

**Patterns of Representation:
Dynamics of Public Preferences and Policy***

by

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Abstract

Much research shows that politicians represent public preferences in public policy. Some of the research even suggests that politicians respond to changing public preferences over time. While we have learned that policymakers represent public opinion, we do not understand the patterns of representation in different policy areas. To begin with, we know only a little about whether and to what representation varies across domains. Even where we find representation, we do not know what policymakers actually represent. Do they represent public preferences *within* particular policy areas, as scholars traditionally have supposed? Or, do they represent a more general preference for government action, in effect, *across* various programs, as other scholars more recently have argued?

This manuscript begins to address the patterns of representation, focusing on a set of nine spending domains in the United States (U.S.). At the heart of the manuscript is a simple conjecture: Representation varies across domains and its structure is symmetrical to the structure of (thermostatic) public responsiveness to budgetary policy itself. Analysis of the relationships between opinion and policy over time in the different spending domains supports the conjecture. The findings fit quite nicely with what we know about the influence of different issues on voting behavior in American national elections. Based on this analysis, it appears that representative democracy in the U.S. works quite well, perhaps about as well as we might expect.

The representation of public opinion in policy is fundamental to most conceptions of democracy. Indeed, because of the threat of electoral sanction, elected officials are expected to respond to the public's policy preferences. This expectation is evident throughout the literature on democratic politics, and there is a large and growing body of research that demonstrates a correspondence between public opinion and policy behavior (e.g., Miller and Stokes, 1961; Weissberg, 1976; McCrone and Kuklinski, 1979; Monroe, 1979; 1998; Bartels, 1991; Page and Shapiro, 1983; 1992; Hartley and Russett, 1992; Erikson, Wright, and McIver, 1993; Jacobs, 1993; Stimson, MacKuen, and Erikson, 1995; Wlezien, 1996a; Wood and Hinton-Anderson, 1998; Hill and Hurley, 1998; Sharpe, 1999). Some of the research even suggests that policymakers actually respond to changing public preferences over time (especially Jacobs, 1993; Stimson, MacKuen, and Erikson, 1995; Wlezien, 1996a). All of this work is satisfying and important, for it suggests that there is representation—policy behavior is related to opinion, both cross-sectionally and over time.

The body of research provides very general parameters of representation. We know that policymakers represent opinion. We do not understand the patterns of this representation, however. To begin with, we do not know whether and to what extent representation varies across different policy areas. Are policymakers equally responsive to opinion in the different areas? Or are they more responsive in some areas than in others? Even in policy areas where we detect representation, we do not know what policymakers represent. Do they respond to public preferences *within* particular areas, as scholars traditionally have supposed (see Geer, 1996, for an overview of the vast literature)? Or, do they respond to a general preference for government action broadly defined, in effect, *across* various policy areas, as other scholars more recently have argued (Stimson, MacKuen, and Erikson, 1994; 1995; Wood and Hinton-Andersson, 1998)? The

existing research settles the issue by often-implicit assumption. Thus, while it tells us that there is representation, the research tells us nothing about its structure. It is much like knowing that “issues” matter for vote choice but not knowing whether positions on specific issues are important and whether some issues are more important than others.

This manuscript addresses patterns of representation. It begins with a theoretical section in which general arguments about policymakers’ responsiveness to public opinion are translated into a set of formal expectations. Then, an empirical analysis is outlined and conducted, focusing specifically on a set of spending programs in the U.S. These domains are particularly appropriate for such an analysis, as budgetary policy is clearly defined and reliable time series of public preferences for spending in different areas are available. We also already know a lot about the dynamics of spending preferences. Using the data, we can begin to disentangle the structure of policymakers’ responsiveness in different policy domains.

Modeling the Patterns of Representation

Representation can occur in two familiar ways. One way is indirect, through elections, where the public selects like-minded politicians who then deliver it wants in policy. The other way is direct, where sitting politicians respond to what the public wants. These two ways to representation are, in a broad sense, related. That is, the first way implies the second, assuming incumbent politicians are interested in remaining in office: Elected officials are expected to respond to public preferences because of the threat of electoral sanction. This is how we think of representative democracy, how we think it should work. Simply, we expect responsiveness. This responsiveness is dynamic. Responsive politicians follow preferences as they change. In theory, policy change is the result.¹

Let us consider this policy responsiveness more explicitly. To begin with, let us consider

public preferences themselves. We know that people typically do not have meaningful preferences for particular amounts, or levels, of policy. The practices of survey organizations are telling. With rare exception, as for abortion, these organizations do not ask people how much policy they want. Instead, survey organizations ask about relative preferences, whether we are spending "too little," whether spending should "be increased," or whether we should "do more." This, presumably, is how people think about most policies.² The public preference, however defined, also is necessarily relative.

Thus, if there is responsiveness, *changes* in policy (P) will be positively associated with *levels* of the public's relative preference (R), other things being equal. This general expectation can be summarized as follows:

$$(1) \quad \Delta P_t = a_0 + B R_t + \gamma Z_t + e_t,$$

where a_0 and e_t represent the intercept and the error term, respectively, and Z represents the set of other determinants of policy, including the partisan orientations of institutional actors, all "measured" currently. The coefficient γ thus captures any indirect representation of public preferences through election outcomes, where the effect of preferences on policy is mediated by the partisan control of government. The coefficient B captures responsiveness, where the effect of preferences on policy is independent of partisan control and other factors; if the coefficient is greater than 0, policy "responds" to preferences. This does not mean that politicians actually respond to changing public preferences, for it may be that they and the public both respond to something else. All we can say for sure is that the coefficient (B) captures policy responsiveness in a statistical sense, that is, whether and the extent to which public preferences directly influence policy change, other things being equal.

Now, equation 1 characterizes responsiveness in a general way. It posits a connection between opinion and policy. It does not necessarily characterize the structure of responsiveness

across policy domains, however. For expository purposes, assume that B is greater than 0 for a set of domains. Does this tell us that politicians respond to the movement of preferences within the different policy areas? Or, is it that they respond to the more common movement of preferences across these domains? That is, is representation specific or global?

Traditionally, scholars have conceived of representation as specific, where politicians respond to public opinion about policy within particular areas (see, e.g., Monroe, 1979; Bartels, 1991; Page and Shapiro, 1992; Hartley and Russett, 1992; Geer, 1996; Sharpe, 1999). From this perspective, people have preferences for policy in different domains. Survey organizations ask about preferences in these areas and expressed preferences in the different domains have specific components. Policymakers thus are expected to follow the registered signals *within* domains, e.g., by providing more defense spending specifically in response to an increase in support for more spending on defense. This does not mean that policymakers respond to preferences in every domain. We already know, after all, that some programs are more important to the public than others (for a summary of this literature, see Asher, 1992). There thus is reason to think that policymakers do (or should) reflect these differences (see, e.g., Miller and Stokes, 1963; McCrone and Kuklinski, 1979; Kingdon, 1981; Jones, 1994; Geer, 1996; Franklin and Wlezien, 1997; Hill and Hurley, 1998). That is, politicians are expected to be responsive to the movement of preferences in certain politically important domains and largely unresponsive to the movement of preferences in others.³ The point is that, where they do respond, politicians reflect public preferences for policy within the particular domains.

