President will face a dilemma if the strategy that best appeals to voters is incompatible with the one best suited to local elites. We may expect this to be true if appointment-seeking local elites care about the absolute levels of their post-election LFE rewards, while retrospective voters who want to know "what have you done for me lately" care about recent changes in LFEs. Maximizing post-election levels for local elites may make it impossible to produce the pre-election changes that voters would like. The need to choose between local elites and voters may be obviated, however, if elites and voters do not care about the same kinds of LFEs. LFEs that elite-appointees can control relatively easily but that are virtually invisible or unfathomable to voters ought to be prime territory for elite-oriented maneuvers. On the other hand, features

[2] Pfiffner (1988, 68–89) reviews the appointments procedures used in recent administrations and notes the especially rigorous screening procedures used by the Reagan and Bush administations.

of LFEs that make them easy for voters to trace to the President may render them of little interest to local elites.

The *institutional complexity* of LFEs is likely to affect both their susceptibility to local elite control and the difficulty voters face in tracing them. Most complex are LFEs that pass through State or local governments before being disbursed into private hands, and over which the lower-level governments exercise some autonomous authority. Such LFEs offer local elites the most chances to determine who receives money, not only because institutional complexity creates many decision points at which they may intervene, but also because the allocations to private recipients in each local area are decided afresh in each instance. Elite-appointees are often closely connected to State and local governments and parties (e.g. Mackenzie 1981, 64). Intergovernmental LFEs often closely match local needs (Peterson, Rabe and Wong 1986, 81–94). We would expect that appointees often coordinate with officials at several levels of government to deliver special intergovernmental LFEs to their "home" areas (compare Haider 1974). Anyone not familiar with the negotiations that produce such expenditures—such as ordinary voters—may have a hard time deciding whom to credit for the results.

LFEs that go directly from the Federal government into individuals' hands are the least complex, and they are the easiest for individual voters to trace. The cleanest examples of such LFEs are transfer payments to individuals for entitlements or other social welfare expenditures. Transfer payments are not perfect conduits for tracing to Federal-level responsibility, because States and localities help fund some kinds of payments and have authority over some payment levels (Peterson and Rom 1990). But to a great extent transfer payments depend on entitlement rules and mandates set at the Federal level. Some administrations have gone to great lengths to make sure recipients of these kinds of spending credit the President for their good fortune (Tufte 1978, 30–32). Transfer payments are sufficiently complex that local elite appointees may be able to reallocate them geographically to some extent, but they will not be able to assign money to the recipients of their choice in each local area, as they would need to do to support elite-oriented direct targeting.

Other types of LFEs are less complex than intergovernmental LFEs in that money is not passed through lower-level governments, but they are more complex than transfer payments in the sense that local elites have more flexibility to designate recipients. Examples include military and civilian employment, military and civilian procurements, and other direct Federal payments. Assuming they can find out that spending in such categories has occurred, voters ought not to have much trouble assigning responsibility for such LFEs to the Federal level. These kinds of LFEs are therefore the ones most likely to present the President with conflicts between elite-oriented and voter-oriented strategies.

The targeting strategy to be expected for local elites is the one induced by the converted-loss appointments strategy. If the President is rewarding local elites through such a strategy, then after the election LFE levels ought to be highest in those areas where the President received more than half the votes, but less than an overwhelming proportion. Recall that a converted-loss strategy would make elites from such areas the most likely to receive new appointments and therefore put them in position to direct LFEs—new government jobs, procurements, intergovernmental grants—back to those areas. Locally oriented elites who expect to be rewarded for their campaign efforts will in general prefer higher levels of spending for their localities.

One might well say that, strictly speaking, the President does not have a targeting strategy for local elites. Rather we expect the actions of elite-appointees to induce a pattern in which there is more spending in areas where the President received somewhere in the range of 50–70% of the votes than there is in other areas. Patronage delegation ought to produce such *elite-induced* targeting.

The types of LFEs the President uses when targeting voters may differ from the types affected by elite-induced targeting, but at least in terms of the relation between LFEs and post-election support, similar types of geographic areas ought to be targeted in both cases. The scope and sizes of the changes the President can produce in LFEs to go after voters are not unlimited. The President will want to deploy the changes he can make to produce the largest possible increase in his reelection prospects. This implies that such changes will be concentrated in the areas where the President expects they are most likely to convert a loss to a win. Relative to the *pre*-election information the President uses to make the changes, we ought to observe the largest changes where his prospects look bad but not hopeless—say areas where his pre-election support appears to be somewhere in the range of 30–50%.

