

The Impact of Economic Performance on Electoral Support in Sweden, 1967–1978*

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1. Introduction

Although economic issues probably were less important in Swedish political life in the 1960s than during the immediate postwar period (or during the 1930s), public concern about employment, inflation and taxation had by no means expired. Table 1, reporting survey data on policy priorities of the Swedish electorate in 1960, 1973, and 1976, illustrates the persistent salience of these macroeconomic issues. During the 1970s, questions of social reform commanded the electorate's foremost attention, which is not surprising in view of the steady expansion of social programs and public expenditures. Sixty-one percent and forty-seven percent of those responding to the policy priorities questions in the 1973 and 1976 surveys, respectively, identified explicitly economic policy and taxation as salient political issues, and because social reform issues have important implica-

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1. Introduction

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Table 1. Policy Priorities of the Swedish Electorate 1960, 1973, 1976¹

	1960 ²	1973 ³	1976 ³ (pre-election)	1976 ³ (post-election)
Economic Policy	19 %	25 %	21 %	17 %
General Social Policy, Social Reforms	10	47	41	9
Pensions ⁴	22	41	37	5
Specific Areas of Social Policy (health care, regulation of working hours, holiday legislation, etc.)	12	30	26	5
State Control, Socialism ⁵		19	37	2
Taxes, Public Expenditure ⁶	27	36	26	28
Energy Policy	n.a.	n.a.	15	60
Total percentage naming at least one policy item	83	73	73	58

¹ The percentage in the Table are based on the number of respondents naming the policy item divided by the total number of respondents naming at least one item. Multiple responses were possible.

² Response to question: 'What do you think the party which you like best/ for which you voted/ for which you could think of voting/ the Government or the Riksdag/

should mainly work for during the next few years?' Source: Bo Särilvik, 1976.

³ Response to question: 'Which policies of the present government do you particularly like? . . . particularly dislike?' Source: Olof Petersson, 1977, table 5.1, extracts.

⁴ In 1973 and 1976: includes 'care for elderly'.

⁵ In 1976 includes 'economic democracy'.

⁶ In 1973 and 1976 only 'taxes'.

tions for state spending and, hence, touch directly upon general economic concerns, these numbers may well understate the extent to which economic factors influenced voters' evaluation of the government.

Indeed, more detailed survey evidence supports this conjecture. Table 2 presents the electorate's view of the importance of employment, inflation, taxes, and energy for their vote in the 1976 election. The data show rather convincingly that these policy areas were of crucial importance. Fully 82 percent of the respondents saw the taxation issue as either one of the 'most important' influences or as a 'rather important' influence on their vote, whereas about 52 percent attached equivalent importance to the energy question. We do not wish to argue against the decisive role played by *energi frågan* for the outcome of the 1976 election (a point that has been emphasized by Swedish election specialists);¹ nevertheless, in view of

Table 2. Voters' Evaluation of the Importance of Issues for Their Vote in 1976 (pre- and post-election surveys combined).

%	Employment	Prices	Taxes	Energy
1. One of the most important	30	24	33	16
2. Rather important	40	53	49	36
3. Not particularly important	21	17	13	34
4. Not important	6	3	3	11
5. Don't know	2	3	3	3
	99	100	101	100

Source: O. Petersson, 1978b, variables 27, 28, 29, 77.

the data in Table 2, as well as other evidence,² we want to caution readers against minimizing the electoral impact of economic concerns.

The 1976 election aside, have macroeconomic conditions contributed in a systematic way to the electorate's support for Swedish governments? Since 1967 SIFO has regularly probed the vote intention of a representative sample of the Swedish electorate,³ and we have used this time-series (monthly surveys aggregated to quarterly observations) to analyze the influence of macroeconomic performance on fluctuations in mass political support for Swedish governments. The paper is organized as follows. Section 2 presents a statistical model of qualitative political choices which formalizes the idea that the discrete support/nonsupport responses elicited by surveys are reflections of underlying, *continuously valued* voter sentiments about the incumbent political party or bloc ranging from strongly positive to strongly negative.

