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American Journal of Political Science, Vol. 26, No. 2 (May, 1982), 312-332.

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American Journal of Political Science is currently published by Midwest Political Science Association.

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*The Dynamics of Political Support for American Presidents Among Occupational and Partisan Groups**

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This article investigates the response of political support for American presidents among occupational and partisan groups to economic and noneconomic events within the framework of a dynamic model of political choice. Estimates of the model reveal the relative sensitivity of different groups' political support to unemployment, inflation and the real income growth rate as well as to the Vietnam casualties, the Watergate scandal and international crisis events. The intergroup differences in political responses to the performance variables are sizeable and in general appear to reflect diverging objective group interests rather than partisan-based perceptions.

Introduction and Review of the Political Support Model

This paper investigates the dynamic response of political support for American presidents among occupational and partisan groups to economic and noneconomic performance. The analysis is based on the model developed in my earlier comparative study of the response of aggregate political support to economic conditions (Hibbs with Rivers and Vasilatos, 1982a) and is estimated using quarterly Gallup poll approval ratings from 1961-1979. Gallup presidential approval ratings of course are not electoral outcomes, although they do correlate quite highly with the vote share received by incumbents running for reelection and, surprisingly, with the vote share of nonincumbent nominees of the president's party (Golden, 1980, ch. 3; Sigelman, 1979). The Gallup ratings also have proven to be good predictors of the success of the president's party in midterm congressional elections (Tufte, 1975; Kernell, 1977). But more importantly, the Gallup approval data provide the best available time-series index of presidents' mass political support between elections when policies are made and pursued and the real, substantive winners of elections are revealed. Neustadt (1960) observed more than twenty years ago that a president's standing in the approval polls greatly contributes to his public prestige, which in turn "is strategically important to his power" (p. 93). This insight has been supported by subsequent quantitative work indicating that variations over time in congressional support for a presi-

* This research was supported by National Science Foundation Grant SOC 78-27022 and by the Center for International Affairs at Harvard University. Elizabeth Welch and Christine Aquilino typed various versions of the manuscript.

dent's legislative initiatives are systematically influenced by his Gallup approval ratings (Edwards, 1980; Rivers and Rose, 1981).

In previous time-series analyses of political support or electoral outcomes it has almost always been assumed, at least implicitly, that voters respond homogeneously to performance outcomes. However, voters' responses to economic conditions and to other salient social and political issues are likely to vary significantly because of differences in the objective, concrete interests at stake, and perhaps also because partisan attachments influence voters' perception and interpretation of politically relevant information. Hence, changes in political support generated, for example, by movements in inflation and unemployment, or by the escalation of the Vietnam war and the unfolding of the Watergate scandal, are not likely to have been uniform within the electorate. Political elites of course realize that they do not face an undifferentiated mass public; they know that conscious policy shifts, as well as unanticipated events, yield political rewards and penalties that often vary sharply across electoral groups.

In order to learn something about the sources and magnitudes of differences in voters' responses to economic and noneconomic events within the framework of a dynamic model of political support, the present study allows the relative importance (regression weights) placed on performance variables to vary across occupational and partisan groups. Occupation (of the household's chief wage earner) was selected as a dimension of disaggregation because of its preeminence in sociological analyses of political behavior and, more importantly, because the incidence of unemployment and other distributional consequences of macroeconomic fluctuations vary dramatically across the occupational hierarchy (see Hibbs, 1979, 1982c and the sources cited therein). Partisanship was selected because it divides the electorate into as homogeneous a set of political groups as we are likely to obtain with a single variable in the American setting.¹ If economic performance is as important to the electorate as survey data indicate,² cleavages among voters concerning economic priorities should be clearly revealed by analysis of data on partisan groups. Moreover, dividing the electorate along party identification lines is probably the dimension of disaggregation most relevant to the thinking of elected political officials, and elected officials determine macroeconomic policy.

Since the basic political support model employed in the present pa-

¹ Ideally, analysis would be based on *joint* disaggregation along several dimensions. However, the presidential approval time-series data are not published in this form.

² See the Gallup poll time-series data on the relative importance of economic issues reported in Hibbs, 1979.

per is discussed in detail in Hibbs (1982a, 1982b), to conserve space the model will be reviewed only briefly here. Let me begin by noting a few features of the model that distinguish it from many others applied to similar empirical data on mass political support for elected officials in capitalist democracies:

1. People are assumed to evaluate an administration's performance *relatively* rather than *absolutely*. In particular, the model expresses voter approval as a weighted average of two relative performance comparisons: (a) the cumulative performance of the current incumbent party in relation to the cumulative past performance of the present opposition party, and (b) the cumulative performance of the current administration in relation to the cumulative performance of all previous administrations regardless of partisan composition.

2. Although past as well as current performance influences voters' contemporaneous political judgments, the present relevance of information conveyed by past performance decays over time and, therefore, the importance attached to past performance outcomes (Z_{t-k}) in the model declines at rate g^k , where g is a decay rate parameter lying between zero and one.

3. Although public opinion surveys typically force people to make discrete, qualitative responses—in the present case whether respondents approve or disapprove of the incumbent president's performance—in principle, voters' approval of an incumbent is not a discrete "yes" or "no" phenomenon, but instead is a matter of degree falling on an underlying continuum ranging from strongly positive to strongly negative. Therefore, the dependent variable in the model is the logit $\ln(P'_{jt}/1-P'_{jt})$, with P'_{jt} being the proportion of group j expressing approval of the president's performance at time t . The logit, or natural logarithm of the odds ratio $P/(1-P)$, yields a good approximation to an unobserved, continuously valued support index (see Hibbs, 1982a, 1982b).