More recently, some scholars have argued that representation is not specific, but fundamentally "global" instead (Stimson, MacKuen, and Erikson, 1995). From this perspective, people really do not have preferences for policy in particular domains. Instead, they have preferences "over the general contours of government activity" (Stimson, MacKuen, and Erikson,

1994), what Kingdon (1984) and Stimson (1991) refer to as “mood.” Although survey organizations ask about specific programs, people’s responses in these domains reflect a single underlying preference for more (less) government, broadly defined. Even to the extent measured preferences for policy in particular domains have specific components, they are not meaningful and, thus, are of little use to politicians.⁴ By implication, we should expect politicians to respond to the signal for policy change *across* domains; any apparent responsiveness to preferences in particular domains only conceals this more general responsiveness. Responsiveness to the general signal still may vary across domains, however.⁵ The main point is that where politicians do respond, they represent a single, underlying public preference for government policy.

It is customary for scholars to assume that one or the other of these models is at work and then proceed directly to estimation.⁶ This approach may tell us something about whether there is representation, but it does not tell us anything about its structure. In order to settle on one (or both) of these models, we need to allow for both specific and global responsiveness in different domains. This is straightforward. Consider that preferences (R_{it}) in each domain i represent the sum of a component (R_t) that is common across domains and a component (${}^D R_{it}$) that is specific to each domain. Substituting these two components for R_{it} in equation 1 produces the following equation:

$$(2) \quad \Delta P_{it} = a_{0i} + {}^G B_i' R_t + {}^D B_i' {}^D R_{it} + \gamma_i Z_t + e_{it}.$$

Now, the predictions of the two models of representation differ only with respect to the effect of ${}^D R_{it}$. If representation is specific, the coefficients ${}^G B_i'$ and ${}^D B_i'$ both would be greater than 0 and approximately the same, indicating that politicians respond equally to the two components of preferences. If representation is global, ${}^G B_i'$ would be greater than 0 and ${}^D B_i'$ would equal 0, indicating that politicians respond only to the central tendency in preferences.⁷

The differences between the two models are fairly clear.⁸ What is not clear is whether one

model or the other (or both) describes policy behavior. As stated above, the existing research assumes, often only implicitly, that one of the models is at work. The issue can and should be settled empirically, however. In order to assess the structure of representation, we first need to know what kinds of preference "signals" the public sends to policymakers. Are they specific to particular domains? Or are they essentially global? Or does the structure of preferences itself differ across domains? Does the public importance of the domains also differ? We need answers to these questions because there is reason to suppose that the structure of representation reflects both the structure of public preferences and the political importance of different domains. For representation to be specific, after all, preferences themselves must be to some degree specific to the particular domain. Whether and the extent to which politicians actually represent preferences, however, should depend on the public importance of the domains. In politically important policy domains where preferences are specific, we should expect representation itself to be specific. In important domains where preferences are global, representation should be global. In domains that are not very important to the public, representation simply should not occur. These are our initial, very broad expectations. Let us now provide more specifics, focusing on a set of spending domains in the U.S.

Public Preferences for Spending

Various survey organizations have asked the American public about their preferences for spending. Questions have been asked in various ways, although respondents are always asked about their relative preferences, as noted above. Several organizations use the same question wording:

Are we spending too much, too little, or about the right amount on
[the military, armaments, and defense]?

In most surveys, respondents are asked about spending in various categories, including big cities, crime, education, the environment, foreign aid, health, national defense, space exploration, and welfare.⁹ The General Social Survey (GSS) has asked this battery of items in every year between 1973 and 1994, with the exception of 1979, 1981, and 1992. Fortunately, other survey organizations asked the same questions in those years.¹⁰ Since 1994, data are available only in alternate years. From these data, nine annual time series of public preferences for spending can be constructed that cover 1973-1994. The simplest, most reliable way to reflect these preferences over time is to create percentage difference measures, by subtracting the percentage of people who think we are spending "too much" from the percentage of people who think we are spending "too little" in each domain. While imperfect, these measures of "net support" capture the degree to which the public wants "more" or "less" spending over time—indeed, the measures capture both direction and magnitude.

We already know that there is a certain pattern to the movement in spending preferences over time (Stimson, 1991; Wlezien, 1995). Factor analysis of the nine items, shown in Table 1, nicely summarizes this pattern. Here we see that preferences for spending in the various "social" categories, specifically, big cities, education, health, welfare, and even the environment, move together over time.¹¹ Preferences for defense spending move in a quite opposite direction, and largely mirror preferences for social spending. That is, preferences for social and defense spending tend to move in the same liberal-conservative direction. This is potentially quite telling for our analysis. Indeed, the pattern implies a certain "global" movement of opinion that may drive politicians' behavior in various policy domains.¹² The movement is not entirely global, however. As is clear in Table 1, preferences for spending on crime, foreign aid, and space share little in common with preferences for defense and social spending.

— Table 1 about here —

Even preferences for defense and social spending are not strictly global. Research (Wlezien, 1995) has shown that these preferences reflect two different, but related structures. Preferences for defense spending follow the variation in national security threat, specifically, the Soviet/Russian threat, over time and preferences for spending in the social domains commonly follow variation in economic expectations. In effect, defense and social spending preferences reflect variation in different aspects of "security." There also is a guns-butter trade-off in public preferences, where an increase (decrease) in the Soviet/Russian threat leads to a decrease (increase) in preferences for social spending. The trade-off does not run the other way, from butter to guns, however; in effect, preferences for social programs are endogenous to public preferences for defense spending, which in turn are exogenous.¹³ This is important. It tells us that the public's underlying "preferred levels" of defense and social spending vary over time in understandable ways and that they do *not* merely reflect a single underlying preference.

Social spending preferences themselves are not purely global. Although these preferences exhibit a lot of common movement, they also exhibit movement that is specific to particular domains. This is evident from the factor (1) loadings for the different items in Table 1. By inference from these loadings, the proportion of movement in net support that is specific ranges from 11 percent in the case of the environment to 40 percent in the case of welfare.¹⁴ That there are specific components is easy to overlook given the dominant structure, but of obvious importance given our investigation: *It is possible that policy responsiveness in each of the domains is specific.* The point is not that politicians should or do respond to preferences in every domain, but that the underlying structure of preferences tells us only a little about the likely structure of representation.

As discussed above, the public importance of policy domains may tell us a lot about policymakers' responsiveness. There is good reason, after all, to expect policymakers to reflect

the importance of the different domains because of possible electoral consequences. Determining the importance of different domains is not straightforward, however, even given the vast literature on issue salience. Keep in mind that the emphasis here is on “importance,” not “salience,” at least as typically conceived. One might think that an important issue is salient by definition, but this is not the case given traditional measurement, which relies on responses to questions about the “most important problem” facing the nation (e.g., Jones, 1994; Miller, Miller, Raine, and Brown, 1976, Monroe, 1975; and RePass, 1971). An issue is important if a lot of people care about it, the economy for instance. Whether an issue is an “important problem” to the public is a function of the importance of the issue *and* the degree to which it is a problem. The “most” important problem, in turn, is the plurality important problem winner. Importance and measured salience thus are two related, but different things (Wlezien, 2001). From the point of view of representation in different domains, what matters is the former.¹⁵ Still, in the spirit of full information, the possibility that measured salience tutors representational relationships is considered in the analyses that follow.