Section 3 of the paper develops several specifications for the way in which voters evaluate governments' economic performance and reports the empirical results. Four measures of economic performance appear in the political support equations: the rate of inflation; the rate of unemployment; the growth rate of per capita real disposable income; and the difference, or gap, between the growth rate of post-tax, post-transfer per capita disposable income and pre-tax, pre-transfer per capita earnings. The latter variable is designated 'tax gap'. It essentially measures the wedge between the growth streams of final disposable income and original market income opened up by state tax and transfer policies.

The specification for voters' evaluations favored by the evidence incorporates the idea that people evaluate economic performance *relatively* rather than absolutely by comparing current economic conditions to those 'expected' from experiences in the recent past. This specification also embodies the notion that a government's current support is based on its *cumulative* relative performance record;

however, since the present relevance of information conveyed by past performance decays over time, it is assumed that voters discount backward in time the retrospective relative performance streams.

The regression coefficient estimates for this model indicate that deviations of the unemployment rate from its 'expected' level exert the strongest influence on variations over time in support for the governing party or bloc. Inflationary bursts also have important political consequences, whereas the estimated impact of tax gap is small and that of the real disposable income growth rate is negligible.

The concluding section of the paper reviews the results and develops their larger implications.

2. A Model for Qualitative Political Choices

Although public opinion polls typically force people to make discrete, qualitative responses – in our case whether the respondent intends to vote for (or prefers) the incumbent party or bloc – in principle a voter's preference is not a discrete 'for' or 'against' phenomenon, but instead is a matter of degree falling on an underlying continuum ranging from strong positive to strong negative feelings about the governing party or bloc. Therefore the dependent variable in the model is a continuously valued, unobserved index of support for the governing party/bloc at time t , Y_t^* . Y_t^* is determined by the equation

$$(1) \quad Y_t^* = f(Z) + u_t,$$

where $f(Z)$ represents an evaluation function for the vector of economic performance variables, Z , which is described ahead; and u_t is an independently distributed random disturbance.

Y_t^* is unobserved; the SIFO survey data reveal only voters' discrete party preferences or vote intentions. Hence we need a model that maps the discrete choices in the SIFO surveys onto the unobserved, continuously valued support index. Let the observed survey responses be designated by the binary variable Y_{it} :

$$(2) \quad Y_{it} = \begin{cases} 1 & \text{for respondents who intend to vote for (or who prefer)} \\ & \text{the incumbent party or bloc} \\ 0 & \text{for respondents who intend to vote for (or who prefer)} \\ & \text{opposition parties (or who abstain)} \end{cases}$$

Since this paper focusses on movements through time in aggregate political support, we shall assume that individuals react homogenously to government performance, $f(Z)$, and, therefore, that the Y_{it} reflects the underlying continuously valued support index such that

$$(3) \quad Y_{it} = \begin{cases} 1 & \text{if } Y_{it}^* > c \\ 0 & \text{if } Y_{it}^* \leq c \end{cases}$$

