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Government Responsiveness and Political Competition in Comparative Perspective

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Governments in democratic systems are expected to respond to the issue preferences of citizens. Yet we have a limited understanding of the factors that cause levels of responsiveness to vary across time and between countries. In this article, the authors suggest that political contestation is the primary mechanism driving policy responsiveness and that this, in turn, is mediated by political institutions and government popularity. To test this proposition, the authors analyze the responsiveness of executive policy promises (speeches) and policy actions (public expenditure) in Britain, Denmark, and the United States in the period from 1970 to 2005. These time-series analyses show that higher levels of political contestation are associated with more responsive executives.

Keywords: *responsiveness; speeches; budget; representation; competition*

By definition, a government has no conscience. Sometimes it has a policy, but nothing more.

—Albert Camus

As Dahl writes, “A key characteristic of democracy is the continued responsiveness of the government to the preferences of the people” (Dahl, 1971, p. 1). In this “delegate” view of representation,¹ elected representatives are expected to act responsively to the needs of their constituents. If elections are freely contested, governments will follow the preferences of the people, because parties and candidates engage in a competitive struggle for votes.

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There are, however, competing views on the nature of this struggle. The Downsian proximity view of elections contends that parties compete by shifting their ideological positions, because voters will support the party closest to their ideal point on a single issue dimension (Downs, 1957). Yet other work on party competition argues that rather than shifting position on issues, parties compete by emphasizing certain issue dimensions (see, e.g., Budge & Farlie, 1983; Petrocik, 1996; Riker, 1996). According to this “saliency” or “issue ownership” theory, political competition is not primarily about competing ideological positions but about selective emphasis on issues. Assuming that issue saliency is a key component of political competition, an important aspect of democratic responsiveness concerns how politicians prioritize different issues and how this corresponds with the public’s issue preferences. Moreover, if policy responsiveness is driven by political competition, we would expect the level of responsiveness to depend on the degree of contestation. When political contestation is fierce, we would expect governments to have greater incentives to follow public opinion. There is a large body of literature on how levels of political competition vary between countries (see Franklin, 2004; Strøm, 1989) but little empirical work examining how such differences affect policy responsiveness. This article seeks to address this question by examining variation in responsiveness across different systems and across time. We argue that political institutions, such as rules governing elections and legislative behavior, influence levels of political contestation and, in turn, affect responsiveness. We examine two aspects of responsiveness: *rhetorical responsiveness*—that is, the extent to which government’s selective policy emphases in speeches reflect public issue preferences—and *effective responsiveness*—that is, the correspondence between public issue preferences and budgetary priorities.

We test our hypotheses in a comparative analysis of policy responsiveness in Denmark (proportional parliamentarism), the United Kingdom (majoritarian parliamentarism), and the United States (presidentialism) in the period from 1970 to 2005. The selection of three countries with very different institutional structures makes it possible for us to draw some preliminary conclusions about the impact of institutions on responsiveness. We focus on two aspects of political contestation, the uncertainty about reelection chances and the constraints on executive power, both of which are shaped by a combination of fixed institutional rules and changing voter preferences. To analyze rhetorical responsiveness, we conduct quantitative content analysis of the prime ministers’ and presidents’ speeches. Using time-series analysis, we analyze the impact of changing public preferences (using survey data) on both the priorities set out in the speeches and changes in public expenditure on major policy areas. Our findings suggest that greater electoral uncertainty

and constraints on executive discretion of power lead to higher levels of government responsiveness.

The Opinion–Policy Nexus

There is an extensive body of literature on the correspondence between public opinion and policy behavior. The general finding in the literature is that elites are responsive to public preferences (see Cohen, 1997; Geer, 1996; Page & Shapiro, 1983, 1992; Stimson, Mackuen, & Erikson, 1995; Wlezien, 1995, 1996). Recent work also suggests that electoral uncertainty may affect levels of responsiveness. Canes-Wrone and Shotts (2004) argue that the responsiveness of presidents is conditional on their levels of public support. Presidents experiencing very high and very low approval ratings will be less responsive compared to presidents with medium-level approval ratings. Canes-Wrone (2006, p. 122) further argues that institutional factors play a role in influencing responsiveness, because first-term presidents are more responsive than second-term presidents, especially if they are concerned about their reelection chances.

Because most empirical work on policy responsiveness focuses on the United States, we have a limited understanding of whether responsiveness varies across countries and how political contestation influences the degree of representation. A few recent studies of policy responsiveness in a comparative context have considered the impact of institutional variations (see Brooks, 1987; Hobolt & Klemmensen, 2005; Soroka & Wlezien, 2004). Notably, Soroka and Wlezien (2004) present a comparative study of responsiveness in Britain, Canada, and the United States that suggests that institutions may influence the responsiveness of governments in their policy behavior. They argue that the more power is concentrated, the less policy representation there is. This study aims to contribute to this literature on policy responsiveness by examining the responsiveness of both policy promises and policy action in countries with very different electoral and legislative institutions. The key question is how political contestation (as shaped by institutions) mediates the impact of public preferences on government behavior. Wlezien (1995, 1996, 2003) points out that the relationship between public preferences and spending is best understood as a *reciprocal* relationship (see also Hill & Hurley, 1999). He has developed a “thermostatic” model of the dynamic relationship between the public spending preferences and actual spending levels, arguing that the public reacts to changing spending levels by adjusting preferences for further spending in a given policy area. Although we agree with this view of the opinion–policy

nexus as essentially a reciprocal relationship, this article focuses on one side of this relationship, namely, the extent to which policy programs and policy actions are influenced by public opinion.

Political Contestation and Responsiveness

The competitive struggle for office is a key feature of democratic politics (Stigler, 1972; Strøm, 1992). Ferejohn (1986), for example, argues that incumbent governments provide the policies the electorate demands because of the fear of being replaced in the next election. Following the assumption of theories of democratic competition, we expect that higher levels of contestation lead to higher levels of responsiveness. An important question to consider is “Responsive to whom?” According to spatial theories of democracy, parties will converge to the position of the median voter to maximize votes (Downs, 1957). Hence, in line with most studies of responsiveness, we examine government responsiveness to the “median voter” or, to be precise, the extent to which government priorities reflect the policy priorities of majority of the electorate. However, the pivotal actor in electoral contests is not necessarily always the median voter. As we discuss in greater detail below, it may be optimal for executives in some institutional and strategic settings to target a narrow group of voters (e.g., voters in swing districts or partisan voters), whereas other contexts may encourage governments to represent broader electoral interests (see Cox, 1984; Persson & Tabellini, 2004). The general contention of this article is that political institutions, which place executives under greater competitive pressure, tend to produce policy promises and behavior more in line with majority opinion. Political contestation has been defined in many different ways (see Bartolini, 1999, and Strøm, 1989, for an overview). We focus on two aspects of competition that may influence responsiveness: electoral contestability and executive discretion. By *electoral contestability*, we refer to the uncertainty facing the executive in electoral contests. *Executive discretion* refers to the level of constraints placed on the executive in the legislative process, particularly the balance of power between the executive and the legislature. The next section examines these two dimensions and their effect on responsiveness.