Although traditional measures of issue salience reveal little about issue importance per se, patterns of public responsiveness to policy may reveal quite a lot. As previous research has shown, the public actually notices and responds to budgetary policy change (Wlezien, 1995). Consistent with the Eastonian model, the public adjusts its preferences for “more” spending downward (upward) in year t when appropriations for that year increase (decrease). In effect, the public behaves much like a thermostat.¹⁶ Such public responsiveness indicates that people acquire and process fairly accurate information about budgetary policy, at least in certain domains. This is telling about public importance: After all, if people respond to policy change in a particular area, it must be important to them.¹⁷ The pattern of responsiveness across spending areas thus is telling about the public importance of the different domains. Let us briefly consider what the

research shows.

In the defense domain, the public adjusts its preferences specifically in response to changes in defense appropriations. Note also that separate analyses indicate that preferences for defense spending do not independently reflect changes in appropriations for social programs or yet other programs. It not only appears that preferences for defense spending are specific, but that the domain is particularly important to the public. This is consistent with much research on voting behavior itself, which shows that the defense issue figures prominently in presidential vote choice in election after election (see Asher, 1992).

Public responsiveness in the social domains differs. In the welfare domain, as for defense, the public adjusts its preferences specifically in response to changes in welfare appropriations. The public appears to notice, perhaps in some very schematic way, what politicians actually do with welfare spending.¹⁸ However the public acquires the information, the pattern indicates that welfare policy is particularly important to the American public, which also is consistent with studies of voting behavior (once again, see Asher, 1992; also see Abramowitz, 1994). In the other social spending domains, however, the public does not adjust its preferences in response to appropriations for the specific programs. There is some suggestion that the public responds to health and education appropriations, though the effects are too unreliable to credit.¹⁹ The public still does respond to budgetary policy in the non-welfare domains, but in a more general way, that is, to changes in appropriations for the set of social programs (including welfare) taken together. The public does not effectively discriminate among policies in these different areas—they are substitutable in people's minds (also see Jacoby, 1994). This pattern of public responsiveness implies that the non-welfare social spending domains are only very *generally* important to the public, i.e., as “social” spending.

We also have seen that the public expresses preferences for spending in other areas, including

crime, foreign aid, and space. It is not clear that these preferences are particularly meaningful, however. In two of the domains—crime and foreign aid—support for spending is virtually constant over time (Page and Shapiro, 1992; also see Niemi, Mueller, and Smith, 1989). In all three domains preferences do not reflect changes in budgetary policy for the programs, taken either separately or together (Wlezien, 1995). It thus appears that none of these essentially independent spending domains are of special importance to the public, at least as national issues. This should not come as much surprise, even for crime, which is largely (indeed, almost entirely) the responsibility of state and local politicians.²⁰

Based on this research, we know quite a lot about the spending preference signals the public sends to politicians. Indeed, the importance of the domains seems to vary in meaningful ways, which is of obvious relevance to our analysis of representation: There is good reason to expect policymakers to reflect the importance of the different domains. If this is true, the structure of representation would be symmetrical to the pattern of public responsiveness to policy itself. Where the public notices and responds specifically to policy in a particular domain, as for defense and welfare, representation would be specific. Where the public responds more globally to policy across a set of domains taken together, as for the non-welfare social programs, representation would be global.²¹ Where the public does not respond to policy, as for crime, foreign aid, and space, representation simply would not occur. This is not to say that the importance of issues cannot or does not change over time (see, e.g., Carmines and Stimson, 1992; Franklin and Wlezien, 1997). Whether they do can be tested directly, however, and the possibility is considered in the analyses that follow. Now, let us see what the data reveal.

Public Preferences for Spending and Budgetary Policy

Although the question used to construct the measures of net support asks about spending,

political actors have little direct control over spending per se. They do, however, have considerable influence over spending through appropriations decisions.²² Yet finding reliable measures of appropriations for the particular categories of spending is not easy. With the exception of defense, such data generally are not available in any organized way prior to the Budget Act of 1974. Putting aside the availability of data, it is not clear whether a particular type of spending, say housing assistance, is spending on "welfare" or "big cities" or something else. Perhaps the best data are those corresponding to the budget functions specified in the Budget Act. These appropriations data are available since 1976, which limits the analysis of non-defense budgetary policy to fiscal years 1977-1995. (See Appendix A for specific operational definitions.) For defense, the analysis is limited only by the availability of public opinion data, and this allows a slightly longer series, namely, fiscal years 1974-1995.

Following the theoretical models outlined above, the dependent variables used in the analyses represent the first differences of real dollar-valued appropriations (in billions of 1987 dollars) for each of the nine spending categories.²³ Recall that *changes* in appropriations are expected to be positively related to the *levels* of net support for spending, which capture the public's relative preferences. Politicians are expected to respond currently. In the budgetary context, this means that change in appropriations for fiscal year t follows the level of net support in year $t-1$, when regular appropriations decisions—the bulk of appropriations decisions—for fiscal year t are made. In effect, building on traditional budgetary theory, the *mostly* incremental change in appropriations represents a function of public opinion.²⁴

In order to assess responsiveness to spending preferences in the various domains, it is necessary to specify a more complete model of appropriations behavior. It is most important to account for the indirect representation of public preferences that results from elections. To do so, measures of the party of the president and the party composition of Congress are included in the

models.²⁵ The former variable takes the value “1” under Democratic presidents and “0” under Republican presidents, and the latter variable represents the average percentage of Democrats in the House and Senate.²⁶ As for the measures of net support, these variables are measured during year $t-1$. Also, in models of welfare appropriations, a control for the Carter transition in fiscal year 1977 is used. The variable captures his substantial supplemental appropriations to Ford’s last budget (see Wlezien, 1993a); in effect, the impact of this change in the party of the president was felt immediately, in the current fiscal year.

Models of budgetary policy typically contain other baseline variables, including economic indicators such as unemployment and inflation (see, e.g., Kiewiet and McCubbins, 1988; Wlezien, 1996). Models of defense budgetary policy often include measures of Soviet/Russian spending (see, e.g., Hartley and Russett, 1992). These variables were incorporated into the analyses using various specifications, but none performed consistently well. Including these other variables also does not meaningfully alter the results. Thus, the analysis that follows relies on a simple model that includes the party of the president, the party composition of Congress, and measures of public preferences for spending.²⁷

Responsiveness in Different Domains

To begin with, the model is estimated for the nine spending domains using the separate measures of net support. Such an analysis offers a very general characterization of politicians’ responsiveness across domains. Recall that responsiveness is expected in some domains, specifically, defense and social programs, but not in others, namely, foreign aid, crime, and space. The results are described in Tables 2-4.²⁸

The results for defense are shown in Table 2. Here we see that changes in appropriations do closely follow public preferences for defense spending over time, consistent with previous

research (Wlezien, 1996a). As indicated by the positive, significant coefficient for net support, when public support for more defense spending is high (low), politicians tend to provide more (less) defense appropriations. The effect is sizable, particularly given the variance in net support over time: A one standard deviation (or 20.5 percentage point) increase leads to a 13.56 billion (1987) dollar increase in appropriations. Note also that defense appropriations are not independently responsive to the average support for social spending ($b = 0.18$, $s.e. = 0.41$) or the underlying factor relating support in the defense and social domains ($b = -.44$, $s.e. = 3.57$), based on separate analyses. These results imply that politicians respond directly to public preferences for defense spending. This is exactly as we expected.