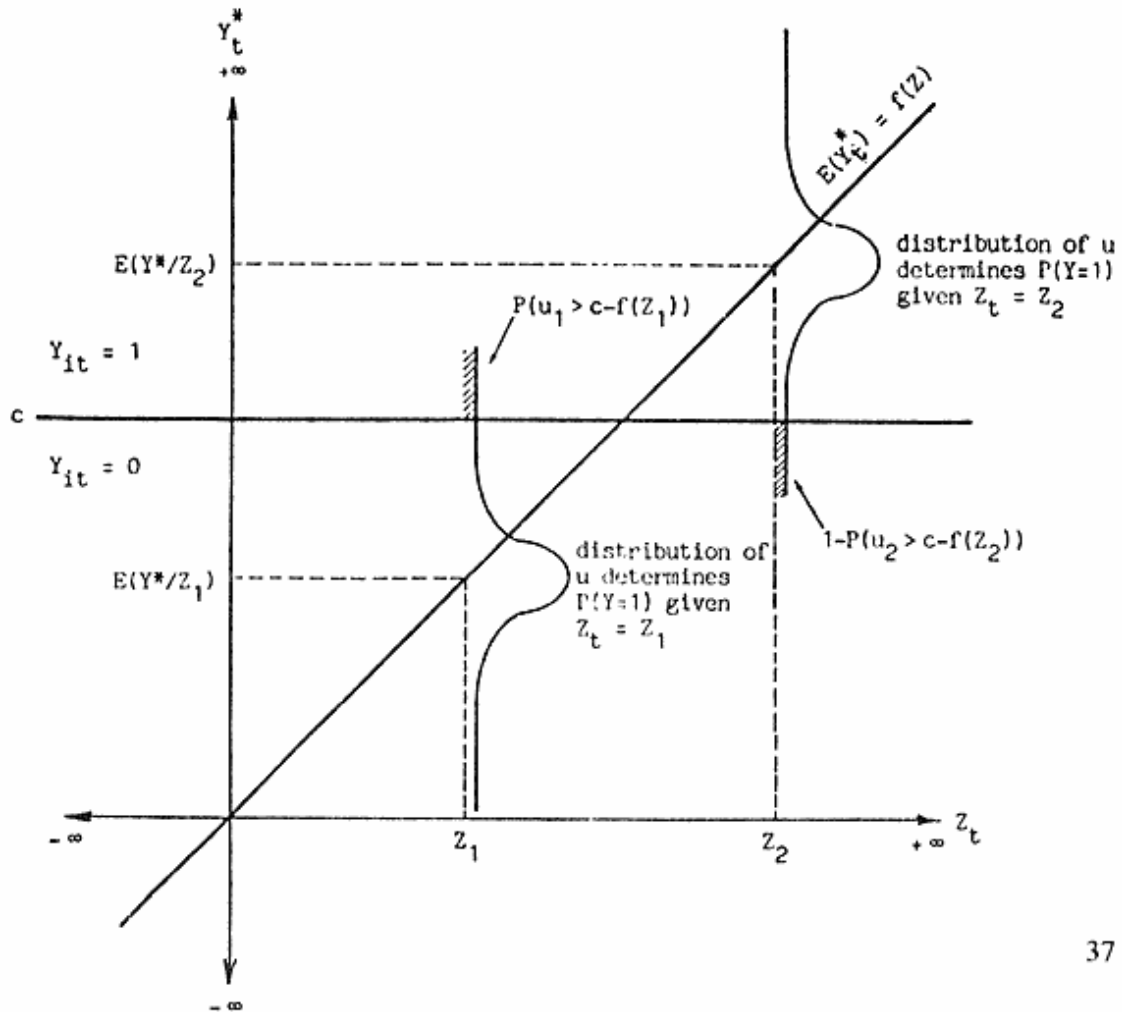
where c is a critical threshold.

It follows that the probability (P) of survey responses supporting the government at time t are

$$(4) \quad P_t = P(Y_{it} = 1) = P(f(Z) + u_t < c) \\ = P(u_t > c - f(Z))$$

and $(1 - P)$ gives the probability of support for nonincumbent parties (or of abstention). The probability of supporting the incumbent party therefore hinges on the value of $c - f(Z)$ and the distribution of the random variable u . The point is illustrated by Figure 1.

Figure 1. Observed Binary Responses and Unobserved Continuously Valued Support Ratings.