Electoral Contestability, Executive Discretion, and Responsiveness

According to Strøm (1990), parties seek to maximize votes, gain office, and achieve policy goals. If the quest for office is at least partially instrumental

to implementing policy objectives, we would expect the pandering to the public to be more pronounced when there is danger of losing office and, conversely, policy leadership to be more pronounced when parties in office feel safe.

We argue that two key factors shape *electoral contestability*: electoral rules, which are fixed, and the distribution of voter preferences, which may vary considerably over time. Both aspects of electoral contestability may influence the incentives of governments to be responsive in their policy promises and actions. The intricacies and effects of electoral laws have been studied in great detail in the literature, and here we focus on two key dichotomies, of presidential versus parliamentary systems and plurality versus proportional systems. The procedure for appointing the executive is direct in a presidential system but indirect through the legislature in a parliamentary system. Scholars have suggested that because of the direct election of executives, clarity and attribution of responsibility are more pronounced in presidential systems and that consequently, executives are more responsive to public priorities (Persson, Roland, & Tabellini, 1997; Persson & Tabellini, 2004; Powell & Whitten, 1993; Samuels & Hellwig, 2004). The argument is that executives who are directly elected have greater incentives to pay attention to public opinion because citizens are more likely to hold them responsible for policy outcomes. This leads us to the first hypothesis:

Hypothesis 1: Directly elected executives are more responsive to public priorities than indirectly elected executives.

Another aspect of the electoral system concerns the general distinction between plurality and proportional electoral rules. Elections using plurality rule, in which representatives are elected in individual districts each using majority rule, translate changes in voter preferences into larger changes in legislative majorities than elections using proportional representation. It can be argued that plurality systems strengthen the incentives for politicians to be responsive only to a narrow constituency of pivotal voters at the expense of the wider public (Lijphart, 1994; Persson & Tabellini, 2004). The median voter in a key marginal district, for instance, may be more important than the median voter in the population. Hence, although accountability may be higher in plurality systems, proportional systems are likely to encourage broader representation of popular opinion. Moreover, in elections where there is a likely winner, plurality systems tend to lower the incentives for government to be responsive, because the winner is rewarded with a large “winning bonus,” whereas governments in proportional systems have to work harder

for each additional seat. All other things being equal, we therefore expect that governments in plurality systems are less responsive to majority public opinion:

Hypothesis 2: Executives in plurality systems are less responsive to the public's priorities than executives in proportional systems.

Levels of disproportionality, that is, the degree to which the parties' share of seats lacks correspondence to their share of votes, also vary across majoritarian systems. This variation depends not only on the electoral rules but also on features associated with the party system: the number of parties competing, the geographic distribution of party support, and the degree of tactical voting (Norris & Wlezien, 2005).² Hence, the electoral system alone does not determine the level of competition in a given election. Instead, a combination of electoral rules, features of the party system, and distribution of voter preferences serves to decide the competitive pressures. All other things being equal, governments have clearer incentives to respond to the public if they fear for their survival in office. That is, when governments are very unpopular, they are more likely to seek to please voters:

Hypothesis 3: The greater the uncertainty about future electoral contests, the higher the responsiveness of the executive.

The balance of power between the executive and the legislature is the other dimension of political contestation that is expected to influence responsiveness. We argue that governments that enjoy high levels of executive discretion and are consequently unconstrained by opposition parties and legislative institutions are less in tune with the electorate as a whole, compared with governments with low levels of discretion. Of course, it can equally be argued that because high executive discretion increases both clarity of responsibility and the ability of governments to execute their policies, this should make them more capable of responding to the changing demands of the public (see Franklin, 2004; Soroka & Wlezien, 2004). Yet although we agree that institutions that ensure high levels of executive discretion may enhance the ability of executives to act responsively to the wishes of the electorate, we argue that they reduce the executive's incentives to do so. Formal models of decision making have shown that "separation of powers improves the accountability of elected officials and thereby the utility of voters by making more information available to the electorate" (Persson et al., 1997, p. 1166). The core argument is that separation of powers, where legislative decision

making requires joint agreement, curtails the executive powers and enhances the incentives of the president to propose a budget that is more closely aligned with the preferences of voters (Persson et al., 1997). This leads to the following expectation:

Hypothesis 4: Executives in systems with (horizontal) separation of power are more responsive to the public than executives in systems where policies are implemented unilaterally.

Conflicts of interest between the executive and the legislature further constrain the powers of the executive. This may or may not coincide with formal separation of powers. In presidential systems, a conflict of interest arises when there is divided government, that is, when the legislature is controlled by the party in opposition to the president.³ In parliamentary systems, there is a conflict of interest when the governing party (or coalition of parties) does not control a majority in parliament. An executive controlling a sizable majority of seats in parliament has few—if any—incentives to make compromises, whereas an executive without a majority in the legislature is forced to compromise. In the latter situation, a wider range of opinions is accommodated, and the outcome is likely to be closer to the preferences of the majority of the electorate.⁴ At the very least, extremist policies are more unlikely in situations with low executive discretion (Persson & Tabellini, 2004; Strøm, 1992). The more executive power is constrained, the less opportunity governments have to pursue their own interests, and assuming that these interests will not always coincide with the preferences of the majority of the electorate, this should lead to higher responsiveness:

Hypothesis 5: When there is a conflict of interest between the executive and the legislature, policy behavior is more responsive to public policy priorities.

Our theoretical propositions are summarized in Table 1 together with our expectations for our three cases. We expect electoral uncertainty and limits on executive discretion to create greater incentives for executive responsiveness to public preferences. On the basis of this theoretical framework, we expect the United States to have the highest level of responsiveness, followed by Denmark, and finally, Britain. But several aspects of political contestation are dynamic rather than static. Uncertainty about future electoral contest varies depending on public opinion, and the degree of conflicts of interest between the executive and the legislature depends on whether the party (or parties) in office controls a majority in the legislature. To examine

Table 1
Hypothesized Effect of Institutions and Public Opinion
on Executive Responsiveness

	Effect on executive responsiveness	Britain	Denmark	United States
Electoral contestability				
Directly elected executive	+	No	No	Yes
Proportional electoral rule	+	No	Yes	No
Uncertainty about reelection chances (expected win margin)	+	Varies	Varies	Varies
Limits on executive discretion				
Minority government or divided government	+	No	Yes	Varies
Separation of powers (horizontal)	+	No	No	Yes

Note: The plus sign denotes that the presence of institutions has a positive effect on executive responsiveness.

how contestability affects responsiveness, it is thus useful to look not only at between-country variation but also at within-country variation. When public support for the executive is low, we expect a more concerted effort by the executive to woo the public. We also expect U.S. presidents in office under divided government and minority governments to be more responsive. The next section discusses how we test these propositions.