— Tables 2-4 about here —

Defense appropriations also reflect the party affiliation of the president. Based on the coefficient in Table 2, the change in defense appropriations is about 11 billion (1987) dollars higher under Republican presidents than under Democratic presidents, *given public preferences*. The effect may seem counterintuitive, for it implies that the party of the president influences appropriations change year-after-year, not merely during transitions. Since defense appropriations feed back (thermostatically) on public preferences, however, such an effect of presidential party is exactly what we should expect (Wlezien, 1996a). As Democratic presidents advance and get relatively less defense appropriations, public support for more defense spending tends to increase; as Republican presidents advance and get more defense appropriations, public support tends to decrease. Thus, given that presidents (and Congresses) follow public preferences for defense spending, the actual appropriations change under Democratic and Republican presidents tends to diminish fairly quickly over time. In effect, presidents bring policy in line with their preferred partisan levels.²⁹ Given feedback, the patterned effect of presidential party makes the pronounced cyclicity of public preferences for more defense spending much more

understandable.

The results in Table 3 show that the party of the president also structures appropriations for social programs, though only in the welfare domain. In each of the other social domains, the coefficient is (seemingly incorrectly) negatively signed and highly unreliable. The party of the president, thus, matters only in those domains that are particularly important to the public—defense and welfare. Understandably, the direction of the party effect on welfare appropriations is the opposite of what was found for defense appropriations: the annual change in appropriations is about 24.5 billion (1987) dollars higher under Democratic presidents than under Republican presidents, given public preferences. As for defense, however, the patterned effect of presidential party helps account for the cyclicity of social spending preferences, that is, since welfare appropriations feed back on public preferences for spending in *each* of the social domains (see Wlezien, 1995, and the discussion above). Given feedback, the patterned difference in presidential party effects on defense and welfare appropriations also partially accounts for the strong, negative relationship between preferences for defense and social spending over time (see note 13 as well).

The effects of the party composition of Congress are quite different. While the party of the president influences defense and welfare appropriations, the party composition of Congress does not. Indeed, the Democratic percentage in the House and Senate matters most where the party of the president matters least, namely, the non-welfare social domains. Even in these domains, however, the effects are spotty. As can be seen in Table 3, the effect of the Congressional party composition meets conventional levels of significance only for education. These results indicate that the party of the president and the partisan composition of Congress have very different effects on appropriations, and that the latter matters relatively little, at least given public preferences (and presidential party).³⁰

Most importantly, the results in Table 3 show that the effect of net support varies across the social spending domains. The coefficient is correctly, positively signed in all five domains, but its size and significance differs quite a lot. It is largest for welfare and, to a lesser extent, health appropriations, smaller for education and environmental appropriations, and virtually zero for big cities. Taking into account the variances of net support reveals even greater differences across domains. The estimated effects, in billions of (1987) dollars, of a one standard deviation increase in net support are 14.74, 2.77, .80, .80, and .27, respectively, for welfare, health, education, the environment, and big cities.³¹

Although these differences are suggestive about differences in responsiveness, they are somewhat deceiving. That is, they partially reflect the size of the programs themselves, i.e., the larger the program, the larger the estimated responsiveness.³² Even when adjusted for program size, however, there are meaningful differences across domains: The mean-adjusted effects, in percents, of a one percentage point increase in net support are 1.59, .77, .36, .42, and .32, respectively, for the five domains. The statistical significance of the effects differs similarly, if less dramatically. These results suggest that politicians' do respond to preferences for social programs but that the responsiveness varies across domains.³³

Still it is not clear what politicians are representing in the social spending domains. Are they responding to preferences within the particular domains? Or are they responding to the more global signal for spending across the domains? Or, as we hypothesized, does the structure of representation vary? To answer these questions, it is necessary to explicitly examine the focus of policy responsiveness in the different domains.

Before turning to this analysis, let us briefly consider the results for the other domains, shown in Table 4. Here we see that the coefficients for net support all are small and statistically indistinguishable from 0. The foreign aid coefficient actually is negative. Based on this analysis,

then, politicians do not respond to preferences for spending on crime, foreign aid, and space, taken separately. Yet other analyses indicate that politicians also do not respond to preferences for spending on these programs taken together or to broader measures of preferences in the social (and defense) domains.³⁴ These results are as expected given the analysis of public preferences discussed above; where the public does not notice and respond to budgetary policy, policy does not follow public preferences. It is as if politicians understand that these domains are not particularly important to the public and that, as a result, expressed public preferences in these domains are not particularly important to them.³⁵

Assessing Responsiveness in the Social Domains

Let us now consider the structure of representation in the social spending domains.³⁶ Recall that we want to determine what politicians are representing in these domains, that is, whether they are responding to specific preferences in the different domains or to a broader signal for more "social" spending. We thus need to separate out the specific component of spending preferences in the different areas from the global component that is shared across these domains. The most direct measure of the common variance is the factor relating net support in the five social spending domains. Keep in mind that we want to identify the common component in *social spending* preferences, not preferences for the range of government policies, which is why we do not use Stimson's measure of mood.³⁷ To enhance comparability with the results in Table 3—that is, to create a common metric—the variable used in the analysis represents the predicted values from the (pooled) regression of net support on the underlying factor score.³⁸ The domain-specific component is simply the residuals from this regression, i.e., the difference between measured net support in each domain and the global component.

By substituting the “global” and “specific” components of net support into the models of

appropriations change, we can directly assess the focus of politicians' responsiveness (see equation 2 above). If politicians are responding to public preferences in particular domains, appropriations change will be about equally related to both components of net support; if politicians are responding to the global social preference, appropriations change only will be related to the global component.³⁹ The results of estimating the models, including the full set of controls used in Table 3, for the five social domains are presented in Table 5. (For expository purposes, the table only shows the estimated coefficients for the two components of net support.)

— Table 5 about here —

Here we can see that the effects of global net support are virtually the same as the effects of net support in Table 3. The coefficients for the common component actually are slightly smaller and less significant for welfare and health and slightly larger for the environment and big cities, which is understandable, as we will see. These coefficients serve as the baseline against which we compare the effects of residual net support in each domain.