An Econometric Model for Targeting and Voting

Two assumptions motivate our model for presidential targeting of LFEs. The first is that the President's targeting decisions are based on forecasts of the support he (or his party's successor candidate) will receive in each area in the next election. The second is that those forecasts are strongly informed by the support the President received from each area in the most recent election. Even if the President is not running for reelection, he and his administration ought to support a targeting plan to try to maintain party control of the White House.

Suppose each individual voter i in local area s in year t decides whether to vote for the incumbent based on a continuous index y^*_{ist}, according to the rule $y_{ist} = 1$ if $y^*_{ist} > 0$, $y_{ist} = 0$ if $y^*_{ist} \leq 0$, where $y_{ist} = 1$ indicates a vote for the incumbent and $y_{ist} = 0$ indicates a vote against the incumbent. Specifically,

$$y^*_{ist} = \alpha_0 + \mathbf{w}_{ist}\boldsymbol{\alpha} + \mathbf{x}_{st}(\boldsymbol{\beta} + \boldsymbol{\gamma}_i) + e_{ist} \tag{1}$$

where $\mathbf{w}_{ist}$ is a row vector of variables, $\mathbf{x}_{st}$ is a row vector of variables measuring the LFEs supplied to the local area, α_0 is a scalar and $\boldsymbol{\alpha}$ and $\boldsymbol{\beta}$ are column vectors of constant coefficients, $\boldsymbol{\gamma}_i$ is a vector of coefficients constant for each individual, and e_{ist} is a stochastic disturbance identically and independently across individuals, local areas and time.

The President cares about the aggregate distribution of the vote in each area. Given the Electoral College, the President's direct interest is in winning half or more of the electoral votes. Because a direct model of the President's choice among all the possible electoral vote majority patterns would be unwieldy, we simplify by assuming that the President is interested in the aggregate vote in each local area. Specifically, we assume that the President cares about the mean value of y^*_{ist} in area s at the time $t_N \geq t$ of the upcoming election, i.e., about $y^*_{st_N} = N^{-1}_{st_N} \sum_{i \in V_{st_N}} y^*_{ist_N}$, where V_{st_N} denotes the set and N_{st_N} denotes the number of voters in area s at t_N.

The President targets LFEs to each area to increase his expected support there, according to some strategy. The strategy is a function of the information $\tilde{y}^*_{st}$ that the President has at time t about $y^*_{st_N}$, and is tailored to each type of expenditure. We use $\mathcal{S}_k$ to denote the targeting function the President uses for the kth type of LFE. For each value of $\tilde{y}^*_{st}$, this function indicates how much of the kth type of LFE ought to be supplied to area s. The set of possible strategies for each kind of LFE includes the null possibility that the President does no targeting related to $y^*_{st_N}$ at all. In this case $\mathcal{S}_k(y^*_{st_N})$ is a constant.

We allow the targeting function to differ between the first two years and the last two years of the President's term. Our specification for the amount x_{kst} of the kth type of LFE going to area s in year t is

$$x_{kst} = \exp[\delta_{k0} + (1 - h_t)\mathcal{S}_{Ek}(\tilde{y}^*_{st}) + h_t\mathcal{S}_{Lk}(\tilde{y}^*_{st}) + \mathbf{z}_{st}\boldsymbol{\delta}_k + \lambda_{ks} + \mu_{kt}] + u_{kst} \tag{2}$$

where $h_t = 0$ during the first two years and $h_t = 1$ during the second two years, $\mathcal{S}_{Ek}$ and $\mathcal{S}_{Lk}$ denote targeting functions for early and late in the term, $\mathbf{z}_{st}$ is a fixed vector of observed exogenous variables, δ_{k0} is a scalar and $\boldsymbol{\delta}_k$ is a vector of constant coefficients, and λ_{ks} and μ_{kt} are respectively area-specific and time-specific fixed effects. The area-specific effects would capture any adjustment in the level of the LFE done throughout whole States pursuant to a plan to build a majority in the Electoral College. The disturbance u_{kst} has expectation $Eu_{kst} = 0$ and variance $Eu^2_{kst} = (Ex_{kst})\sigma^2_k$. We use the exponential form in equation (2) because virtually all observed local aggregations of LFEs are nonnegative. An additive disturbance with the specified form of heteroscedasticity is frequently appropriate for models with loglinear expectations (McCullagh and Nelder 1989:193ff).[3] The disturbances u_{kst} and ϵ_{ist} are assumed to be uncorrelated for all k, i, s and t.

Targeting Model Specifications and Results

To estimate the relationships between LFE levels and support across geographic areas we estimate equation (2) separately for each of sixteen different kinds of LFEs, using annual, county-level data for years 1985–88.[4]

[3] The nonlinear appearance of $\tilde{y}^*_{st}$ in equation (2) and the heteroscedastic form of the disturbance distinguish our model from the "Model 3" specification discussed by Maddala (1983, 244–245).