The theoretical political support model is defined by the following equation:

$$Y^*_{jt} = w_j LR^q_{jt} + (1 - w_j) SR^q_{jt} + a_{jq} + u_{jt} \quad (1)$$

where:

Y^* is the latent index of approval for the president represented by the logit, $\ln(P'_{jt}/1-P'_{jt})$;

LR^q are interparty comparisons during the q^{th} administration;

SR^q are interadministration comparisons of the q^{th} administration with previous administrations;

a_q are administration-specific constants; and

w is the weight defining the relative contribution of LR and SR , $0 \leq w \leq 1$.

The interparty comparisons are generated by:

$$LR_{jt}^q = b_j \cdot D_t \sum_{k=0}^{\infty} g^k Z_{t-k} D_{t-k} \tag{2a}$$

where:

Z denotes a vector of performance variables (specified ahead) with associated coefficients b;

g is the rate of decay of the lag weights, $0 \leq g \leq 1$; and

$D_t = \begin{cases} +1 & \text{if the Democrats control the presidency at time } t \\ -1 & \text{if the Republicans control the presidency at time } t. \end{cases}$

Notice that in equation (2a) the product of the terms $D_t D_{t-k}$ indeed insures that LR represents the *difference* between the cumulative, discounted performance record of the incumbent party with respect to Z and the cumulative, discounted performance record of the current opposition party with respect to Z during prior periods when the opposition controlled the presidency. However, the weights applied to prior performance outcomes (Z_{t-k}) decline at rate g^k because, as mentioned earlier, the present relevance of past performance decays over time. For example, if we have a sequence of observations in which the Democrats controlled the presidency for the two most recent periods, the Republicans held the presidency for the previous two periods, and the Democrats were in power for two periods prior to that, equation (2a) implies:

$$LR_{jt}^q = b_j(Z_t + gZ_{t-1} - g^2Z_{t-2} - g^3Z_{t-3} + g^4Z_{t-4} + g^5Z_{t-5} \dots). \tag{2b}$$

The interadministration comparisons are given by

$$SR_{jt}^q = \sum_{q=1}^Q A_{qt} b_j \cdot \sum_{k=0}^{\infty} g^k Z_{t-k} D_{qt-k}^* \tag{3a}$$

where:

$A_{qt} = \begin{cases} +1 & \text{during the } q^{\text{th}} \text{ administration} \\ 0 & \text{otherwise} \end{cases}$
and

$D_{qt}^* = \begin{cases} +1 & \text{during the tenure of the } q^{\text{th}} \text{ administration} \\ -1 & \text{otherwise.} \end{cases}$

The dummy variables A_{qt} and D_{qt-k}^* insure that SR is based on the *difference* between the q^{th} administration's cumulative, discounted performance and the cumulative, discounted performance of all prior administrations, regardless of partisan composition. For example, if the q^{th} administration has been in office for two periods, the SR component of the political support model is given by

$$SR_{jt}^q = b_j(Z_t + gZ_{t-1} - g^2Z_{t-2} - g^3Z_{t-3} - g^4Z_{t-4} - g^5Z_{t-5} \dots). \tag{3b}$$

Working through equations (1)-(3) shows that when a new adminis-

tration assumes office its initial support depends importantly on the situation inherited from previous governments. The worse (better) the performance of prior administrations, the higher (lower) will be the new president's initial approval rating. This is particularly true when a new presidential administration represents a change in the party in power. For example, if the performance vector Z consists of inflation and unemployment and, hence, coefficients in b_j are negative, the model implies that the first-period support for the new presidential-party administration is given by:

$$Y^*_{jt} = (-b_j Z_t + b_j g Z_{t-1} + b_j g^2 Z_{t-2} + b_j g^3 Z_{t-3} + \dots) + a_{jq} + u_{jt}. \quad (4)$$

However, as time goes on and the situation inherited by the new administration is discounted or "forgotten" (that is, as k becomes large and g^k becomes small), the administration's support will depend entirely on its own cumulative performance record. The tendency of a new president's approval rating to decline from early "honeymoon" levels, which earlier studies (for example, Hibbs and Vasilatos, 1981c; Kernell, 1978 and 1980) have picked up with ad hoc dummy variables and time trend terms, is therefore an endogenous feature of the theoretical model in equations (1)–(3). Finally, it should be mentioned that although the lag functions in equations (2) and (3) extend to the distant ("infinite") past, observations on the performance variables (Z) are available for at least thirty-two periods prior to the first observation on the Gallup approval data (1961:1) and, therefore, the model may be estimated using finite lags without affecting the consistency of the estimates.

Empirical Results

As equations (1)–(3) indicate, the political support model is nonlinear by virtue of the parameters w and g , and so the regressions were undertaken using a standard nonlinear least-squares algorithm. The regression experiments are based on quarterly observations spanning the period from Kennedy to Carter (1960:1–1979:4).