Data and Method

To examine government responsiveness in our three cases, we need valid and reliable measures of public preferences and government responsiveness. Government responsiveness has traditionally been examined by focusing either on policy promises (in party programs or manifestos) or budgetary behavior. To measure the concept of responsiveness as rigorously as possible, we employ a measure of both rhetorical responsiveness and effective responsiveness in our analysis.

Measuring Public Preferences

The policy priorities of citizens are estimated on the basis of the survey question, "What do you consider to be the most important problem facing

your country?⁵ Respondents are asked to mention which policy problem(s) they see as the most important and salient. This “most-important-problem” question is used widely in the literature to characterize the broader public salience of issues (see McCombs & Shaw, 1972; McDonald, Budge, & Pennings, 2004; Pennings, 2005). The distinct advantage of this survey question is that it has been asked in several polls and election surveys across the world and repeated over time and can thus be used for cross-national and cross-temporal analyses. Moreover, it captures the public’s relative concerns with different policy areas on the “popular agenda” (Pennings, 2005, p. 34).⁶

We have chosen to limit our analysis to six policy categories that constitute a salient part of the public agenda as well as a substantial part of the public expenditure budgets: defense, law and order, public health, housing, education, and social services.⁷ The public policy preferences have been estimated by recoding the responses to the most-important-problem question and calculating the percentages of respondents choosing each of the six categories as the most important political issue in a particular year covering the period from 1970 to 2005.

Measuring Government Policy Promises

Policy promises are estimated by conducting content analysis of the annual speeches in which the head of government or state outlines the government’s policy priorities to the legislature. The State of the Union is an annual address presented by the U.S. president before a joint session of Congress. This address not only reports on the condition of the nation but also allows the president to outline his policy agenda and the national priorities of Congress. In Britain, every session of Parliament begins with an address from the monarch, therefore commonly known as the Queen’s Speech (or King’s Speech), even though the content of the speech is entirely drawn up by the government and approved by the cabinet. In Denmark, the Prime Minister’s Opening Speech is written and delivered by the prime minister at the annual opening of Parliament.

In each of these speeches, the policy intentions of the executive in the forthcoming year (or parliamentary session) are outlined, and this enables us to investigate the government’s policy priorities by analyzing the emphasis given to each policy area. We have employed computer-aided content analysis⁸ of the speeches to get reliable estimates of the governments’ policy preferences. In our analysis, the policy preference time series was obtained by calculating the relative frequency of all coded words and quasi sentences, corresponding

to the six policy categories in a dictionary file.⁹ The six coding categories were created so they were mutually exclusive and exhaustive, and no word or word string was allocated to more than one coding category. By coding all of the manifest policy terms used in the speeches (e.g., *armed forces, police, hospitals, schools*), this analysis captures the relative weighting given to each category as a percentage of the overall frequency of policy terms. Several studies have shown that quantitative content analysis is an appropriate method of capturing policy priorities, because politicians tend to express their policy priorities in speeches and manifestos by emphasizing certain policies over others rather than endorsing particular policy stands and commitments (see Budge & Farlie, 1983; Hofferbert & Budge, 1992).

Measuring Budgetary Policy

Public expenditure is often used in the literature as a proxy for policy behavior (see Bräuning, 2005; Soroka & Wlezien, 2005). This may not be the most appropriate measure of policies that are mainly regulatory in nature. But the policy categories examined here are predominantly redistributive, and changes in policy priorities should thus be reflected in the budget. We use the budgetary functional data from the Organisation for Economic Co-operation and Development (OECD) database on national accounts, which provides a comparable measure of the expenditures across spending areas, countries, and time (OECD, 2005).

Descriptive Statistics

Before we analyze the relationship between these three time series, we present the descriptive statistics of each time series. Table 2 presents the mean value of public policy concerns, executive policy emphases, and public expenditure (with standard deviations in brackets) in the United States, the United Kingdom, and Denmark during the past three decades.¹⁰

Table 2 illustrates that the policy priorities vary considerably between countries. Whereas American citizens are mostly concerned about law and order and defense issues, Britons worry about health care and education, and Danes are mainly preoccupied with welfare issues, such as support for the elderly. But the high standard deviations also imply that these priorities vary considerably over time. Looking at executive priorities across countries and over time, we find that the American and the British executives focus on issues related to defense, whereas the Danish prime ministers emphasize welfare and education issues. These cross-national differences in citizens'

Table 2
Descriptive Statistics of Policy Priorities, 1970 to 2005

	United States			United Kingdom			Denmark		
	Public Preferences	Executive Emphases	Public Expenditure	Public Preferences	Executive Emphases	Public Expenditure	Public Preferences	Executive Emphases	Public Expenditure
Defense	30 (28)	44 (20)	21 (5)	16 (12)	36 (12)	12 (3)	9 (9)	17 (11)	5 (1)
Law and order	32 (19)	11 (6)	6 (1)	18 (8)	19 (9)	6 (0.8)	7 (8)	7 (7)	3 (0.3)
Housing	3 (0.6)	4 (3)	3 (0.2)	9 (7)	6 (4)	6 (3)	13 (15)	13 (11)	3 (0.7)
Health care	14 (17)	12 (9)	19 (5)	24 (12)	6 (5)	16 (2)	13 (10)	9 (8)	14 (2)
Education	6 (6)	15 (13)	23 (2)	20 (16)	12 (7)	15 (1)	13 (9)	21 (9)	19 (1)
Social services	16 (8)	13 (6)	28 (2)	13 (7)	20 (9)	44 (5)	46 (13)	33 (11)	56 (5)
<i>n</i>	36	36	34	36	36	27	36	35	34

Note: Figures in cells are percentages with standard deviations in brackets. Public expenditure in this table is calculated as a percentage of overall expenditure in these six policy areas.

and governments' policy priorities appear to be reflected in public expenditure. The United States spent four times more on defense than Denmark in relative terms during this period, whereas Denmark spent twice as much on social services. Hence, these descriptive statistics seem to imply some overall relationship between public preferences, policy promises, and spending in these three countries. The next section presents a statistical model for analyzing these relationships.