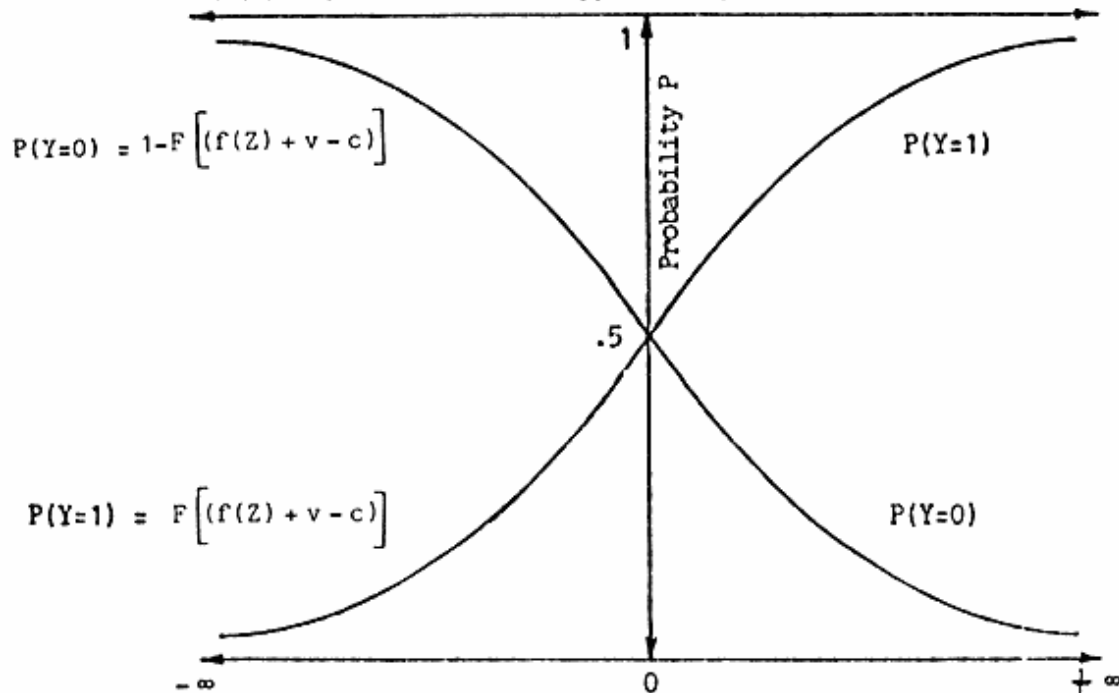


The above implies that P_t may be regarded as a cumulative distribution function. Any appropriate distribution for u will yield a well behaved probability function. It is convenient, however, to assume u logistic (which differs trivially from the normal distribution) with mean zero and unit scale parameter, which implies the probability function

$$(5) \quad P_t = \frac{\exp(f(Z) + v_t - c)}{1 + \exp(f(Z) + v_t - c)},$$

where we have modified the conventional Berkson (1955) logistic function model along the lines proposed by Amemiya and Nold (1975) to include the random variable v_t to take account of omitted independent variables. v_t is assumed to have constant variance σ^2 . As illustrated by Figure 2, equation (5) means that the response probabilities monotonically approach one as $f(Z) + v_t$ goes to $+\infty$ and monotonically approaches zero as $f(Z) + v_t$ goes to $-\infty$.

Figure 2. Response Probabilities, $P(Y)$, as a Logistic Function of Observed Data and Model, $f(Z) + v$, and Unobserved Support Index, Y^* .



$$E(Y^* - c) = [f(Z) + v - c] = F^{-1} P$$

note: $F =$ logistic distribution function, $F(Z) = \exp(Z) / (1 + \exp(Z))$
 $F^{-1}(P) = \ln(P / (1 - P))$

Replacing the true probabilities (P_j) with the aggregate proportions

$$N$$
observed in the survey data ($P'_j = \sum_{i=1}^N Y_{ij}/N_j$) and manipulating (5) gives the
logit estimating equation

$$(6) \quad \ln(P'_j/1 - P'_j) = f(Z) + v_t + e_t,$$

where $e_t = \ln(P'_j/1 - P'_j) - \ln(P_j/1 - P_j)$, and without loss of generality c is arbitrarily set equal to zero.⁴ It can be shown that (6) implies a regression equation with heteroscedastic residuals (the variance of the t^{th} residual is $\sigma^2 + (N_j P'_j (1 - P'_j))^{-1}$) and, therefore, we employed the two-step, weighted least-square estimator developed by Amemiya and Nold (1975).