[4] The counties in the analysis are 138 of the 139 counties included in the 1986 ANES sample (one county was omitted due to missing data).

The specification is designed to check whether LFE targeting behavior varies during the President's term.[5] We focus on the distinction between targeting early and targeting late in the term, using the midterm election as the dividing point.

To measure the President's information $\tilde{y}^*_{st}$ we use two different quantities. During the first two years of the term, we measure information by the proportion of the two-party vote cast for the incumbent in each county in the preceding presidential election, transformed using the inverse Normal CDF. I.e., during the first two years, $\tilde{y}^*_{st} = \Phi^{-1}(p_{st_P})$, where p_{st_P} denotes the preceding vote proportion in county s. During the second two years, we use ANES data to simulate the support the President might expect to receive at midterm from each county if individual voters were to use at that time the same voting decision rule they used in the preceding election. This approach gives post-midterm information values computed using $\tilde{y}^*_{st} = \Phi^{-1}(\hat{p}_{st_M})$, with

$$\hat{p}_{st_M} = n^{-1}_{st_M} \sum_{i \in v_{st_M}} \hat{p}_{ist_M} \tag{3}$$

where $\hat{p}_{ist_M}$ is the predicted probability that voter i surveyed in the midterm ANES would vote for the President, and n_{st_M} is the number and v_{st_M} is the set of all voters in the midterm sample in county s. Details regarding the computation of the probabilities $\hat{p}_{ist_M}$ appear in the Appendix.

We use polynomials to approximate the targeting functions $\mathcal{S}_k$. That is, for each kind of LFE we define $\mathcal{S}_k(\tilde{y}^*_{st}) = \sum_{r=1}^{m} b_{kr} \tilde{y}^{*\,r}_{st}$, for constant coefficients b_{kr} and some choice of polynomial degree m (this gives Appendix equation (4)). To choose m we use F-tests based on deviance statistics.

The variables $\mathbf{z}_{kst}$ include a set of dummy variables that represent the annual memberships on fifteen standing committees of the U.S. House delegation from the State to which county s belongs, and a variable that measures the annual average for the State of the number of consecutive terms served by the State's House members.[6] We use these variables to measure congressional influence on LFEs.

The sixteen LFEs cover most federal expenditures that disburse funds in particular geographic areas in the United States. The LFE variables include transfer payments, civilian and military employment, salaries and procurements, direct payments (not for individuals and not procurements) and intergovernmental transfers to local governments for education, for highways, for social welfare or for other purposes. The LFE variables are listed, with source citations, in Table 1. For the LFE variables that measure money the values are the total dollar amount spent in each county in each year, divided by the county population in that year; units are \$1000 per person. For the variables that measure employment, the values are the total number of jobs, per capita, with units being jobs per person. In light of the fact that many Federal grants that are ultimately disbursed by local governments are passed through State governments, we analyze, separately, transfers to local governments from State governments as well as from the Federal government.

*** Table 1 about here ***

The estimated targeting function polynomials are plotted in Figures 1 and 2.[7] The values represent partial LFE levels (net of congressional influences and fixed effects), plotted against the support scores p_{st_P} and $\hat{p}_{st_M}$. The ranges of values for p_{st_P} and $\hat{p}_{st_M}$ used in the figures are the values that occur for the counties in the ANES data. Figure 1 shows the pre-midterm polynomials and Figure 2 shows the post-midterm polynomials. Table 2 shows the 95% confidence interval for the local maximum of each curve on the $[0, 1]$ interval, when such exists.

*** Figure 1, Figure 2 and Table 2 about here ***

The estimates suggest that targeting was induced by patronage delegation for more than half of the kinds of LFEs. Recall that for elite-induced targeting we expect to see the most spending in local areas where the

[5] The incumbent did not run in 1988, but the Reagan administration went to great lengths to assist Bush in his "friendly takeover" of the White House. Reagan traveled extensively to campaign for Bush. Also, "personnel changes in the cabinet in 1988 were molded to fit Bush priorities." Reagan appointed members "who were acceptable to Bush and whom he would keep on in his Administration" (Pfiffner 1990, 65).

[6] Each committee dummy variable equals one if any member of the delegation is a member of the committee in the referent year; otherwise the variable equals zero. We used dummy variables for the following committees: Agriculture; Appropriations; Armed Services; Banking, Finance and Urban Affairs; Budget; Education and Labor; Energy and Commerce; Government Operations; Interior and Insular Affairs; Merchant Marine and Fisheries; Post Office and Civil Service; Public Works and Transportation; Science, Space and Technology; Veterans Affairs; Ways and Means. Committee data were compiled from Joint Committee on Printing 1983–87. Terms data were provided by Robert Stein.