Modeling Responsiveness

As discussed above, we want to examine the effect of contestation on rhetorical and effective responsiveness. In Model 1, the dependent variable is rhetorical responsiveness, which refers to the extent to which the policy promises made by governments reflect the concerns of the public. In Model 2, the dependent variable is effective responsiveness, that is, the extent to which changes in the (budgetary) policy actions taken by governments reflect the policy priorities of the public. We can specify a model of rhetorical responsiveness, where governments are responsive to public preferences, when the relative policy emphases in speeches S are associated with the public's relative preferences P . Hence, we are interested in the degree to which the executives' issue agenda reflects the issue most salient to the public. Research on responsiveness typically recommends using a 1-year time lag for the public preference predictor (see Brooks, 1990; Hobolt & Klemmensen, 2005; Page & Shapiro, 1983; Soroka & Wlezien, 2005), and we have followed this convention in this study because the causal argument implies that the public preferences come before policy promises, and moreover, it may take some months for public preferences to feed into the policy priorities of the government.¹¹ The implication of this model is thus that the greater the impact of public preference in year $t - 1$ on policy promises in year t , the higher are rhetorical and effective responsiveness. We can express this expectation in the following way:

$$S_t = \alpha + \beta_1 P_{t-1} + \beta_2 Z_t + \beta_3 W_t + \beta_4 W_t * P_{t-1} + \epsilon, \quad (1)$$

where the parameter β_1 captures the degree to which the policy promises made by governments are associated with public preferences in the previous year. Z represents the set of other determinants of policy, such as the ideology of the government and economic factors, and α is the intercept term. To test the conditioning effect of electoral uncertainty (Hypothesis 3), we include an interaction between public preferences and a measure of public

approval of the government (discussed below). The parameter β_4 captures this interaction effect of the electoral uncertainty, W_t , and the public preferences of the public, P_{t-1} , on policy priorities, S_t . Another hypothesized effect, which is also time variant, is conflict of interest between the executive and legislature. To assess whether there is a conditioning effect of conflict of interest, we include an interaction between divided or minority government, W_t , and the public preferences of the public, P_{t-1} . When it comes to effective responsiveness, we model changes in budgetary expenditure in a given policy area (see Soroka & Wlezién, 2004). Expenditure changes little from year to year, but the small changes we do observe may be partly a function of changing public priorities, conditioned by competitive pressure facing the government. Hence, we can model changes in public expenditure, ΔE , as a function of the same covariates as in Equation 1.

$$\Delta E_t = \alpha + \beta_1 P_{t-1} + \beta_2 Z_t + \beta_3 W_t + \beta_4 W_t * P_{t-1} + \varepsilon, \quad (2)$$

These models of responsiveness will be tested in the next sections using the time-series data from Britain, Denmark, and the United States.

Analyzing Responsiveness

To analyze responsiveness, we specify a regression model with the policy emphases in executive speeches (measured as a proportion from 0 to 1) as our dependent variable in Model 1 (Equation 1) and changes in public expenditure (measured as percentage point change in expenditure) as our dependent variable in Model 2 (Equation 2). Public policy preferences are our key explanatory variable (measured as a proportion from 0 to 1). Yet if we examine only the relationship between these variables, there is a danger that we find a spurious relationship because of the impact of other factors. We therefore specify a multiple regression model, controlling for the most important variables that may influence government's policy rhetoric and programs. As we are interested in how responsive governments are to the public irrespective of their ideological stance, we include a dummy variable for the Left–Right position of governments. This is simple in the case of one-party executives in the United States and the United Kingdom, where Republican and Conservative governments take the value of 1, whereas Democrat and Labour executives take the value of 0. In the Danish case, we have chosen to distinguish between center-right and center-left coalition governments in a similar manner.¹² Because engagement in war may be associated with the extent to which executives prioritize the defense issue,

we include a dummy variable representing involvement in interstate war. In our analysis of the domestic policy areas, we include the unemployment rate (as a percentage of the labor force) as a general indicator of the state of the economy (using OECD data). We have also estimated this model with various other control variables,¹³ but this did not affect the parameters of interest, and given the limited number of observations, we have opted for a relatively parsimonious model.

To evaluate whether higher levels of uncertainty about future electoral contests induce higher levels of responsiveness, we include an interaction between public preferences and the electoral support for the government. In the parliamentary systems, electoral support is measured as vote intention: the proportion of people who say they will vote for the governing party (or parties) if there were an election tomorrow. This is a good measure of how secure governments feel about their reelection chances, and we know that governments follow these polls with great interest. In the presidential system, where vote-intention time-series data are harder to come by, we use presidential approval data, which are often used as an indicator of electoral support for the president (Canes-Wrone, 2006; Cohen, 1997).¹⁴ We also want to test the hypothesized effect of conflict of interest. As mentioned above, this can be operationalized as a divided or minority government dummy; that is, conflict of interest (and thus responsiveness) is hypothesized to be higher when the legislature is controlled by the opposition party. Unfortunately, there is insufficient variation in the United Kingdom and Denmark to test this hypothesis properly: In the period under examination, the United Kingdom had only majority governments (except in 1974) and Denmark had only minority governments (except in 1993-1994). Hence, we will be able to test this hypothesis only on the American case (Table 3, Models 1a and 2a), where we have longer periods of both unified and divided government.

Because our data are time-series data, we need to take into account time-series dependencies. Failure to attend to these dependencies is very apt to lead to spurious results (Granger & Newbold, 1977; Ostrom, 1978). To avoid these problems, we rely on the Box-Jenkins model-building procedure of identification-estimation-diagnosis (Box & Jenkins, 1976). We identify the dynamics of the input series using a univariate, autoregressive, integrated moving average model. Checking for trending, we find that although the executive-preference time series are stationary, the expenditure time series are all nonstationary, as are several of the public-preference time series.¹⁵ Hence, ordinary least squares would most likely produce spurious results. Given that the series are not cointegrated, we

have chosen not to specify an error correction model.¹⁶ Instead, by differencing the nonstationary time series one time, we transform the trended series into stationary series. Subsequently, by examining the autocorrelation and partial autocorrelation functions, we find that autocorrelation is no longer present in the differenced time series, and we can therefore proceed to the estimation stage using these series. Finally, we have performed postestimation diagnostics to ensure that autocorrelation is not a problem.

Results

The results of estimating the rhetorical responsiveness model using American data across five policy areas are shown in Table 3.

In Models 1a and 1b, we test the effect of public policy preferences (lagged) on executive policy priorities in speeches, controlling for war or unemployment and the ideology of the government. Table 3 shows that American presidents are generally responsive to public preferences in their speeches. At least their emphases on policy areas are significantly associated with public policy preferences in all areas (considering both main and interaction effects). For example, a 10-percentage-point increase in public salience of law and order would lead to a just less than a 2-percentage-point increase in the emphases on this issue in the president's address. The results also demonstrate a weak effect of party ideology on issue emphases. Republican presidents put more emphasis on law and order, whereas Democrats are keener to talk about health care and education. Model 1a also tests whether changes in conflicts of interest over time affect levels of responsiveness by including an interaction between public policy preferences and divided government. Our expectation is that responsiveness is higher when there is divided government, and hence the coefficient should be positive and significant. This expectation is corroborated in three of the five policy areas.