For the reasons reviewed earlier, the dependent variable in the regressions is the logit $\ln(P'_{jt}/1-P'_{jt})$, where P_{jt} is the proportion of the j th group in quarter t responding "approve" to the Gallup survey question, "Do you approve or disapprove of the way [the incumbent] is handling his job as president?" The independent, performance variables (Z) include the rate of unemployment, the rate of inflation of consumer prices, and the rate of change of per capita real personal disposable income.³

³ All rates of change are formed by taking quarter-on-quarter differences of the logs and are expressed at annual rates: $\ln(Z_t/Z_{t-1}) \cdot 400$. The inflation rate and the real income growth rate variables were adjusted downward and upward, respectively, by the magnitude of the unfavorable shifts in relative prices following the OPEC supply shocks of

Three noneconomic variables that characterize the recent political life of this country also appear among the performance variables. First, the regressions include a term for the number (in thousands) of Americans killed-in-action in Vietnam to pick up the war-induced deterioration of presidential approval ratings. Second, the equations include a Watergate variable to capture the decline in Nixon's approval rating associated with that scandal. The variable was formed by summing the number of Watergate "events" in each quarter, weighted on a scale of 1 to 3 according to how strongly the president was incriminated personally by the event in national press reports. Third, in view of the unique visibility of the president when public attention is focused on international affairs, the regressions include a "Rally-round-the-Flag" variable taken from John Mueller's work (Mueller, 1970) and extended by us through the Nixon, Ford, and Carter administrations. "Rally" points are dramatic, sharply focused international events involving the United States that typically give a brief boost to presidential support ratings. The rally variable is simply the number of such events in each quarter.⁴

The regression estimates for the occupation/labor force and partisan population subgroups are reported in Tables 1 and 2. To facilitate interpretation of the results and to limit computational costs, equations were estimated for tripartite occupational and partisan group disaggregations. The tables show that there is considerable intergroup variability in the coefficients; in some cases the differences are quite large, which, as I argue ahead, has important political implications.⁵

The g and w Parameters⁶

The g and w parameters in Tables 1 and 2 define the rate of decay of the distributed lag coefficients for the performance variables and the

1973:4-1976:4 and 1979:1-1979:4. The idea (tested and described more fully in Hibbs, 1981) is that domestic officials are not held responsible for unfavorable macroeconomic shocks beyond their control. All data series and a discussion of data sources are given in an appendix which is available from the author upon request.

⁴ Mueller arbitrarily scored the first period of each administration as a rally point. This was not done here.

⁵ I have not reported pooled results in which the parameters are assumed to be common across groups. However, the null hypothesis of no variability in parameters across groups is rejected at virtually any test level.

⁶ To conserve space I have omitted a discussion of the intercept parameter estimates (a_{j0}), which is available in the longer paper from which this article is taken. However, averaging the intercepts across presidents (Table A) reveals that Republican presidents enjoyed an advantage, net of measured performance, over their Democratic counterparts during the 1960s and 1970s. Although the reasons for this net advantage are unclear (see Asher, 1980, ch. 5; Stokes, 1966; and Fair, 1975, for discussions of the phenomenon), the computations in Table A show Republican presidents had an absolute net advantage (the Republican "bias" in column 3 of the table) in every occupation/labor force group and among Inde-

relative contribution of interparty and interadministration performance comparisons to group presidential approval ratings, respectively. When g is zero or nearly so, the model collapses to the static specification used in much of the existing empirical work in which only very recent performance outcomes affect political support.⁷ The nonlinear least-squares estimates of g in the tables vary between 0.70 and 0.86 across groups. The occupational and partisan group weighted averages for g are about 0.81,

pendents, and an advantage among Republican identifiers that far exceeded the bias in favor of Democratic presidents among Democratic partisans.

Table A: Time Weighted Averages of Intercept Parameters by Party of the President
(Average Sample Values in Parenthesis)

	Democratic Presidents	Republican Presidents	Bias toward Republican Presidents (Rep.-Dem.)
Blue-collar (0.47)	0.444	0.563	0.119
White-collar (0.36)	0.421	0.984	0.563
Nonlabor Force (0.17)	0.340	0.624	<u>0.284</u>
	Occupation Weighted Sum:		0.31
Democrats (0.46)	0.960	0.065	-0.895
Republicans (0.26)	-0.333	1.734	2.067
Independents (0.28)	-0.023	0.726	<u>0.750</u>
	Partisan Weighted Sum:		0.33

Across the entire electorate (the weighted sums in Table 3) the Republican advantage or "bias" with respect to the logit of presidential approval ratings is in the vicinity of 0.3. Translated into percentage points in the Gallup polls and evaluated at a benchmark of 50 percent approval, this means that Republican presidents on average enjoyed an advantage of 8 percentage points in the Gallup ratings. Hence, during the 1960s and 1970s the performance of the Democratic presidents on the criterion variables (Z) had to be superior to that of Republican presidents in order for the former to achieve equivalent average approval ratings, notwithstanding the fact that Democratic presidents had a much larger nominal partisan base in the electorate.

⁷ In studies of aggregate presidential approval time series, Sam Kernell has included a lagged endogenous (dependent) variable among the regressors to capture distributed lag effects (implicitly in Kernell, 1978; explicitly in Kernell, 1980). Although Kernell apparently did not realize it, this specification directly implies a distributed lag in which the approval rating of the current administration(s) is influenced by its own performance and that of the previous administration in the same way. Since it makes little sense to assume, for example, that the deep 1975-76 recession under President Ford produced declines in subsequent Carter approval ratings, we are unlikely to learn much about the dynamics of political support from such equations.