[7] Estimates were computed using quasi-likelihood methods, using the `glm` function of S-PLUS (Statistical Sciences 1991).

President received about 50–70% of the votes. Because local elites newly appointed after the election will immediately commence trying to deliver benefits to the areas they came from, this pattern ought to be most apparent during the first part of the President's term. The figures and Table 2 clearly show the expected pattern during the pre-midterm period for seven kinds of LFEs: civilian procurements, military employment, civilian salaries, Federal social welfare and education transfers, and State highways and education transfers. The other LFEs do not show the expected pre-midterm pattern. Only one LFE—civilian procurements—shows the expected pattern during the post-midterm period.

To check for voter-oriented targeting we need to measure the changes that occur over time in each kind of LFE as a function of the President's support in each local area. We use the targeting polynomial estimates for this purpose by computing the difference between the predicted post-midterm and pre-midterm levels of each LFE in the idealized case where the President's support remains constant at some level throughout the term. I.e., we compute the difference $\hat{\mathcal{S}}_{Lk}(\tilde{y}^*) - \hat{\mathcal{S}}_{Ek}(\tilde{y}^*)$ for a range of $\tilde{y}^*$ values. For voter-oriented targeting we expect to see the largest increases in spending for support values between roughly .3 and .5

The simulated differences plotted in Figure 3 and 95% confidence intervals for local maxima shown in Table 3 suggest that voter-oriented targeting occurred for about half of the LFEs we rated as relatively low in institutional complexity but occurred for at most one of the LFEs we rated as high in institutional complexity. The simulated differences for military employment, civilian and military salaries and transfer payments all have maxima near $\tilde{y}^* = .4$. For military salaries and transfer payments these are the global maximum points. The exceptional pattern among institutionally complex LFEs occurs for Federal social welfare transfers; the polynomial has a local maximum near $\tilde{y}^* = .3$ but achieves higher values as $\tilde{y}^*$ increases above $\tilde{y}^* = .75$.

*** Figure 3 and Table 3 about here ***

Conclusion

The President targets many kinds of LFEs to increase his reelection chances (or the election chances of his party's successor candidate). We find evidence of both voter-oriented and elite-induced targeting. Voter-oriented targeting occurs only for LFEs that are relatively low in institutional complexity. We argue that voters can much more readily trace such LFEs back to the President than they can LFEs that are institutionally very complex. With one exception (transfer payments), voters respond to changes in the targeted LFEs with sufficient strength and homogeneity to make targeting them a feasible and rewarding tactic for the President. But the elite-induced targeting pattern occurs for both not-so-complex and highly complex LFEs, including six of the eight kinds of intergovernmental transfers. Targeting in these cases follows the pre-midterm pattern to be expected if elites who are interested in returning benefits to their local areas in the form of LFEs are being appointed to the administration according to the converted-loss strategy.

Such a conclusion implies an important correction to work such as Arnold's (1979) that has demonstrated how strongly members of Congress can influence bureaucratic decisions regarding the geographic allocation of federal expenditures. Any theory of influence that neglects the President's role in determining geographic outcomes is incomplete.[8] But our results do not necessarily contradict Arnold's analysis. The converted-loss appointments strategy can maximize the effort locally interested elites exert on the President's behalf, and pre-appointment screening can minimize the chances that an appointee has policy goals at wide variance from the President's. But a presidential candidate would gain electorally from using the converted-loss strategy even if he or she were completely indifferent to the geographic distribution of LFEs. Indeed, such indifference can attract effort in favor of the candidate from the widest range of local elites, if local elites can reasonably expect to encounter minimal screening of their geographic preferences. In this case the President would be largely uninvolved in the post-election efforts to target spending, and spending outcomes would be determined through interactions between the bureaucracy and Congress. Even in this case, however, bureaucratic appointees' preferences would be shaped by the processes that selected them, so that the interactions with Congress would be strongly affected by the geographic distribution of electoral support for the President.

It is reasonable to speak of *presidential* pork barrel politics. We have not emphasized some things that have received a lot of attention in discussions of pork barrel politics in Congress, most notably the role of organized interests and the potential importance of logrolling (Ferejohn 1974; Shepsle and Weingast 1981; Stein and Bickers n.d.). We assume that organized interests are important in many ways in interactions

[8] Arnold acknowledges the limited scope of his theory (1979, 19).

between the President and local elites. Logrolling is not a concern as long as expenditures result from discretionary actions by appointed elites who act in isolation and without substantial constraints. But it becomes more important when officials or agencies must coordinate—with one another or with Congress—to produce expenditures, or when spending is subject to budget constraints. Nonetheless we wish to emphasize that presidential politics, like congressional politics, is substantially local.