Models 2a and 2b in Table 3 estimate effective responsiveness in the United States and illustrate a similar pattern of high responsiveness. It shows that U.S. budgetary policy changes are affected by public preferences in three of five policy areas. The effect is greatest in the areas of defense and social services, where a 10-percentage-point increase in public issue salience leads to a 0.2- and 0.4-percentage-point change in the budgetary allocation on defense and social services, respectively (which is a quite substantive effect given that the change in expenditure ranges only 4 percentage points). In Model 2a, the positive and significant interaction-term coefficients suggest that divided government produces more responsive budgetary policies,

Table 3
Responsiveness in the United States, 1970 to 2005

Independent Variable	Dependent Variables: Executive Policy Emphases (Rhetorical) and Changes in Public Expenditure (Effective)						
	Defense			Law and Order			
	Model 1a (Rhetorical)	Model 1b (Rhetorical)	Model 2a (Effective)	Model 1a (Rhetorical)	Model 1b (Rhetorical)	Model 2a (Effective)	Model 2b (Effective)
Public policy preferences _{<i>y,t-1</i>}	.087 (.165)	.281* (.141)	2.375*** (.931)	1.85*** (.066)	.178** (.084)	-.077 (.158)	.245 (.164)
Unemployment _{<i>t</i>} (war ^a)	.061 (.087)	.044 (.074)	.648* (.327)	.085* (.042)	.081* (.042)	-.014 (.080)	-.083 (.092)
Ideology of government _{<i>t</i>}	.076 (.100)	.062 (.096)	.317* (.141)	.024 (.024)	.035* (.017)	-.126* (.011)	.123*** (.052)
President approval _{<i>t</i>}	—	.892*** (.313)	—	—	.033 (.106)	—	.465* (.246)
Public Policy Preferences _{<i>y,t-1</i>}	—	-.026 (.043)	—	—	-.027* (.012)	—	-.599*** (.286)
× Presidential Approval	-.098 (.548)	—	-.189 (.455)	.022 (.053)	—	-.159*** (.052)	—
Public Preferences _{<i>y,t-1</i>}	.649*** (.279)	—	1.985* (.998)	.011 (.054)	—	.232* (.101)	—
× Divided Government	.358** (.065)	.812*** (.173)	.516* (.277)	.038 (.049)	-.041 (.069)	.215 (.073)	.087 (.120)
Constant	35	35	33	35	35	33	33
<i>n</i>							
<i>R</i> ²	.26	.33	.46	.36	.28	.36	.27
Adjusted <i>R</i> ²	.13	.22	.36	.25	.16	.24	.13
Durbin-Watson	1.83	1.78	1.72	2.39	2.28	1.75	1.75

Note: Figures in cells are unstandardized coefficients with standard errors in parentheses. Housing is not included in U.S. analysis because of lack of variation in public opinion data. (This is not a salient concern to the U.S. public and therefore this policy area takes a value of zero in most years.)

a. In the defense model, the coefficients indicate the effect of war involvement, whereas in the remaining models, the variable is unemployment as a percentage of the labor force. **p* < .10. ***p* < .05.

Dependent Variables: Executive Policy Emphases (Rhetorical) and Changes in Public Expenditure (Effective)

Independent Variable	Health				Education				Social Services			
	Model 1a (Rhetorical)	Model 1b (Rhetorical)	Model 2a (Effective)	Model 2b (Effective)	Model 1a (Rhetorical)	Model 1b (Rhetorical)	Model 2a (Effective)	Model 2b (Effective)	Model 1a (Rhetorical)	Model 1b (Rhetorical)	Model 2a (Effective)	Model 2b (Effective)
	Public policy preferences _{t-1}	-.109 (.084)	-.676** (.287)	1.295* (.292)	1.711** (.710)	.441* (.191)	2.074* (1.166)	.260 (1.298)	.344 (.523)	-.253* (.103)	.309* (.178)	4.032** (1.96)
Unemployment _t (war)	.054 (.053)	.013 (.069)	-.061* (.021)	-.046* (.026)	-.168** (.070)	.019* (.009)	.093 (.338)	.408 (.445)	-.003 (.052)	-.021 (.047)	-1.645** (.632)	-.922* (.401)
Ideology of government _t	.013 (.028)	-.041* (.021)	.137 (.103)	.042 (.117)	-.120* (.039)	-.092** (.036)	-.520* (.197)	-.210* (.098)	-.010 (.030)	-.020 (.030)	.054 (.363)	.288 (.334)
President approval	—	.129 (.157)	—	-.302 (.595)	—	.025 (.209)	—	.315 (.951)	—	.168 (.131)	—	-.752 (1.45)
Public Policy Preferences _{t-1} × Presidential Approval	—	.721** (.069)	—	-.702* (.389)	—	-1.236* (.689)	—	-.428 (.898)	—	-.372 (.300)	—	-1.729* (.889)
Divided government _t	-.054 (.036)	—	-.004 (.132)	—	-.195* (.050)	—	-.956 (.311)	—	.002 (.060)	—	1.164 (.816)	—
Public Preferences _{t-1} × Divided Government	—	—	1.415* (.592)	—	-.761* (.322)	—	4.123 (.195)	—	.138 (.344)	—	7.246* (4.271)	—
Constant	.075* (.042)	-.008 (.084)	.516* (.162)	.675** (.307)	.121* (.058)	.047 (.113)	.353 (.310)	-.375 (.511)	.110* (.057)	.036 (.083)	.496 (.631)	.575 (.934)
<i>n</i>	35	35	33	33	35	35	33	33	35	35	33	33
<i>R</i> ²	.45	.24	.58	.45	.55	.36	.38	.13	.11	.13	.29	.24
Adjusted <i>R</i> ²	.35	.11	.50	.35	.47	.26	.27	.04	.02	.03	.16	.10
Durbin-Watson	1.68	1.79	2.16	1.83	2.16	1.79	1.99	1.77	1.74	1.72	1.79	1.68

as hypothesized. Equally, the negative interaction coefficients in Model 2b indicate that in the areas of defense, law and order, health, and welfare, presidents are more likely to be responsive when their approval ratings are low. Hence, these findings support our hypotheses that electoral uncertainty and conflict of interest increase presidential responsiveness.

According to our theoretical propositions, we would expect much lower policy responsiveness in the United Kingdom, where executive discretion is higher and electoral contestation tends to be lower.

Model 1 in Table 4 shows the effect of public policy preferences on the political rhetoric of British governments. Public preferences are reflected in the speeches only in the areas of education and social services. But if public preferences are mostly irrelevant, what drives the political rhetoric of British governments? Mainly ideology, it seems. Conservative governments are more likely to talk about defense, law and order, and housing, whereas Labour governments talk more about health care and social services. Model 1 also includes an interaction between the vote intentions (for the governing party) and public preferences. As hypothesized, the interaction coefficients are negative across policy areas and significant in four of six policy areas. The effect of electoral uncertainty on rhetorical responsiveness is illustrated graphically in Figure 1,¹⁷ which shows the conditioning effect of government popularity in the United States (education), the United Kingdom (social services), and Denmark (social services). Figure 1 demonstrates that responsiveness in these policy areas is higher when electoral uncertainty is high.