TABLE 1

Occupational Groups, Nonlinear Least-Squares Estimates, 1961:1-1979:4,
(dependent variable: $\ln(P'_{jt}/1-P'_{jt})$), asymptotic standard errors (s.e.) in
parentheses

	Blue-collar (T = 71)	White-collar (T = 71)	Nonlabor Force (T = 62) ^a	Means ^a of approval proportions
Constants (a_q)				
Kennedy a	0.597	0.475	0.250	0.702
(s.e.)	(0.029)	(0.032)	(0.045)	
Johnson a	0.479	0.385	0.342	0.540
(s.e.)	(0.030)	(0.030)	(0.038)	
Nixon a	0.465	0.928	0.733	0.497
(s.e.)	(0.019)	(0.024)	(0.054)	
Ford a	0.812	1.126	0.344	0.461
(s.e.)	(0.065)	(0.047)	(0.057)	
Carter a	0.127	0.434	0.468	0.487
(s.e.)	(0.065)	(0.054)	(0.060)	
Lag Weight Rate of Decay				
g	0.853	0.786	0.712	
(s.e.)	(0.009)	(0.012)	(0.025)	
LR/SR weight				
w	0.782	0.699	0.586	
(s.e.)	(0.025)	(0.021)	(0.113)	
Noneconomic Terms				Means^b of independent variables
Vietnam, killed-in-action (in 1000s)				
b	-0.064	-0.059	-0.055	0.605
b/1-g	-0.437	-0.274	-0.191	
(s.e.)	(0.002)	(0.003)	(0.005)	
Rally Events				
b	0.254	0.23	0.234	0.329
(s.e.)	(0.009)	(0.041)	(0.016)	
Watergate Scandal Events				
b	-0.016	-0.018	-0.017	1.18
(s.e.)	(0.001)	(0.0008)	(0.0015)	
Economic Terms				
Inflation Rate				
b	-0.02	-0.031	-0.037	4.823
b/1-g	-0.138	-0.147	-0.13	
(s.e.)	(0.002)	(0.003)	(0.0059)	
Unemployment Rate				
b	-0.014	-0.014	-0.005	5.48
b/1-g	-0.093	-0.065	-0.019	
(s.e.)	(0.001)	(0.002)	(0.0042)	
Per Capita Real Personal Disposable Income Growth Rate				
b	0.017	0.019	0.014	2.39
b/1-g	0.115	0.088	0.049	
(s.e.)	(0.001)	(0.002)	(0.0024)	
Fit: correlation of actual and fitted proportions				
	0.96	0.94	0.92	

^a Generally the presidential approval question is not asked in the third quarter of election years and data for these periods are therefore missing. Data for the nonlabor force group are missing throughout 1970-73. Data on the blue- and white-collar groups are missing for 1970:3 and 1971:3. Data for the lag functions of the performance variables extend back to 1953:1 (see text discussion). Actual and fitted *proportions* approving the presidents are given in an appendix available from the author.

^b Computed for the regression estimation range.

TABLE 2

Partisan Groups, Nonlinear Weighted Least-Squares Estimates, 1961:1–1979:4,
 $T = 72$ (dependent variable: $\ln(P'_{jt}/1-P'_{jt})$), asymptotic standard errors (s.e.) in
 parentheses

	Democrats	Republicans	Independents
Constants (a_i)			
Kennedy a	1.272	-0.431	0.128
(s.e.)	(0.033)	(0.032)	(0.037)
Johnson a	0.961	-0.379	-0.061
(s.e.)	(0.028)	(0.032)	(0.036)
Nixon a	0.014	1.824	0.600
(s.e.)	(0.020)	(0.027)	(0.019)
Ford a	0.195	1.506	1.049
(s.e.)	(0.050)	(0.050)	(0.027)
Carter a	0.487	-0.069	-0.157
(s.e.)	(0.059)	(0.048)	(0.076)
Lag Weight Rate of Decay			
g	0.834	0.700	0.860
(s.e.)	(0.010)	(0.015)	(0.009)
LR/SR weight			
w	0.652	0.617	0.800*
(s.e.)	(0.020)	(0.029)	
Noneconomic Terms			
Vietnam, killed-in-action (in 1000s)			
b	-0.064	-0.059	-0.056
b/1-g	-0.388	-0.197	-0.402
(s.e.)	(0.002)	(0.004)	(0.002)
Rally Events			
b	0.204	0.297	0.264
(s.e.)	(0.009)	(0.012)	(0.010)
Watergate Scandal Events			
b	-0.022	-0.015	-0.017
(s.e.)	(0.0007)	(0.001)	(0.0007)
Economic Terms			
Inflation Rate			
b	-0.017	-0.044	-0.017
b/1-g	-0.100	-0.146	-0.124
(s.e.)	(0.002)	(0.004)	(0.002)
Unemployment Rate			
b	-0.017	-0.010	-0.017
b/1-g	-0.104	-0.034	-0.120
(s.e.)	(0.002)	(0.003)	(0.002)
Per Capita Real Personal Disposable Income Growth Rate			
b	0.022	0.024	0.021
b/1-g	0.133	0.082	0.148
(s.e.)	(0.001)	(0.002)	(0.016)
Fit: correlation of actual and fitted proportions			
	0.99	0.96	0.93

* Searched manually in the interval 0–0.8.

which means that the American public is not quite as myopic as some analyses of political support have implied. A value of g of about 0.81 indicates that performance outcomes of many past periods affect voters' current approval rating of the president. The assumption in the model that political support is based on cumulative, relative performance is, therefore, not merely an appealing theoretical fiction: assuming that g is zero and hence that only current and absolutely evaluated performance outcomes matter, yields inferior predictions of actual fluctuations in the political support data.