Appendix

LFE Model Form

The geographic unit of aggregation (i.e., s) is the county. The procedures used to produce $\tilde{y}^*_{st}$ are described in the next subsection. We use these variables to estimate equation (2) in the form

$$x_{kst} = \exp\left[\delta_{k0} + \sum_{r=1}^{m}(b_{kr}(1-h_t)\tilde{y}^{*\,r}_{st} + b_{krh}h_t\tilde{y}^{*\,r}_{st}) + \mathbf{z}_{st}\boldsymbol{\delta}_k + \lambda_{ks} + \mu_{kt}\right] + u_{kst} \tag{4}$$

where m is the degree of the polynomials.

Computing the Information Variables

To produce the probabilities $\hat{p}_{ist_M}$ used in equation (3), we estimate an individual-level probit regression equation using ANES data from the preceding presidential election, at time $t_P = 1984$ (Miller and the National Election Studies 1986), based on $y^*_{ist_P} = a_0 + \tilde{\mathbf{w}}_{ist_P}\mathbf{a} + v_{ist_P}$, where $\tilde{\mathbf{w}}_{ist_P}$ denotes a vector of survey opinion variables and the disturbance is assumed to satisfy $v_{ist_P} \sim \mathcal{N}(0,1)$. To measure vote choices we used self-reports (1984 ANES var. 787, 788), omitting those validated not to have voted (var. 1130). $\tilde{\mathbf{w}}_{ist_P}$ contains a constant having the value 1.0 and seven other variables. Four variables count the number of mentions for each of the open-ended party likes and dislikes items: number of likes about the Democratic party (var. 266–271); number of dislikes about the Democratic party (var. 272–277); number of likes about the Republican party (var. 278–283); number of dislikes about the Republican party (var. 284–289). Two variables measure retrospective economic evaluations, referring respectively to the nation's economy over the past year (var. 227) and to family finances now compared to a year ago (var. 139); values of DK or NA are treated as missing. The seventh variable is the feeling thermometer for Republican presidential candidate Reagan (var. 290); values of NA are treated as missing but responses of "doesn't recognize name" or "don't know where to rate" are assigned the middle value of 50. An observation missing data on any variable is omitted from the analysis (i.e., listwise deletion). We use the estimated parameters with data for the same variables from the midterm ($t_M = 1986$) ANES to compute $\hat{p}_{ist_M} = \Phi(\hat{a}_0 + \tilde{\mathbf{w}}_{ist_M}\hat{\mathbf{a}})$. The variables from the 1986 ANES data are var. 72–95 (likes and dislikes), var. 372, 355 (economic evaluations) and var. 130 (Reagan feeling thermometer) (Miller and the National Election Studies 1987).

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Table 1: Types of local federal expenditure

variable[a]	description
transfer payments[b,e]	transfer payments to individuals
civilian employment[b,f]	Federal government civilian employment
military employment[b,f]	Federal government military employment
civilian salaries[c,e]	salaries and wages, all civilian and Postal Service employees
military salaries[c,e]	salaries and wages, all military personnel
civilian procurements[c,e]	procurement contracts, all except Defense Department
military procurements[c,e]	procurement contracts, Defense Department
direct payments[c,e]	direct payments other than for individuals
education transfers[d,e]	transfers to local governments for education
highways transfers[d,e]	transfers to local governments for highways
social welfare transfers[d,e]	transfers to local governments for public welfare, employment security, health and hospitals, housing
other transfers[d,e]	all other transfers to local governments

Notes:
[a] All variables are used per capita, based on county population[b].
[b] source, Bureau of Economic Analysis 1990.
[c] source, Bureau of the Census 1984–90.
[d] source, Bureau of the Census 1986–91 and 1991; county totals are estimated as in Mebane 1993.
[e] units, \$1000 per person.
[f] units, jobs per person.

Table 2: 95% confidence intervals for support values that maximize local federal expenditures

pre-midterm

maximum is an elite-oriented targeting value		maximum is not in the elite-oriented range	
civilian procurements	(.59, .61)	military procurements	(.00, 1.00)
military employment	(.70, .71)	civilian employment	(.00, 1.00)
civilian salaries	(.68, .68)	military salaries	no max[a]
Federal welfare transfers	(.61, .62)	transfer payments	no max
Federal education transfers	(.60, .63)	direct payments	(.35, .44)
State highways transfers	(.69, .75)	Federal highways transfers	(.00, 1.00)
State education transfers	(.55, .59)	Federal other transfers	(.27, .37)
		State welfare transfers	(.35, .39)
		State other transfers	no max

post-midterm

maximum is an elite-oriented targeting value		maximum is not in the elite-oriented range	
civilian procurements	(.64, .71)	military procurements	(.79, .81)
		civilian employment	(.49, 1.00)
		military employment	(.00, 1.00)
		civilian salaries	(.02, 1.00)
		military salaries	no max
		transfer payments	(.00, 1.00)
		direct payments	no max
		Federal highways transfers	no max
		Federal welfare transfers	(.98, .98)
		Federal education transfers	no max
		Federal other transfers	(.70, .91)
		State highways transfers	no max
		State welfare transfers	(.92, .94)
		State education transfers	no max
		State other transfers	(.74, .98)