Table 4 indicates mixed evidence of effective responsiveness in the British case. Model 2 shows that the public policy preference variable has a significant impact on spending only in the areas of defense, health care, and social services, and considering the interaction term, it seems that U.K. governments are primarily responsive when they are unpopular. These findings are in line with empirical evidence in other studies of public expenditure in the United Kingdom that shows very low responsiveness to public opinion in British budgetary policies (see Soroka & Wlezién, 2005). We suggest that this is influenced by the executives' high level of discretion and (in many cases) relatively low level of electoral uncertainty. The interaction between public preferences and government popularity is significant in the areas of law and order, health, and social service. Hence, as with rhetorical responsiveness, we do find some indication that electoral uncertainty increases responsiveness but not across all policy areas. Table 5 shows the results from the Danish case.

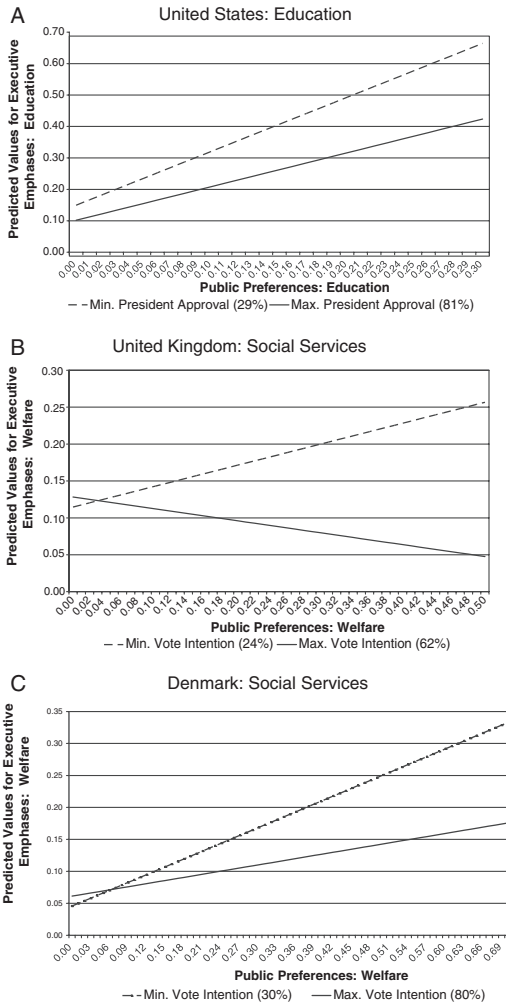
As expected, the Danish prime ministers display a high degree of responsiveness to public opinion in their legislative speeches in all areas of domestic politics. Model 1 shows that a 10-percentage-point increase in public issue

Table 4
Responsiveness in the United Kingdom, 1970 to 2005

		Dependent Variables: Executive Policy Emphases (Rhetorical) and Changes in Public Expenditure (Effective)																	
		Defense			Law and Order			Housing			Health			Education			Social Services		
Independent Variables		Model 1 (Rhetorical)	Model 2 (Effective)	Model 1 (Rhetorical)	Model 2 (Effective)	Model 1 (Rhetorical)	Model 2 (Effective)	Model 1 (Rhetorical)	Model 2 (Effective)	Model 1 (Rhetorical)	Model 2 (Effective)	Model 1 (Rhetorical)	Model 2 (Effective)	Model 1 (Rhetorical)	Model 2 (Effective)	Model 1 (Rhetorical)	Model 2 (Effective)		
Public policy preferences _{<i>t</i>-1}		.176 (.599)	6.075* (3.57)	1.036 (1.30)	.714 (1.58)	.951 (.974)	1.274 (1.62)	.540 (.454)	2.006** (.715)	-.173** (.081)	.472 (.698)	2.260** (.982)	8.332** (3.20)						
Unemployment _{<i>t</i>} (war ^a)		.036 (.046)	.456* (.235)	.002 (.007)	-.046* (.024)	-.004 (.002)	-.154 (.104)	.001 (.003)	-.049 (.038)	.002 (.003)	-.019 (.072)	-.002 (.005)	.059 (.126)						
Ideology of government _{<i>t</i>}		.185** (.057)	.411 (.253)	.049* (.024)	.267* (.134)	.029* (.010)	.182 (.587)	-.047** (.020)	-.201 (.208)	-.021 (.024)	-.229* (.110)	-.126** (.006)	-.104 (.659)						
Proportion of intended voters _{<i>t</i>}		-.154 (.276)	1.240 (.989)	.394 (.607)	1.029 (.646)	.337 (.238)	4.220 (2.90)	.531 (.343)	2.046** (.994)	.449** (.070)	1.504 (1.63)	.036 (.179)	-.7.307** (3.23)						
Public Policy × Intended Voters		-.1158 (.998)	-9.842 (8.55)	-3.400** (1.40)	-1.081** (.442)	-1.603 (.998)	-1.406 (1.322)	-1.309* (.871)	-.587** (.294)	-.359** (.141)	-.038 (.778)	-1.142** (.414)	-2.723** (1.32)						
Constant		.338** (.139)	-.655 (.683)	.045 (.247)	-.209 (.542)	-.103 (.108)	-3.25* (1.74)	-.133 (.149)	-.860 (.584)	-.132** (.064)	-.803 (1.07)	.238** (.104)	2.928 (1.86)						
<i>n</i>		35	27	35	27	35	27	35	27	35	27	35	27						
<i>R</i> ²		.35	.38	.15	.24	.33	.16	.31	.44	.42	.13	.35	.48						
Adjusted <i>R</i> ²		.23	.23	.10	.14	.22	.04	.19	.31	.32	0	.24	.35						
Durbin-Watson		1.74	1.91	1.79	1.69	2.22	2.14	1.69	1.94	2.17	1.73	2.09	2.28						

Note: Figures in cells are unstandardized coefficients with standard errors in parentheses.
a. In the defense model, the coefficients indicate the effect of war involvement, whereas in the remaining models, the variable is unemployment as a percentage of the labor force.
p* < .10. *p* < .05.

Figure 1
Conditioning Effect of Electoral Uncertainty on Executive Rhetorical Responsiveness



Note: The predicted values are calculated on the basis of the full models presented in Tables 3 to 5. Unemployment has been set to its mean, and the executive is assumed to be left wing or Democrat.