If a performance variable Z is held at some equilibrium value Z' indefinitely, the ultimate impact on the political support index is, on average, $Z' \cdot b(z)/(1-g)$; where $b(z)$ is the contemporaneous impact of Z estimated by the relevant regression coefficient in the tables. The proportion of the ultimate impact of Z felt by the k^{th} lag is given by $1-g^{k+1}$.⁸ Hence, for an average g of 0.81, about 57 percent of the total impact of a sustained movement in Z is felt after one year (four quarters), 81 percent is felt after two years (eight quarters) and about 97 percent is felt after four years (sixteen quarters). The implications of these results for short-run "political business cycle" theories are obvious. Clearly an administration that implemented macroeconomic policies under the assumption that the public's political evaluations were based only on conditions during the most recent year or half-year would be miscalculating. Perhaps this is one reason why short-run electoral policy cycles have not been a systematic feature of the postwar American political economy.

The nonlinear estimates of the w parameter in the tables vary between about 0.6 and 0.8, with the weighted group averages falling in the vicinity of 0.7. This indicates that, net of the a_0 intercept terms, about 70 percent of a given president's approval ratings are based on interparty rather than interadministration performance comparisons. However, notice that after twenty-four or so periods have elapsed (six years) 0.81^k is negligible in magnitude and, therefore, LR is effectively equal to SR. Since SR is based on a president's own past performance record, a president surviving into a second term is unlikely to be helped or hurt significantly by the record of his predecessors (of his own or the opposition party). During a second term a president's approval rating is based, then, almost entirely on a distributed lag of his own prior performance, as well as on his own unique appeal and other unmeasured factors (including

⁸ For $0 \leq g < 1$ the infinite sum of the series $b \sum_{k=0}^{\infty} g^k$ is $b/(1-g)$ and the partial sum through lag k is $b(1-g^{k+1})/(1-g)$. Therefore, the partial sum as a proportion of the infinite sum is $1-g^{k+1}$.

partisanship effects) that are embedded jointly in the a_q intercept constants.

Noneconomic Events

The noneconomic performance terms in the model—Americans killed-in-action in Vietnam, international Rally events, and the Watergate scandal events—all enter the regressions in Tables 1 and 2 with properly signed, statistically significant, and sizeable parameter estimates. Escalation of American losses in Vietnam and the unfolding of the Watergate scandal obviously contributed to the deterioration of Johnson's and Nixon's approval ratings, and international "rally" events were sources of upward movements in public support for all presidents.

Where it is sensible two coefficients are reported for the performance variables in Tables 1 and 2: the ordinary regression coefficient b giving the contemporaneous response of the dependent variable to a unit change in an independent variable, and, where appropriate, the "steady-state" or long-run coefficient $b/(1-g)$ giving the ultimate response of the dependent variable to a sustained unit change in an independent variable. (See note 8.) Since the lag rate of decay parameter g varies across groups, the pattern across groups of the long-run $b/(1-g)$ coefficients occasionally deviates from the intergroup pattern of the contemporaneous b coefficients.

The coefficients in Tables 1 and 2 pertain to the impact of the performance variables on the logits $\ln(P'_{jt}/1-P'_{jt})$. However, practical political interest centers on sources of variation in the survey proportions, P'_{jt} , which are not obvious from direct inspection of Tables 1 and 2 because P'_{jt} is a nonlinear function of the latent variable $\ln(P'_{jt}/1-P'_{jt})$. Therefore, to give an idea of the practical political consequences of fluctuations in the noneconomic variables, I have computed the implied changes in the percentage of each group ($P'_{jt} \times 100$) expressing approval of the president following reasonable movements of the independent variables (Table 3).

The estimated contemporaneous response to a unit increase in Americans killed in action in Vietnam (an increase of 1000) shown in Tables 1, 2 and 3 is small and does not sharply distinguish groups, but a casualty rate of this magnitude sustained indefinitely yields sizeable political effects and reveals clear group differences. Among the occupational groups, blue-collar workers were the most sensitive to the war and those outside the labor force were the least sensitive. Continued indefinitely (which given the values of lag decay coefficient g means twenty to twenty-four quarters or five to six years), Table 3 indicates that a killed-in-action rate of 1000 per quarter yields a decline of more than 10 points in the blue-collar approval percentage but a decline of less than 5 per-

TABLE 3

Response of Gallup Poll Approval Percentages in Occupational and Partisan Groups to Noneconomic Events^a

Variable:	Vietnam killed-in-action ^b		Rally Events ^b		Watergate Scandal		
Magnitude and Duration:	1000 per period sustained 1 quarter (Johnson & Nixon)	1000 per period sustained indefinitely (5-6 years) (Johnson & Nixon)	increase in battle fatalities between 1966 and 1968 1.24 to 4.8 thousand per quarter (Johnson)	1 event in 1 quarter (all presidents)	3 events in 1979:4, 2 events 1980:1 (Carter)	1 event tied directly to Nixon (+3) approval rating during 1972:2-1974:3 due to Watergate	change in Nixon's average approval rating during 1972:2-1974:3 due to Watergate
Group							
Blue-collar	-1.6	-10.4	-14.3	+6.3	+24	-1.2	-9.6
White-collar	-1.5	-6.8	-11	+5.7	+17	-1.3	-9.2
Nonlabor Force	-1.4	-4.7	-9.8	+5.8	+22	-1.2	-10.0
Democrats	-1.5	-8.7	-14.6	+4.8	+22	-1.5	-14
Republicans	-1.2	-4.0	-8.4	+5.4	+20	-0.9	-7.7
Independents	-1.4	-9.7	-13	+6.6	+25	-1.3	-13

^aAt 50 percent approval, the response to a unit movement in the independent variables is 25 (0.25 for proportions) times the relevant regression coefficient in Tables 1 and 2.