Source: Confidence intervals are computed using normal approximations and asymptotic standard errors obtained by the delta method from the asymptotic covariance matrix of the coefficient estimates of the targeting polynomials.

[a] The polynomial does not have any maximum values.

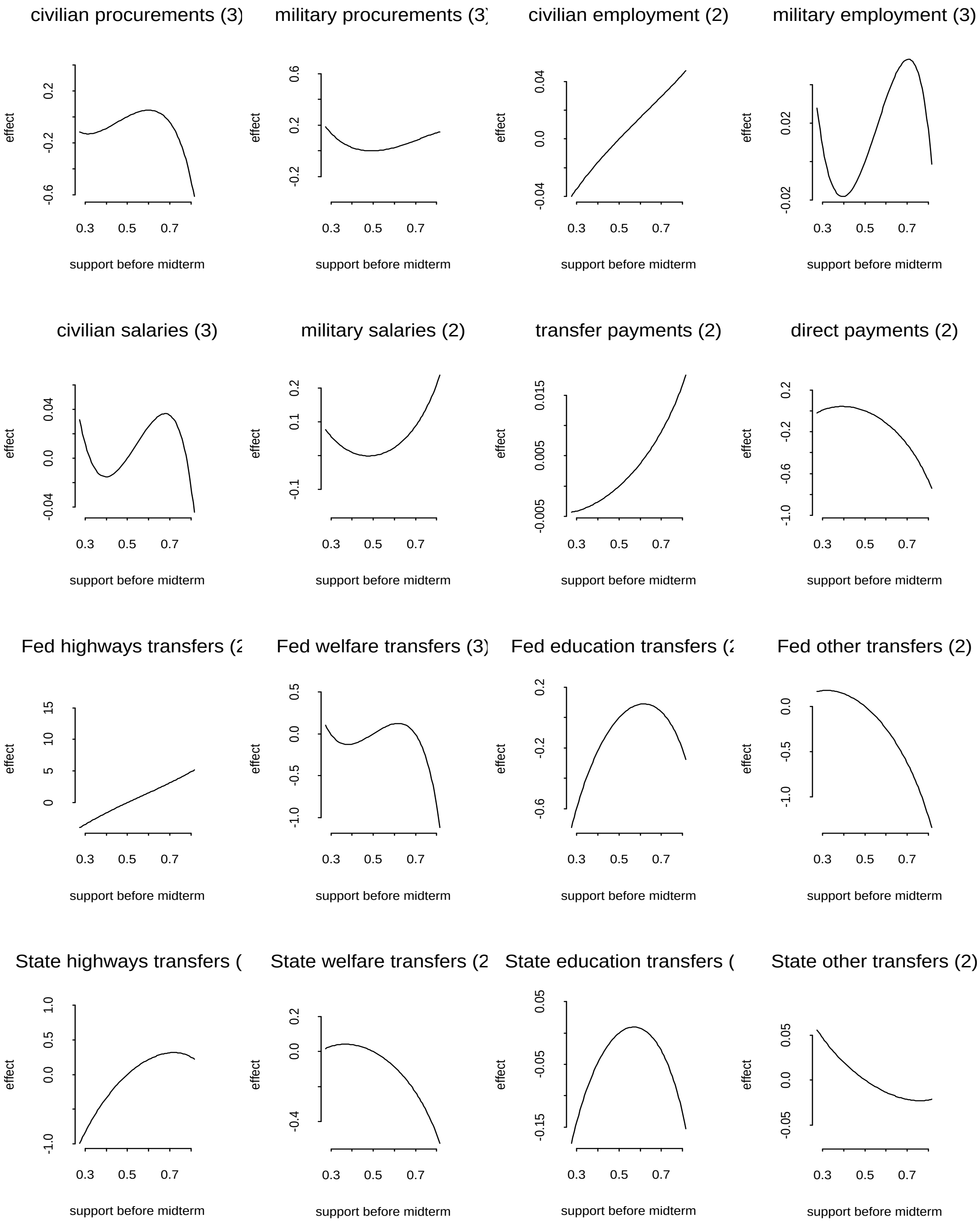
Table 3: 95% confidence intervals for support values that maximize changes in local federal expenditures