Now, as is clear in Table 5, the relative effects of the specific components differ substantially. For welfare, the coefficient (1.02) is just slightly less than and not significantly different from the coefficient for the common component (1.14). The coefficient also is significantly different from 0 ($F_{1,13} = .13; p = .72$). In effect, policy is equally responsive to the two components of net support for welfare spending. The finding is of obvious importance, for it implies that politicians respond directly to these preferences. Representation in this domain is specific.

As we turn to appropriations for health, education, the environment, and big cities, the relative effect of specific net support declines. That is, the ratio between the coefficients for the specific and global components is less in each successive domain. The pattern implies that responsiveness to preferences *within* domains varies across domains. It is not clear, however, that the specific portion of preferences matters in any of the programs since none of the coefficients are

statistically significant. Thus, even where the coefficients for the global and specific components are largely indistinguishable, as for health and education, we cannot conclude that politicians are responding to preferences in the particular domains (Wlezien, 1995).⁴⁰ For the environment and big cities, the coefficients for residual net support actually are negative.

Based on this analysis, it appears that politicians respond solely to the global social spending signal when making appropriations in these non-welfare domains. There may be some specific policy responsiveness to health and education preferences, just as there may be some specific public responsiveness to appropriations change in these domains. Even to the extent this is true, the consequences of such policy responsiveness are relatively minor. That is, the specific components of spending preferences in the two domains, though especially education, exhibit a small amount of variance over time and thus contribute little to our understanding of appropriations change.⁴¹

The findings are in fitting with our expectations. Where the public notices and responds to policy change in particular social spending domains, namely, welfare, politicians represent public preferences in those domains. Where the public only notices very general policy change, as for the non-welfare social programs, politicians represent the more global public preference across these domains. Even where politicians respond to this broader signal for policy, however, they are more likely to provide policy in some domains than they are in others. Responsiveness is most pronounced for health, slightly smaller for education and the environment, and not apparent at all for big cities. These differences are intuitively satisfying.

The Social Programs Taken Together

Though the analysis shows that politicians' responsiveness to preferences varies across domains, it is useful to consider what happens when we aggregate across the set of social

programs. It has, after all, become quite commonplace to lump programs together in analyses of representation (Erikson, Wright, and McIver, 1993; Stimson, MacKuen, and Erikson, 1995; Wood and Hinton-Andersson, 1998), and doing so may have consequences for our analyses. To consider the effects of aggregating, the basic model is estimated using total social appropriations and average net support in the five social domains. The results of this analysis are shown in Table 6.

— Table 6 about here —

Here we see that these results do not merely summarize the results for the specific domains. To begin with, aggregating reduces the estimated overall level of responsiveness. The coefficient (1.23) for the average net support for spending is substantially less than the sum (1.71) of the five coefficients for the specific measures of net support in Table 3.⁴² Aggregating also masks party effects. It appears, based on the results in Table 6, that the party of the president and party composition of Congress have nothing to do with budgetary policy for social programs. As we have seen, however, this is not the case. Rather, the effects of both presidential and Congressional party and public preferences themselves differ meaningfully across domains. Since the model structure differs, we simply cannot neatly pool the set of social programs, let alone others, into a single analysis. Doing so only serves to conceal the effect of public preferences and that of the party control of government.

Discussion

In a recent book, Geer (1996) makes a convincing case for the importance of public opinion about policy in modern democratic polities. His thesis really is quite simple: Given the advent and evolution of polling technology, it now is relatively easy for politicians to represent what the public wants in various policy areas. The point is not that politicians actually represent opinion in each and every area but, rather, that they are in a position to do so. That is, politicians now have a

lot of information about public preferences for policy in different domains. Preferences in the different domains are not entirely unique, however. They tend to move together over time. This patterned movement in preferences has led some scholars (Stimson, MacKuen, and Erikson, 1994; 1995; Wood and Hinton-Andersson, 1998) to conclude that the public does not have preferences for policy in different areas. Instead, they argue that the public has a single, very general preference for government activity. From this perspective, measured preferences in various domains represent (multiple) indicators of a single, underlying preference for government action. When compared with the more traditional perspective, this characterization of public opinion has very different implications for the structure of representation.

This is where our investigation picks up. In the course of our analysis, we have seen that, while preferences in different areas do move together over time, the movement is not entirely common. Preferences in some spending domains share little in common with preferences in others; instead, they move independently over time. Perhaps more importantly, even where they do move together, preferences in the different domains also vary independently to some extent. Simply put, public preferences in *each* of the spending domains contain specific components. We also have seen that politicians' responsiveness to preferences varies understandably across the different domains. The pattern of policy responsiveness is symmetrical to public responsiveness to policy itself (Wlezien, 1995). Where the public notices and responds to policy within a particular domain, as for defense and welfare, politicians appear to respond to the specific preference for policy in that domain. Where the public responds very generally to policy across a set of domains taken together, as for the non-welfare social programs, politicians respond to the underlying preference for policy across the set of related domains. Where the public does not respond to policy, as for crime, foreign aid, and space, politicians do not respond to preferences. Based on this analysis, it appears that politicians' responsiveness reflects the public importance of

different policy domains. This is exactly as we should expect (see e.g., McCrone and Kuklinski, 1979; Hill and Hurley, 1998).

Of course, a general shift in public preferences for spending across the different programs does produce a corresponding change in budgetary policy for the domains taken together. This broader pattern largely conceals responsiveness to preferences for spending in particular domains, however. A similar pattern may hold cross-sectionally, e.g., across states or Congressional districts (also see Hill and Hurley, 1998). That certain domains, especially defense and welfare, are more important than others to politicians is quite understandable. We know that the public not only has meaningful preferences for policy in these areas, but notices what policymakers actually do within them. We also know that preferences in these areas structure vote choice and election outcomes themselves (Abramowitz, 1994; Jacoby, 1994; see Asher, 1992, for a more general characterization). Politicians simply have a very real incentive to pay attention to what the public wants in these domains, and they do.

This is not to say that these patterns of representation are fixed and enduring. Indeed, we already know that the political importance of political issues can change over time (see, e.g., Carmines and Stimson, 1990; Franklin and Wlezien, 1997). Some issues may increase in importance and others decrease. Wholly new issues may appear. Put simply, the political world can change and partly due to political competition itself. Regardless of its sources, the changing importance of issues would (or should) have implications for patterns of representation. In this context, our findings only capture a snapshot in time. Whether and how the patterns change in the future, of course, is difficult to predict in advance. Only time and the information it reveals will tell.

APPENDIX A: Appropriations Data

All of the appropriations data were drawn from the *Budget of the United States Government, Fiscal Year 1995* (Supplement, February, 1996). The budget functions literally match the spending preference items in the case of education, the environment, health, and space. To isolate appropriations for education per se, budget authority for "training and employment" was excluded. The budget functions "Administration of Justice" and "International Affairs" capture appropriations for crime and foreign aid, respectively. Appropriations for the latter were adjusted to include only the amounts used for aid, specifically, "International Development and Humanitarian Assistance" and "International Security Assistance." The budget functions "Community and Regional Development" and "Income Security" contain appropriations relating to big cities and welfare, but also other things. Thus, appropriations for "disaster relief and insurance" were excluded from appropriations for big cities. Three subcategories of "Income Security" were excluded from appropriations for welfare: "general retirement and disability insurance," "federal employee retirement and disability," and "unemployment compensation." For more detailed information, see Table 5.1 of the *Historical Tables, Budget of the United States Government* at <http://www.whitehouse.gov/omb/budget/fy2002/hist.pdf>.