^bThe responses to Vietnam and rally events exhibited little variability across presidents. Rally events had somewhat smaller effects during Kennedy's administration, because his approval percentages deviated more (upward) from 50 percent in most groups.

centage points in the nonlabor force group. Presidential support among white-collar workers falls by about 6.8 percentage points at this casualty rate (Table 3, column 1, entries 1 and 2). Of course, American losses in Vietnam climbed much higher than 1000 per quarter. For example, during 1966 battle deaths averaged 1.2 thousand per quarter and rose steadily thereafter, peaking at 4.8–4.9 thousand per quarter during the first half of 1968 following the Tet offensive. Simulation experiments with the political support equations indicate that as a consequence of this dramatic increase in the rate at which American troops were being killed, by the third quarter of 1968 President Johnson's Gallup approval rating was depressed 14.3 percentage points among blue-collar workers, 11 percentage points among white-collar workers, and 9.8 points among voters outside the labor force⁹ (see Table 3, column 1, entry 3).

Perhaps the response of the nonlabor force group is comparatively small because these voters were largely retirees whose children were too old to have been threatened by the war. We do know that the results in Table 3 for the white- and blue-collar groups are consistent with evidence from surveys showing that the working class generally expressed greater opposition to the war than the middle class. And, more important, these results also square with data indicating that the children of lower-status workers suffered a disproportionate share of the casualties.¹⁰

Although American battle fatalities typically were higher during President Johnson's administration of the Vietnam war than during President Nixon's tenure as commander-in-chief, the political support of Democratic partisans (and Independents) was considerably more sensitive to the Vietnam catastrophe than that of Republican partisans. Again, the political effects of a killed-in-action rate of one thousand per quarter sustained only one period are small. However, when sustained indefinitely (5–6 years), this fatality rate yields declines of about 9 to 10 percentage points in the approval ratings of Democrats and Independents, though it lowers the approval rating of Republicans only about 4 percentage points (Table 3, column 1, entries 1 and 2). The great increase in battle fatalities between 1966 and mid-1968 of course had more dramatic

⁹ These estimates were derived by comparing the approval percentages simulated without the 1966–68 increase in battle fatalities (holding fatalities fixed at the 1966 mean of 1.24 thousand per quarter) with the approval percentages generated by the actual historical data. Several other Vietnam variables were tried in the regression equations—for example, draft rates, bombing activity, and war casualties as opposed to fatalities—but these additional measures of the war's intensity added little to the information already embodied in the killed-in-action variable.

¹⁰ For survey data on opposition to the war see Miller et al., 1980, Table 3.53, and Lunch and Sperlich, 1979. A review of evidence on the socioeconomic distribution of American casualties is given by Berney and Leigh, 1974. Also see Harlan Hahn's study of voting patterns in referenda on the war (1970).

effects on President Johnson's poll ratings: simulations of the equations suggest that by 1968:3 his approval percentage was depressed by the war 14.6 percentage points among his fellow Democratic partisans, 13 points among Independents, and 8.4 points among Republicans (Table 3, column 1, entry 3).

Perhaps surprisingly, the difference between the magnitudes of the responses of Democratic and Republican partisans to Vietnam war fatalities exceeds the difference between blue- and white-collar workers in both the Johnson and Nixon administrations. Voters' reactions to the war apparently were not influenced greatly by the "perceptual filter" of party identification. Moreover, stratification of the electorate into occupational groups is somewhat less effective than a partisan-based stratification in revealing intergroup cleavages surrounding the Vietnam war. Undoubtedly this is true because the Democratic coalition of urban, less-educated, lower-income, black, unionized, and blue-collar voters better identifies those segments of the American electorate directly affected by the war's human toll than a simple occupational classification.¹¹

Since it makes no sense to think of international crises producing the well-known "rally-round-the-president" effect as being repeated indefinitely, Tables 1 and 2 only show estimates of the initial, contemporaneous boost to presidential approval indices of a single rally event (b). The parameter estimates in the regression tables suggest that Republicans and Independents are somewhat more responsive to the rally phenomenon than Democrats, and that white-collar workers are slightly less responsive than other occupational/labor force groups. But the differences are not very large: Table 3 indicates that on average a rally event boosts a president's quarterly approval rating by about 5 to 6.5 percentage points in the various occupational and partisan groups (column 2, entry 1).

Although rally events are not frequent (about 1.2 per year is the long-run average) and only rarely has more than one occurred in a quarter, President Carter experienced a unique sequence of five distinct events related to the crises over Iran and Afghanistan during 1979:4 and 1980:1.¹² This unprecedented string of rally events produced a dramatic

¹¹ A very useful compilation of the national election studies data on the partisan balance within a great many social groups over the period 1952-78 is supplied by Miller et al., 1980, Table 2.34.