institutionally less complex LFEs			
maximum is a voter-oriented targeting value		maximum is not in the voter-oriented range	
military employment	(.38, .39)	civilian procurements	no max[a]
civilian salaries	(.37, .39)	military procurements	(.61, .79)
military salaries	(.25, .55)	civilian employment	no max
transfer payments	(.15, .75)	direct payments	no max
institutionally complex LFEs			
maximum is a voter-oriented targeting value		maximum is not in the voter-oriented range	
Federal welfare transfers	(.29, .35)	Federal highways transfers	no max
		Federal education transfers	no max
		Federal other transfers	no max
		State highways transfers	no max
		State welfare transfers	no max
		State education transfers	no max
		State other transfers	(.00, 1.00)

Source: Confidence intervals are computed using normal approximations and asymptotic standard errors obtained by the delta method from the asymptotic covariance matrix of the coefficient estimates of the targeting polynomials.

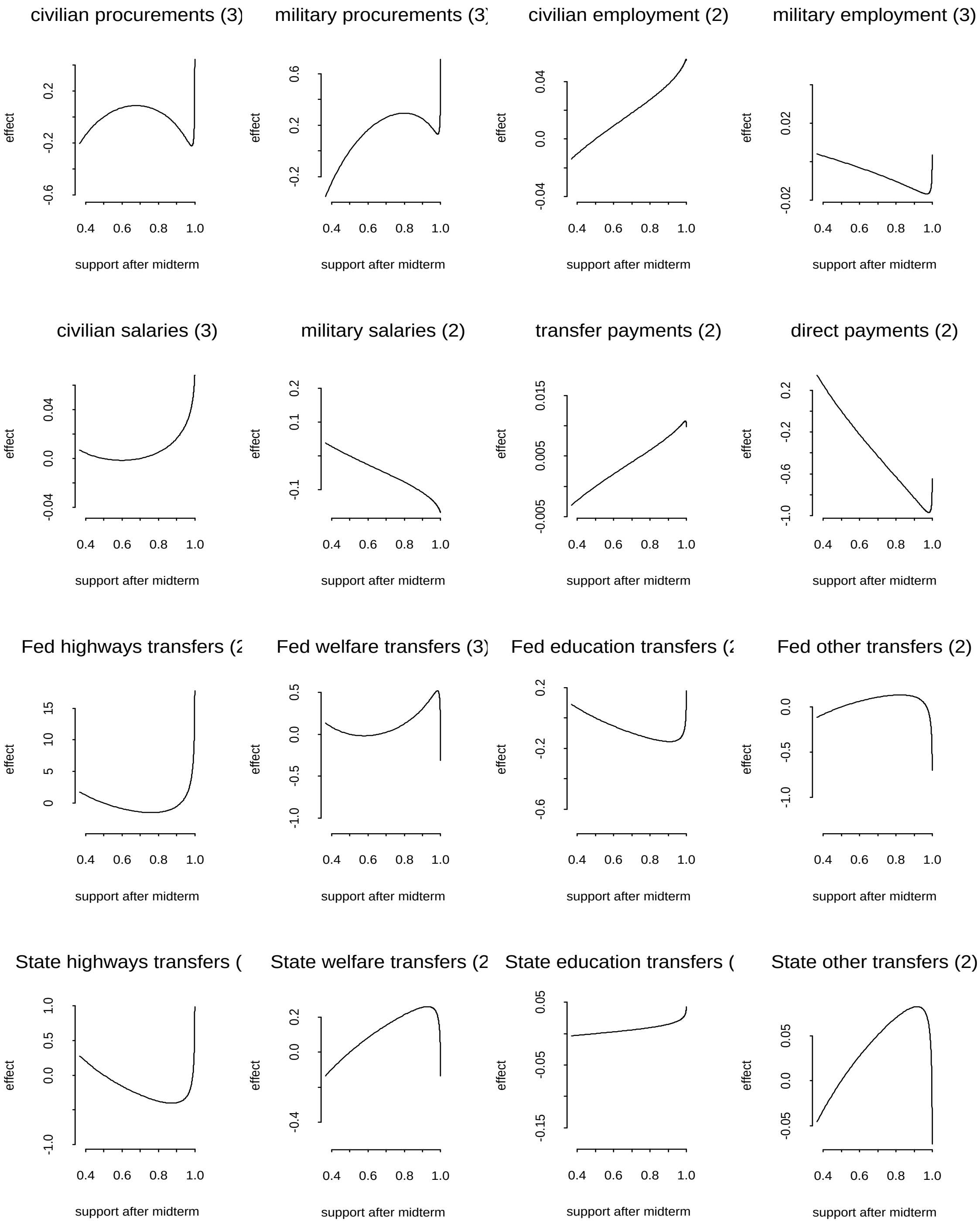
[a] The polynomial does not have any maximum values.