Notes

¹ Of course, policy is an institutional outcome. In parliamentary democracies, where powers are unified, responsiveness should lead fairly directly to policy. In systems where powers are divided, as in the U.S., responsiveness by individual institutional actors does not (necessarily) lead directly to policy, because both presidential and congressional action typically are required. Presidential responsiveness to public preferences is conceptually quite simple: The president represents a national constituency and is expected to follow national preferences. Congressional responsiveness is slightly more complex, even considering the chambers separately: Members of Congress represent districts or states and are expected to follow preferences in these constituencies. Although preferences differ across constituencies, there is reason to suppose that preferences in the different constituencies move together over time (see, e.g., Bartels, 1991). After all, we already know that movement of opinion across states (Erikson, Wright, and McIver, 1993) and various demographic subcategories of the American public (Page and Shapiro, 1992) is effectively parallel. By implication, if members of Congress do respond to changing preferences in their constituencies, the median Congressional "preference" should follow changes in the national preference over time. (Of course, opinion change may not be perfectly parallel, but this is of little consequence. All that is required is that the median Congressional preference moves with national public opinion.) To the extent that they are responsive to public preferences, therefore, both the president and Congress should move in tandem, and predictable policy change is the logical consequence. Such responsiveness would help explain policy cooperation during periods of divided government (Mayhew, 1991).

² Imagine asking people how much defense or welfare spending they want.

³ This issue is considered in more detail below.

⁴ In effect, the specific components of preferences in various domains constitute measurement error.

⁵ Just because preferences in different domains move together over time does not mean that each domain is *equally* important to the public and policymakers.

⁶ Those scholars who assume that responsiveness is global typically do not distinguish among policy in different domains and instead aggregate policy across domains and estimate a single equation (see Stimson, MacKuen, and Erikson, 1995; Wood and Hinton Andersson, 1998).

⁷ This is not the only expression of global representation, however. Even if ${}^G B_i'$ is not distinguishable from 0 (and ${}^D B_i'$ equals 0), the common component, R_t , might structure policy for the set of programs taken together. In effect, the various programs may be substitutable to politicians, representing different means to the same end (see, e.g., Jankowski and Wlezien, 1993). If this were the case, policy for the programs taken together would follow the central tendency in preferences, as in the following model:

$$\Delta P_t = a_0 + \frac{h}{\gamma} {}^G B'' R_t + \gamma Z_t + e_t,$$

where ${}^G B''$ is greater than 0.

⁸ Note that an identical set of expectations applies cross-sectionally.

⁹ The exact wording for the other categories is: Solving the problems of big cities? Crime prevention? Improving the nation's education system? Improving and protecting the environment? Foreign aid? Improving and protecting the nation's health? Space exploration? and Welfare? Other categories have been used regularly by different survey organizations, including the "condition of blacks" and "drug addiction," but are not included in the analysis because they do not neatly correspond with spending behavior. Yet others have been used only sporadically, and

there are some about which survey organizations never ask. The decisions of survey organizations may be telling about the public importance of the various programs.

¹⁰ In any analysis of representation, though particularly in one that relies on measures of relative public preferences, it is important to use polls conducted at about the same point in time in different years (Wlezien, 1995; 1996a). The GSS is conducted in February-March in each year, when Congress begins to consider appropriations bills. Fortunately, Gallup asked the defense spending question in the early part of the missing years—1979, 1981, and 1992—and that data is used here. Gallup did not ask about spending for the various other programs, however, and there seemingly is no other source of data about preferences for spending on these programs during the early part of the particular years. It thus is necessary to rely on data from the Roper Poll, which was conducted in December of each year. Given the timing of the poll, results from Roper surveys conducted in *previous* years are used here. For justification, see Wlezien (1996a).

¹¹ In one sense, then, the environment is just another “social program” to the public, at least with respect to spending.

¹² The average net support for spending in the five social categories closely tracks Stimson's (1991) measure of policy mood. This close tracking implies that the measure reflects, or indeed taps, preferences for more spending. Not surprisingly, models of social spending preferences also nicely account for policy mood (see Wlezien, 1993b; 1995).

¹³ The evident guns-butter trade-off partially accounts for the strong, negative relationship between defense and social spending preferences discussed above.

¹⁴ The specific movement in preferences is not mere simple sampling error. Given the frequencies and sample sizes of the actual polls, the amount of observed variance in net support that is due to sampling error is easy to compute (Heise, 1969). The estimates, in fractions, are as

follows: health (.02), environment (.05), education (.06), welfare (.07), big cities (.14). The statistical reliabilities of the different series are simply 1 minus the estimate for each corresponding domain.

¹⁵ Of course, from the point of view of explaining variation in policy change across domains, what may matter most is salience, but that is a different subject.

¹⁶ That is, when the actual policy “temperature” differs from the public’s preferred policy temperature, the public sends a signal to adjust policy accordingly, and once policy is sufficiently adjusted, the signal stops. Note that in contrast with thermostatic temperature control devices, which only send a directional signal, the spending preference signals the public sends to policymakers reflect both direction and magnitude.

¹⁷ That is, the indicator of public importance has face validity. As we will see, given the voting behaviour literature, it also has external validity.

¹⁸ The process by which individuals come to be informed about what policymakers actually do appears to be quite interesting and complex. See especially Jacoby (2000) and Zaller (1992). Also see Nacos, Shapiro, and Insernia (2000).

¹⁹ The *p*-values range from .09 to .35 (two-tailed), depending on the specification.

²⁰ The finding also is consistent with analyses of voting behavior (Asher, 1992; Abramowitz, 1994).

²¹ Of course, as noted above, global responsiveness may vary across the domains.

²² Appropriations bills specify an amount of budget authority that is available to an agency or department for obligation, that is, for making commitments to spend money. When money is actually spent, an expenditure or outlay occurs, which can lag far behind appropriations decisions and obligations. Thus, the budgetary commitment to programs is primarily evident in the budget

authority specified in appropriations, not the actual outlays that result from those decisions.

²³ Real dollar values were calculated by dividing current dollar values into the gross national product implicit price deflator (1987=1.00), from *The National Income and Product Accounts*.

²⁴ See Kiewiet and McCubbins (1991) for an interesting overview of the literature. Of course, not all appropriations change is incremental (Baumgartner, Jones, and True, 1998). Now, notice that in domains where the public itself responds to policy, the model of appropriations change effectively represents an error correction model (ECM). As the thermostatic model implies, the measure of net support (R) in each of these domains represents the difference between what the public wants (P^*) and policy (P) itself at particular points in time t . Thus, in the models of appropriations change, ΔP_t represents a function of $P^*_{t-1} - P_{t-1}$, which is the equivalent of an ECM. Note that the effects of opinion on policy and policy on opinion are *not* simultaneous: The change in budgetary policy for the current fiscal year affects the current change in net support, and the current level of net support affects the change in policy for the ensuing fiscal year.