¹² In 1979:4 the seizure of hostages in Tehran (11-4-79); the burning of the American embassies by Moslem extremists in Pakistan (11-21-79) and Libya (12-2-79); and the U.N. Security Council's condemnation of the hostage seizure and call for the hostages release (12-4-79). In 1980:1 the grain embargo and other measures taken against the Soviet Union in retaliation for the invasion of Afghanistan (12-26-79); and the president's appeal for draft registration in a televised message to Congress (1-23-80).

reversal of the president's approval time series, which in the face of accelerating prices and declining real disposable income had fallen by the third quarter of 1979 to a level not seen since the Watergate scandal. The estimates in Table 3 (column 2, entry 2) based on simulation experiments with the political support equations suggest that by 1980:1 the crisis per bounds of the impact of international crisis events on political support percentage points in nearly all groups. Though such a sequence is unlikely to be repeated in the future, these estimates do illustrate the upper bounds of the impact of international crisis events on political support for the president. The political benefits of rally events are of course transitory, but they were large enough to help at least one severely weakened and vulnerable president to survive the primary season and to gain his party's renomination, though of course not reelection.

The last noneconomic term in the model represents the Watergate scandal, which ultimately drove President Nixon from office. The coefficient estimates in Tables 1 and 2 reinforce the view that partisanship significantly colored the electorate's response to the Watergate events: the interoccupation differences in the Watergate coefficients are small, but the difference between the coefficients for Democrat and Republican partisans is sizeable. Nonetheless, computations in Table 3 show a single Watergate revelation (one event incriminating Nixon personally and scored +3 on our 1 to 3 event importance scale) would not have affected Nixon's approval rating by more than a percentage point or so (column 3, entry 1). The president's problem was that the scandal escalated far beyond this level as one revelation followed another. Our press-weighted Watergate variable averages about 15 in 1973, and peaks at 24 in 1973:2 during the Senate hearings. Simulating the approval rating trajectories implied by the model with and without the Watergate events indicates that between 1972:2 and 1974:3 Nixon's aggregate approval percentage was lowered by about 10 percentage points.¹³ As noted earlier, the disaffection induced by Watergate was less than this among Republicans but considerably higher among Democrats and Independents (Table 3, last column).

Macroeconomic Performance

It is natural to expect political responses to macroeconomic performance to vary across groups because the burdens and rewards conferred by fluctuations in aggregate economic conditions are very unevenly distrib-

¹³ This estimate is smaller than many press reports at the time suggested, but remember that prices also accelerated dramatically (following the OPEC petroleum shock of 1973:3) during this period. This illustrates the advantage of estimating such effects by simulating a multivariate model including important variables that covary.

uted within the electorate.¹⁴ The regression parameter estimates for the macroeconomic variables in Tables 1 and 2 are broadly consistent with what we know about the distributional consequences of economic configurations. Among occupational/labor force groups, blue-collar workers exhibit relatively greater sensitivity to sustained movements in unemployment and real income growth and relatively less sensitivity to the inflation rate than white-collar workers or retirees (Table 1, $b/(1-g)$). In other words, compared to white-collar workers or those outside the labor force, the political support of blue-collar workers is more responsive to the economy's real performance than to its nominal, inflation performance. The political support of voters outside the labor force (primarily retirees) shows considerable responsiveness to movements in the rate of inflation, but it is quite unresponsive to the movements in the rate of unemployment. Since this group is not touched directly by unemployment fluctuations, and is adversely affected by inflation, these results are not surprising.

Most political conflicts surrounding macroeconomic policies center on inflation and unemployment, and so it is useful to examine the relative magnitude of the associated coefficients across groups. Taking the ratio of the inflation and unemployment parameters gives what are known as the "marginal rates of substitution" (MRS), that is, the implicit rates at which voters are willing to substitute unemployment for inflation:

MRS (inflation/unemployment)	Occupation		
	Blue-collar	White-collar	Nonlabor Force
	1.5	2.2	7.1

The coefficient ratios, or marginal rates of substitution, indicate that in order to maintain a given level of the political approval index among blue-collar workers, a 1.0 percentage point increase in the inflation rate would have to be accompanied by a decrease of about 1.5 percentage points in the unemployment rate, whereas for white-collar workers the decrease in unemployment would have to be about 2.2 percentage points.¹⁵ For voters outside the labor force the implied preference (indifference) curve is much steeper: a unit increase in the inflation rate requires a decrease in the unemployment rate of more than 7 percentage points for this group's political approval index to remain unchanged. Equivalently, blue-collar, white-collar, and nonlabor force voters would

¹⁴ For a review of the distributional consequences of macroeconomic outcomes see Hibbs, 1979, 1981b and the sources cited therein.

¹⁵ For some comparative results for Britain see Hibbs, 1982b.

be indifferent to a 1.0 percentage point increase in unemployment if the inflation rate declined by 0.68 (1/1.5), 0.45 (1/2.2), and 0.14 (1/7.1) points, respectively.

Across partisan groups the effects of the macroeconomic variables also have the expected relative magnitudes, but they reveal sharper cleavages than the corresponding results for blue- and white-collar workers. The political approval indices for Democrats and Independents are far more responsive to movements in unemployment and the real income growth rate, and less responsive to movements in the inflation rate, than is the approval index of Republican partisans.

Again, it is useful to examine the marginal rates of substitution between inflation and unemployment implied for the various groups:

MRS (inflation/unemployment)	Partisan Group		
	Democrats	Republicans	Independents
	0.96	4.3	1.0

The ratio of the inflation parameter to the unemployment parameter for Democrats and Independents is about 1.0, indicating they are indifferent to equivalent, offsetting movements in the inflation and unemployment rates. However, in order for Republicans to be indifferent to a 1.0 percentage point increase in inflation, the unemployment rate would have to fall more than four times as much. Alternatively, if the unemployment rate rose by one point, the Republican approval index would remain unchanged if inflation fell by only 0.23 points (1/4.3). Among occupations, only the nonlabor force group implicitly reveals a steeper, more inflation averse preference curve.