Figure 1: Effects of support on federal local expenditures, pre-midterm



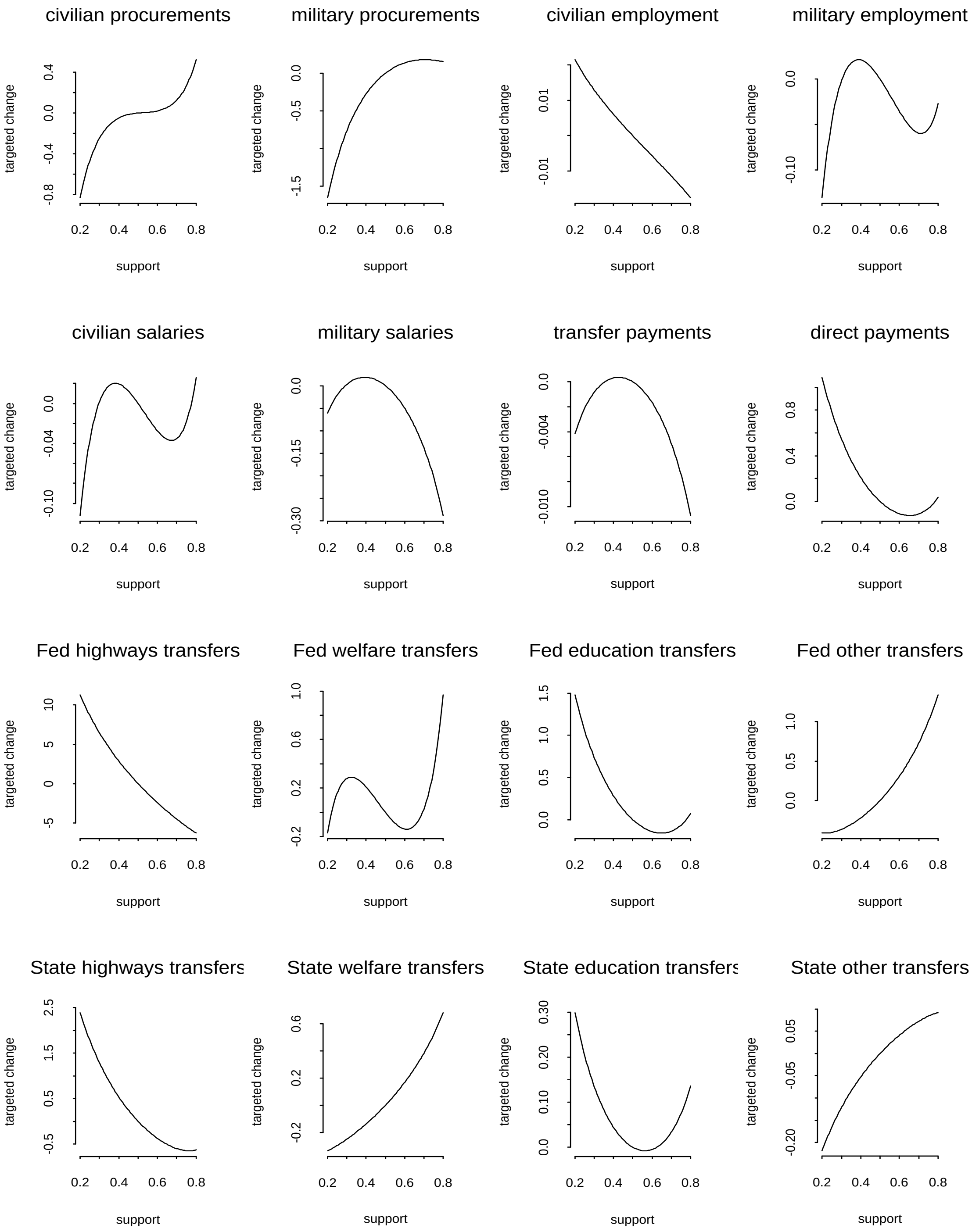
Notes: Quasi-likelihood estimates. The number in parentheses shows the degree of the targeting polynomial.

Figure 2: Effects of support on local federal expenditures, post-midterm



Notes: Quasi-likelihood estimates. The number in parentheses shows the degree of the targeting polynomial.

Figure 3: Effects of support on changes in local federal expenditures, by support



Notes: Computed using the targeting polynomial estimates shown in Figures 1 and 2.