²⁵ Of course, measures of party control may not perfectly capture this indirect representation.

²⁶ The measures of party control tap the *levels* of partisan control, which might appear to be inconsistent with the (differenced) dependent variables. Given feedback, however, the specification actually is theoretically implied (see note 24 and the discussion of the results that follows). The specification also is supported by separate diagnostic analyses.

²⁷ The models of environment and big cities appropriations contain separate controls for fiscal years 1977 and 1978. For the environment, the variables capture program growth that seemingly is unrelated to other variables in the model. For big cities, the variables capture the substantial spike in supplemental appropriations advanced by Carter in Fiscal Year 1977 and a corresponding drop in Fiscal Year 1978. Excluding these variables only reduces the estimated effects of net

support in the two domains.

²⁸ Dickey-Fuller tests indicate that each of the appropriations series are (first-order) integrated, which is as one should expect. The resulting test statistics are as follows: defense (-.98), welfare (-1.47), health (-.91), education (-.46), environment (-1.88), big cities (-2.33), crime (-1.55), space (-1.35), and foreign aid (-1.86). Note, however, that OLS estimation of the appropriations model does produce negatively autocorrelated residuals in six of the nine domains (all except defense, health, and foreign aid). This autocorrelation is accounted for directly using the iterative Prais-Winsten procedure. The estimated rhos are reported in the tables when significant ($p < .05$).

²⁹ This is precisely what "error correction" implies. Also see notes 24 and 26.

³⁰ While this may seem surprising, it is important to note that the partisan composition of the Congress follows the flow of public preferences over time (see, e.g., DeBoef and Stimson, 1995), which may partially capture "apparent" partisan effects. That the effects of Congressional composition are more pronounced when the measures of net support are excluded from the models supports this conjecture. It also is worth noting that Congressional effects have been concealed by the traditional two-stage process of appropriations decision-making (see Wlezien, 1996b).

³¹ Notice that the effect (14.74) for welfare is about the same as the effect (13.56) on defense appropriations of a comparable shift in net support for defense spending. See the discussion of Table 2.

³² Then again, the size of the programs differs for some reason, and public preferences themselves may have something to do with it. The mean levels of appropriations in billions of 1987 dollars are: welfare (72.3), health (49.4), education (22.3), the environment (16.7), and big cities (9.4). It is worth mentioning that percentage change measures reveal a similar pattern,

though using these measures is deceiving since they do not take into account the degree to which the base levels of appropriations are discretionary.

³³ Adjusting for sampling error using the estimated statistical reliabilities of net support (see note 14) expands the variation of effects across the domains. The resulting coefficients are: welfare (1.68), health (.39), education (.12), the environment (.09), and big cities (.04). The corresponding mean-adjusted effects, in percents, are: welfare (2.32), health (.79), education (.54), the environment (.54), and big cities (.40).

³⁴ Adjusting for sampling error makes little difference, though the effect of crime net support does increase slightly ($b = .11$, $s.e. = .08$). Yet other analyses indicate that politicians also do not respond to preferences for spending on these programs taken together or to broader measures of preferences in the social (and defense) domains.

³⁵ The findings for the crime spending domain are not entirely satisfying, for there is reason to think that crime is fairly important to the American public, as discussed above. Still, as noted in the text, the issue does appear to be much less important to people than other issues, such as defense and welfare, at least at the *national* level. Since crime is mostly the responsibility of state and local politicians, perhaps it is at these levels of government that we should expect to find a closer connection between preferences and policy.

³⁶ Before proceeding, it is important to note that the representational relationships described in Tables 2-4 are robust to time, based on diagnostic analyses. For this exercise, the models were reestimated using separate measures of net support for different three-year periods of the sample and then Chow tests were conducted to assess equality of the coefficients. Given the focus on salience in the literature discussed above (see especially Jones, 1994), the models also were estimated using net support interacted with percentage measures of most important problem

(MIP), that is, where this is possible: defense, health, education, the environment, and crime.

These models perform worse, as indicated by F-statistics, than those using the basic additive specification presented in the Tables. Evidently, then, the over-time variance in MIP responses offers us little additional information about the public importance of the different domains over time. As discussed earlier, this is not surprising. Of course, all of these results are available upon request.

³⁷ Using it makes little difference anyway. Also see note 12.

³⁸ The common component accounts for 77 percent of the variance in net support, on average, though it differs across domains. The unadjusted *R*-squareds are as follows: welfare (.60), health (.78), education (.88), the environment (.89), and big cities (.71). Note that the component accounts for 99 percent of the variance in the *average* net support for social spending.

³⁹ Given that the global component contains information about measured net support in each of the five domains, this is a fairly conservative test of domain-specific responsiveness. It is worth noting, therefore, that using the levels of net support predicted by the model of social spending preferences discussed above (see Wlezien, 1995) produces similar results. While the effects of residual net support are slightly larger when using this measure, the differences are not statistically significant. Most importantly, the patterns of representation remains the same.

⁴⁰ The coefficients for residual net support in both domains remain insignificant even when adjusting for sampling error. This analysis involved allocating the estimated error variance in the raw measures of net support between the global and specific components. The appropriate allocation is not easy to determine a priori, so, to begin with, the estimated error variance was divided equally between the two components. Taking into account the resulting estimated reliabilities of the predicted and residual components increases both coefficients in each domain: For health, the estimated coefficients (and standard errors) are .41 (.12) and .32 (.28),

respectively; for education, the corresponding results are .10 (.04) and .08 (.10). Allocating more error variance to the residual component makes little difference.

⁴¹ The performance of models that exclude specific net support is telling when compared with the performance of the models using the original measures of net support (see Table 3). When we estimate models only using global net support, the resulting adjusted *R*-squareds for the health and education domains are .55 and .57, respectively. These numbers are virtually identical to the corresponding *R*-squareds (.56 and .57) in Table 3, which indicates that the specific components of preferences add almost nothing to our understanding of appropriations change in these two domains. For comparative purposes, consider that when we estimate the welfare appropriations model only using the common component, the adjusted *R*-squared (.40) is substantially smaller than the corresponding *R*-squared (.56) in Table 3. For environmental and big cities appropriations, conversely, the adjusted *R*-squareds (.69 and .01, respectively) are larger.

⁴² Perhaps more to the point, when average net support is substituted for net support in analyses of appropriations within domains, the sum of the coefficients is 1.27. Using the measure of global net support (see Table 5) produces virtually identical results.

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Table 1. Factor Loadings of the Spending Preference Items, 1973-1994

Item	Factor		
	1	2	3
Environment	.90	-.03	-.09
Health	.85	-.09	.06
Education	.84	.36	.08
Cities	.81	-.33	.30
Welfare	.76	-.03	-.19
Defense	-.84	.33	.23
Space	.11	.94	-.06
Foreign Aid	.23	.56	-.62
Crime	.28	.53	.74
Eigenvalue	4.33	1.84	1.12
Percent of Variance	48.11	20.44	12.44

Note: Table entries are the loadings of the independent spending preference items with the three (unrotated) factors derived from them.