Table 4 reports the political approval responses in terms of *percentage* points in the Gallup poll produced by increases of 2.0 points in the inflation, unemployment, and real income growth rates that are maintained one period, eight periods, and indefinitely. The estimates in Table 4 indicate that the responses of the approval percentages to transitory, one-quarter changes in the macroeconomy are small. However, if sustained for two years (eight quarters) or longer the political penalties and rewards generated by movements in the economy variables are sizeable.

The intergroup pattern of the responses is almost identical to that of the logit model regression coefficients just discussed. Relatively great sensitivity to inflation is exhibited by Republicans and, especially, voters outside the labor force, and relatively great sensitivity to real economic fluctuations (unemployment and the real income growth rate) is exhibited by Democrats, Independents, and blue-collar workers. The sharpest cleavages over macroeconomic performance are, therefore, between

TABLE 4
 Response of Gallup Poll Approval Percentages in Occupational and Partisan Groups to Macroeconomic Performance^a

Variable:	<u>Inflation Rate</u>			<u>Unemployment Rate</u>			<u>Real Income Growth Rate</u>		
	1 quarter	8 quarters	indefinitely	1 quarter	8 quarters	indefinitely	1 quarter	8 quarters	indefinitely
Increase of 2 Percentage Points Sustained:									
Blue-collar	-1.0	-4.8	-6.6	-0.7	-3.2	-4.4	+0.8	+3.9	+5.4
White-collar	-1.5	-6.1	-7.2	-0.7	-2.7	-3.2	+0.9	+3.6	+4.2
Nonlabor Force	-1.8	-6.0	-6.4	-0.3	-0.9	-0.9	+0.7	+2.3	+2.4
Democrats	-0.7	-3.3	-4.3	-0.7	-3.4	-4.4	+0.9	+4.3	+5.6
Republicans	-1.9	-6.0	-6.3	-0.4	-1.4	-1.5	+1.1	+3.3	+3.5
Independents	-0.8	-4.2	-6.0	-0.8	-4.1	-5.9	+1.0	+5.0	+7.2

^a See notes for Table 3.

voters in and outside of the labor force and between Republicans and other voters.¹⁶

Summary and Conclusions

The first section of this paper reviewed a dynamic model of political choice in which rational voters forced to make discrete judgments apply relative rather than absolute evaluation standards. It was shown that past as well as current economic and noneconomic events influence voters' contemporaneous political judgments, but that past outcomes are discounted backward in time, undoubtedly because the present relevance of prior performance decays through time. Although the model does not include arbitrary time trends or permit arbitrary parameter changes, which is common in empirical analyses of presidential approval data, it generates predictions fitting the observed survey data remarkably well: the correlations between the actual survey proportions and those implied by the logistic model equations range from 0.92 to 0.99 (Tables 1 and 2). Moreover, the time paths of the actual and fitted approval proportions (given in an appendix available from the author) suggest no obvious, important errors in the functional form or specifications of the model.

The empirical results in the second section of the paper have implications extending beyond the boundaries of presidential approval dynamics that may be of broader interest to students of political behavior and political parties. Among the performance variables appearing in the equations, the "perceptual screen" of party identification appears to have influenced significantly voters' responses only to the Watergate events. The intergroup pattern of the Watergate parameter estimates and the simulation-based trajectories of the decline in Nixon's approval ratings produced by the scandal in the various groups leave little doubt that partisanship was an important factor mediating voters' responses. But this is the only instance where partisan perception, rather than objective partisan-group interest, obviously accounts for intergroup patterns in the estimated effects, although it is not possible to draw definitive conclusions on this point without time-series data disaggregated jointly by partisanship and other characteristics.

However, perhaps more than critics of American political life on the left and right have acknowledged, division of the electorate along partisan lines clearly reflects objective cleavages among voters over important substantive issues and events. The responses across groups to the esca-

¹⁶ Without political approval data disaggregated jointly by both occupational/labor force status and partisanship (and other dimensions), it unfortunately is not possible to make more precise statements. The results here, however, are broadly consistent with Weatherford's (1978) microanalysis of the effect of "personal financial conditions" and social class controlling for party on reported electoral behavior in the 1956, 1958, and 1960 elections.

tion of American losses in Vietnam and to movements in inflation, unemployment, and the real-income growth rate revealed sharp partisan differences which are difficult to attribute to the perceptual screen of party identification and which generally were more pronounced than the corresponding interoccupational differences. The political support of Democrats (and Independents) exhibited relatively great sensitivity to unemployment and real-income growth as well as to the Vietnam battle fatalities, whereas the support of Republicans (and retirees) was by comparison less sensitive to the Vietnam losses and more sensitive to inflation. As pointed out earlier, these results are broadly consistent with what we know about the objective distributional consequences of macroeconomic fluctuations and the socioeconomic incidence of Vietnam casualties, but they have no obvious, purely "partisan" explanation.

As Fiorina (1977) and others have argued, then, partisan alignments are not simply formations of voters united by psychological affinities long removed from concrete events; rather, they also may be realistically viewed as cleavage formations reflecting diverging objective interests over major political and economic issues.

Manuscript submitted 9 December 1980

Final manuscript received 24 July 1981

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