Table 5
Responsiveness in Denmark, 1970 to 2005

Independent Variables	Dependent Variables: Executive Policy Emphases (Rhetorical) and Changes in Public Expenditure (Effective)																	
	Defense			Law and Order			Housing			Health			Education			Social Services		
	Model 1 (Rhetorical)	Model 2 (Effective)	Model 1 (Rhetorical)	Model 2 (Effective)	Model 1 (Rhetorical)	Model 2 (Effective)	Model 1 (Rhetorical)	Model 2 (Effective)	Model 1 (Rhetorical)	Model 2 (Effective)	Model 1 (Rhetorical)	Model 2 (Effective)	Model 1 (Rhetorical)	Model 2 (Effective)	Model 1 (Rhetorical)	Model 2 (Effective)		
Public policy preferences _{t-1}	-.120 (.268)	-.673 (.484)	.459** (.135)	2.125 (2.25)	.854** (.130)	1.154 (1.31)	.371** (.169)	1.403** (.623)	.726** (.188)	10.112* (5.03)	.558** (.161)	-1.001 (1.84)						
Unemployment _t (war ^a)	.039 (.055)	.068 (.107)	-.009 (.018)	.008 (.006)	-.008 (.007)	-.059** (.028)	-.004 (.007)	-.021 (.027)	-.009 (.006)	.006 (.041)	.016* (.008)	.113* (.069)						
Ideology of government _t	.095** (.040)	.262** (.085)	.001 (.028)	.019 (.026)	.000 (.028)	.119 (.112)	.002 (.026)	.231** (.108)	-.001 (.029)	-.009* (.183)	-.034 (.032)	-.357 (.289)						
Proportion of intended voters _t	-.119 (.210)	.573 (.469)	.242** (.103)	.335 (.238)	-.240 (.134)	.028 (.524)	.111 (.113)	.780 (.501)	.185 (.141)	4.006** (1.99)	.032 (.016)	.216 (.303)						
Public Policy	-.311 (.502)	-.324 (.235)	-.223** (.107)	-3.782* (1.79)	-.875** (.387)	-.416 (.313)	-.167 (.275)	-1.847* (1.06)	-.397* (.176)	-22.101* (11.08)	-4.476 (2.10)	-4.476 (2.87)						
× Intended Voters																		
Constant	.130** (.035)	-.356 (.254)	-.077 (.058)	-.257* (.136)	.243** (.094)	.316 (.345)	.006 (.076)	-.707 (.304)	.053 (.092)	-1.901* (1.09)	-.050 (.112)	1.287 (.916)						
<i>n</i>	34	33	34	33	34	33	34	33	34	33	34	33						
<i>R</i> ²	.21	.33	.40	.15	.57	.21	.21	.38	.44	.23	.45	.25						
Adjusted <i>R</i> ²	.08	.21	.30	.02	.49	.07	.08	.25	.34	.08	.35	.12						
Durbin-Watson	1.78	1.96	2.07	2.14	2.06	2.23	2.11	1.84	1.97	1.85	2.19	1.74						

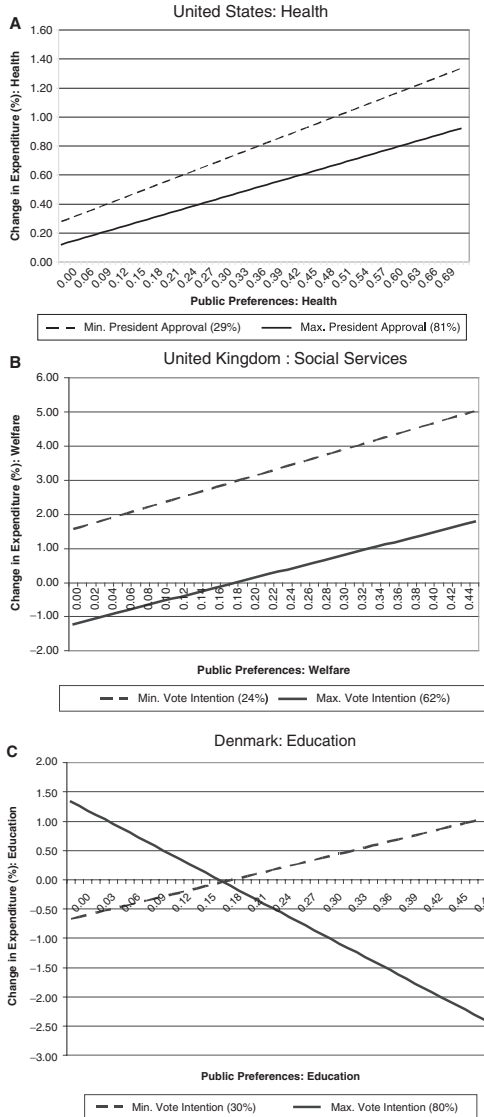
Note: Figures in cells are unstandardized coefficients with standard errors in parentheses.
a. In the defense model, the coefficients indicate the effect of war involvement, whereas in the remaining models, the variable is unemployment as a percentage of the labor force.
p* < .10. *p* < .05.

salience is associated with an increase of about 5 percentage points in the prime minister's emphasis on any domestic issue on average. Defense priorities, however, seem to be driven entirely by the ideology of the government. As in the British case, center-right governments talk considerably more about defense than center-left governments. As hypothesized, the coefficients of the interaction between public preferences and vote intention are negative, indicating that responsiveness is higher among the more unpopular governments. Hence, as in the American and British cases, we find that electoral uncertainty makes executives talk more about salient issues. Model 2 indicates that public preferences have a direct and statistically significant impact on changes in public expenditure in the areas of health care and education. There is thus only mixed evidence of effective responsiveness in Denmark, compared with the analysis of rhetorical responsiveness (Model 1). As expected, however, the interaction effect suggests that responsiveness in the areas of law and order, health, and education is lower when the government is unpopular in the polls. Figure 2 illustrates this conditioning effect of government popularity on changes in public expenditure in the areas of health (United States), social services (United Kingdom), and education (Denmark). Note that the y-axis is the percentage-point change in public expenditure compared with the previous year. Hence, this figure can be negative as well as positive and ranges from about -2% to 4% .

It is interesting that Figure 2c suggests that popular governments in Denmark will allocate fewer resources to education as the public issue salience increases, whereas unpopular governments respond as we would expect. It should be noted that whereas evidence from most issue areas corroborates the hypothesized conditioning effect of electoral uncertainty on public expenditure, this effect is not present across all policy areas. On the basis of these data alone, we do not have any explanation for why responsiveness varies across policy areas.

In sum, these findings seem to support our theoretical expectation about responsiveness across countries (see Table 1). Both rhetorical and effective responsiveness levels are high in the United States, which suggests that the presidential system, with directly elected president and separation of powers, enhances responsiveness. In contrast, responsiveness levels are low in Britain, where the institutional setup favors majoritarian single-party governments that may prioritize pivotal voters over the general public. In Denmark, rhetorical responsiveness is high, as expected, but effective responsiveness is low. Perhaps more interesting is the finding of the conditioning impact of government popularity. Studies of responsiveness of U.S. presidents have already shown that presidential approval influences responsiveness, and our results suggest a similar effect in two European countries.

Figure 2
Conditioning Effect of Electoral Uncertainty on
Changes in Public Expenditure



Note: The predicted values are calculated on the basis of the full models presented in Tables 3 to 5. Unemployment has been set to its mean, and the executive is assumed to be left wing or Democrat. The y-axis is changes in public expenditure (%), and the x-axis is the proportion of the public mentioning the issue as a salient issue.