Table 2. Defense Appropriations Regression, Fiscal Years 1974-1995,
in Billions of 1987 Dollars

Independent Variable	Defense Appropriations _t ^a (differenced)
Intercept ^b	5.63* (2.41)
Party of the President _{t-1}	-11.00* (5.26)
Party Composition Of Congress _{t-1}	-.21 (.53)
Net Support for Defense Spending _{t-1}	.66** (.10)
R-squared	.74
Adjusted R-squared	.68
Standard Error	8.50
Durbin-Watson <i>d</i>	1.94

$N = 22$, ** $p < .01$ * $p < .05$ (two-tailed)

Note: The numbers in parentheses are standard errors.

^a Results are based on an estimated model that includes a control for the Kuwait-Iraq crisis in fiscal year 1992.

^b Intercept reflects the effects of the mean values of Party Composition of Congress_{t-1} and Net Support for Defense Spending_{t-1}.

The variables that are original to this analysis are defined as follows:

Party of the President_{t-1} = a dichotomous variable that takes the value 1 for a Democratic president and 0 for a Republican president, measured in the calendar year during which regular appropriations for fiscal year t are made.

Party Composition of Congress_{t-1} = the average of the percentages of Democrats in the House and Senate, measured in the calendar year during which regular appropriations for fiscal year t are made.

Table 3. Appropriations Regressions, The Social Domains, Fiscal Years 1977-1995, in Billions of 1987 Dollars

Independent Variable	Appropriations, (differenced)				
	Welfare ^a	Health	Education	Environment ^b	Cities ^b
Intercept ^c	-8.32* (3.78)	4.25** (.93)	.77* (.27)	-.31 (.44)	-.37 (.32)
Party of the President _{t-1}	24.45* (10.13)	-3.19 (2.05)	-1.27 (.85)	-.67 (1.06)	-.09 (.66)
Party Composition Of Congress _{t-1}	-.09 (.62)	.35 (.22)	.27** (.07)	.12 (.11)	.06 (.08)
Net Support for Spending _{jt-1}	1.15** (.30)	.38** (.11)	.08** (.02)	.07* (.03)	.03 (.02)
R-squared	.66	.63	.64	.68	.19
Adjusted R-squared	.56	.56	.57	.61	.00
Standard Error	7.28	2.94	1.39	1.21	1.06
Rho	-.43	---	-.71	-.47	-.38
Durbin-Watson <i>d</i>	---	1.75	---	---	---

$N = 19$, ** $p < .01$ * $p < .05$ (two-tailed)

Note: The numbers in parentheses are standard errors.

^a Results are based on an estimated model that includes a control for the Carter transition in fiscal year 1977.

^b Coefficient statistics are based on an estimated model that includes separate controls for fiscal years 1977 and 1978; model statistics are based on analysis that excludes these two years.

^c Intercepts reflect the effects of the mean values of Party Composition of Congress_{t-1} and Net Support for Spending_{jt-1}.

Table 4. Appropriations Regressions, Other Domains, Fiscal Years 1977-1995,
in Billions of 1987 Dollars

Independent Variable	Appropriations, (differenced)		
	Crime	Space	Foreign Aid
Intercept ^a	.49* (.22)	.31 (.19)	-.07 (.60)
Party of the President _{t-1}	-.25 (.46)	-.34 (.43)	-.35 (1.34)
Party Composition Of Congress _{t-1}	-.00 (.06)	-.00 (.05)	.01 (.15)
Net Support for Spending _{kt-1}	.07 (.05)	.01 (.02)	-.27 (.18)
<i>R</i> -squared	.16	.15	.14
Adjusted <i>R</i> -squared	.00	-.01	-.03
Standard Error	.72	.87	2.50
Rho	---	-.53	-.35
Durbin-Watson <i>d</i>	2.03	---	---

$N = 19$, * $p < .05$ (two-tailed)

Note: The numbers in parentheses are standard errors.

^a Intercepts reflect the effects of the mean values of Party Composition of Congress_{t-1} and Net Support for Spending_{kt-1}.

Table 5. Assessing Representation in the Social Domains, Selected Coefficients, Fiscal Years 1977-1995, in Billions of 1987 Dollars

Independent Variable	Appropriations, (differenced)				
	Welfare	Health	Education	Environment	Cities
Global Net Support for Social Spending _{<i>t-1</i>}	1.14** (.31) [.95]	.37** (.11) [.73]	.09* (.04) [.34]	.09** (.03) [.33]	.04 (.04) [.09]
Specific Net Support for Spending _{<i>jt-1</i>}	1.02** ^a (.47) [.80]	.23 ^b (.22) [.21]	.05 ^c (.13) [.09]	-.04 (.06) [-.07]	-.01 (.07) [-.02]
<i>R</i> -squared	.66	.65	.64	.76	.19
Adjusted <i>R</i> -squared	.53	.55	.54	.68	-.08
Standard Error	7.51	2.98	1.43	1.12	1.10
Rho	-.43	---	-.72	-.57	-.37
Durbin-Watson <i>d</i>	---	1.70	---	---	---

$N = 19$, ** $p < .01$ * $p < .05$ (2-tailed)

Note: Results are based on estimated models that include all other variables described in Table 3. The numbers in parentheses are standard errors; the numbers in brackets are standardized coefficients.

^a The coefficient is not significantly different from the coefficient for Global Net Support for Social Spending_{*t-1*} ($F_{1,13} = .13$; $p = .72$).

^b The coefficient is not significantly different from the coefficient for Global Net Support for Social Spending_{*t-1*} ($F_{1,14} = .63$; $p = .44$).

^c The coefficient is not significantly different from the coefficient for Global Net Support for Social Spending_{*t-1*} ($F_{1,14} = .05$; $p = .83$).

The variables that are original to this analysis are defined as follows:

Global Net Support for Social Spending_{*t-1*} = the lagged level of Net Support for Spending_{*t*} predicted from the (pooled) regression of Net Support for Spending_{*jt*} on the factor score relating spending preferences in the five social domains.

Specific Net Support for Spending_{*jt-1*} = Net Support for Spending_{*jt-1*} minus Global Net Support for Social Spending_{*t-1*}.

Table 6. Total Social Appropriations Regression, Fiscal Years 1977-1995, in Billions of 1987 Dollars

Independent Variable	Social Appropriations _t (differenced)
Intercept ^a	3.66 (3.34)
Party of the President _{t-1}	-2.82 (7.81)
Party Composition Of Congress _{t-1}	1.32 (.77)
Average Net Support for Social Spending _{t-1}	1.23** (.28)
<i>R</i> -squared	.79
Adjusted <i>R</i> -squared	.73
Standard Error	9.39
Rho	-.35

$N = 19$, ** $p < .01$ (two-tailed)

Note: The numbers in parentheses are standard errors. Results are based on an estimated model that includes a control for the Carter transition in fiscal year 1977.

^a The intercept reflects the effects of the mean values of Party Composition of Congress_{t-1} and Average Net Support for Social Spending_{t-1}.