Conclusion

The responsiveness of governments to public preferences is not constant across countries or over time, and it is thus important to consider whether the institutional and strategic context influences government incentives to respond to the public. This article has argued that political contestation is a key mechanism that encourages governments to respond to the electorate's wishes. The harder the competitive struggle for votes and policies, the more likely executives are to pander to public preferences and the less opportunity governments have to pursue their own interests. Consequently, we suggest that institutions, which enhance the executives' uncertainty about remaining in office and constrain their power, increase levels of executive responsiveness.

Our empirical analyses of executive speeches and budgetary behavior largely corroborate these propositions. Whereas most empirical research has focused on one type of representation, our study examines both rhetorical and effective responsiveness. We find that rhetorical responsiveness is highest in the Danish system, with a predominance of minority governments, and in the presidential system of the United States but low in the majoritarian British system. Effective responsiveness is higher in the United States than in the parliamentary systems of Denmark and Britain. These findings corroborate previous studies of representation that show that U.S. presidents are generally responsive to public preferences. The examination of within-country differences lends further support to the suggestion that governments display greater responsiveness when under pressure. High levels of uncertainty about reelection chances seem to have a conducive effect on government responsiveness: When government popularity is low, responsiveness to public issue preferences is higher.

The small number of cases examined in this study does not enable us to reach any firm conclusions about cross-national institutional effects based on these empirical results alone. Moreover, not only do governments respond to public preferences by changing their policy priorities and public expenditure, sometimes they also change policy direction on a given issue in ways that are not captured by this analysis. Nevertheless, the suggestive findings in this study are important, because they illustrate that all democratic systems are not created equal when it comes to representing public issue preferences and that institutions may play a role in explaining these differences. This article thus contributes to the debate on whether certain institutions create better conditions for representation of public interests (Lijphart, 1994; Powell, 2004). Further research should extend this study to a wider variety of institutional settings. In particular, it

would be fruitful to apply this framework to other parliamentary systems with different levels of executive uncertainty and discretion. A more detailed analysis is also needed to examine the actual causal micromechanisms at work. How do the different institutional mechanisms affect elite responsiveness? Do governments target the median voter, or are they mainly responsive to a subsection of the populace? Only by analyzing responsiveness in a comparative perspective can we address some of these important questions about modern democracy.

Appendix

The analyses in the present article are based on data from the speeches and surveys referenced below. The responsibility for the analyses and interpretations presented in this article rests solely with the authors.

Legislative Speeches

The Queen's Speech at the state opening of Parliament, 1970 to 2005 (United Kingdom)

The Prime Minister's opening speech in Parliament [Statsministerens Åbningstale], 1970 to 2005 (Denmark)

The State of the Union Address, 1970 to 2005 (United States)

Public Opinion Data

United Kingdom

Selected British Gallup opinion polls, 1958 to 1991 (U.K. Data Archive 3803)

"Long Term Trends: The Most Important Issues Facing Britain Today," 1974 to 2005 (MORI)

"Voting Intention in Great Britain" (MORI)

Denmark

Danish Election Studies

Danish Midway Election Studies

European Elections Studies

Danish Gallup omnibus data

Danish Gallup

Eurobarometer surveys (various years)

(continued)

Appendix (continued)

United States

Feeley, Jones, and Larsen (2001)

Pew Poll, Harris Poll, Gallup polling data (2001 to 2005)

Gallup US: President Approval (“Do you approve or disapprove of the way [the President] is handling his job as President?”), 1969 to 2005

Budgetary Data

Organisation for Economic Co-operation and Development (OECD) functional budgetary data on national accounts (see OECD, 2005).

Notes

1. The delegate model of representation is often contrasted with the trustee model of representation. Whereas delegates follow instructions (from the electorate), trustees make decisions based on their own judgments (see Pitkin, 1967).

2. In Britain, the combination of these factors has resulted in an unusually high “winning party bonus” for the party in first place in the most recent elections (Norris & Wlezien, 2005).

3. We have coded divided government as the situation where either the Senate or the House of Representatives is controlled by party other than that of the presidency.

4. This does not necessarily entail that the polity is better off, because divided government may lead to more spending and higher deficits (Alesina & Rosenthal, 1995; Alt & Lowry, 1994).

5. For Britain, we have used the MORI question “What is the most important issue . . .” because this provides a full time series. Yet we have cross-checked the results using the U.K. Gallup polls, which ask about the “most important problem,” and the results are very similar.

6. The most-important-problem question has been criticized for emphasizing the problem status of an issue over the importance (see Wlezien, 2005). To reduce this “problem bias,” our model includes controls for unemployment levels and the involvement in war.

7. The environment is another important policy category that had to be omitted because of lack of spending data from the entire period. Housing is not included in the U.S. analysis because of the low public salience.

8. The software program Textpack 7.5 was used in our content analysis of the speeches. More details on Textpack software can be found at <http://www.gesis.org/en/software/textpack/index.htm>

9. Two separate dictionaries (English and Danish) have been created, and they vary only to the extent that it was necessary to capture variations in the political context. The dictionary is validated by means of the keyword-in-context procedure, which highlights keywords within the context in which they are used. To alleviate problems associated with context and homography, keywords in the dictionary have been “disambiguated” by using word strings and alternative signifiers to aid in contextualization.

10. Public expenditure in each policy area is presented as a percentage of overall spending in these six categories.

11. Studies have tested responsiveness using different lags and have found that a lag of $t - 1$ (public preferences) renders the best model fit, consistent with our theoretical expectations (Hobolt & Klemmensen, 2005; Page & Shapiro, 1983). This fit is considerably better than the fit estimating a model with the reverse causation (policies shaping public preferences).

12. We have coded the 1978-1979 Danish grand coalition of social democrats and liberals as a center-left government based on the party affiliation of the prime minister.

13. Other controls included in previous estimations are election year (dummy), first-term president (in the United States), GDP per capita, and inflation rate. None of these controls altered the main results of the model, and we therefore chose to leave them out of the final analysis.

14. The measure of government popularity is an average of the polls conducted 6 months prior to the speech (Model 1) and the budget announcement (Model 2).

15. In addition to the expenditure time series, the following public-opinion time series are non-stationary: defense, housing, and welfare (Denmark) and defense, law, and education (United States).

16. The error correction model (ECM) is the preferred method for estimation when two integrated time series are cointegrated, because the ECM can be formally derived from the properties of the integrated time series. In cases such as ours, however, where many of the series are stationary, most analysts advise against using ECM (see Smith, 1993). We also estimated a model where all the variables in the model were first differenced, and the sign and the significance of the coefficients remained the same when using this specification.

17. In all figures, the predicted values are calculated assuming a Democrat president or left-wing prime minister, no war, and an average level of unemployment.

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