The next section describes alternative specifications of the performance evaluation function, $f(Z)$, and reports the empirical results.

3. Performance Equations and Empirical Results

The regression analyses are based on quarterly observations over the period 1967:1 - 1978:3, which includes part of the Erlander government, and all periods of the Palme and Fälldin governments. For the reasons reviewed in the last section, the dependent variable in the regression equations is $\ln(P'_j/1 - P'_j)$ (the logit of P'_j), where P'_j is the proportion of the SIFO sample indicating a preference or willingness to vote for the governing party(ies) in quarter t .⁵ As indicated in the introduction, the economic performance variables are the *unemployment rate*, the *inflation rate*, the *per capita real disposable income growth rate*, and the *gap*, or difference, between the per capita growth rates of final disposable income and original market income, which is induced by the tax-transfer system (*tax gap*).⁶ Each regression also includes a separate intercept constant for Social Democratic and Bourgeois governments. These constants are essentially ignorance terms that pick up factors unrelated to economic performance advantaging one or the other party or bloc.

Three specifications of the performance evaluation function, $f(Z)$, were entertained. The first is a rather naive model which assumes that voters' political support for governing parties responds only to contemporaneous macroeconomic performance:

$$(7) \quad \ln(P'_j/1 - P'_j) = a_1 \text{ Soc. Dem.} + a_2 \text{ Bourgeois} \\ + b Z_t,$$

where a_1, a_2 denote party/bloc intercept constants; Z is a vector representing the economic performance variables with associated coefficients b ; and heteroscedasticity weights have been omitted for convenience.

Equation (7) is essentially the same as the model applied by Jonung and Wadensjö (1979) to monthly data on untransformed support proportions and, not surprisingly, it yields results not too dissimilar to the findings of their study.⁷ The coefficient estimates for this model reported in Table 3 show that the unemployment, inflation and tax gap variables are correctly signed, but only the unemployment estimate is statistically significant. Hence, there is little doubt from these results that political support for governing parties is quite sensitive to movements in unemployment. Notice that the real income growth rate enters the regression with a perverse (negative) sign; however, the magnitude of its coefficient is negligible and statistically insignificant.

Table 3. Weighted Least Squares Logit Coefficient Estimates, Quarterly 1967:1 - 1978:3 (Standard Errors in Parentheses).

<i>Coefficient of</i>	(1) <i>eq. 7</i>	(2) <i>eq. 8</i>	(3) <i>eq. 9</i>
Social Democratic Gov'ts (Erlander, Palme)	0.19 (0.11)	0.26 (0.12)	0.13 (0.03)
Bourgeois Government (Fälldin)	0.33 (0.12)	0.41 (0.14)	0.10 (0.06)
Inflation Rate	-0.0061 (0.005)	-0.010 (0.006)	
Deviations from 'Expected' Inflation Rate			-0.047 (0.01)
Unemployment Rate	-0.21 (0.04)	-0.23 (0.05)	
Deviations from 'Expected' Unemployment Rate			-1.09 (0.18)
Real Disposable Income Growth Rate	-0.00034 (0.001)	-0.00054 (0.002)	
Deviations from 'Expected' Real Disposable Income Growth Rate			0.0021 (0.005)
Tax Gap	0.0012 (0.004)	0.0061 (0.005)	
Deviations from 'Expected' Tax Gap			0.013 (0.006)
Lag Weight Rate of Decay (g)	0	0.4	0.8
<i>Fit: correlation of actual and fitted proportions (P_i)</i>	.615	.63	.701

dependent variable in regressions: $\ln(P_i/1 - P_i)$

Column 2 of Table 3 gives estimates for a more plausible model in which current political support is based on an exponentially weighted moving average of economic outcomes during the entire course of a government. A government's contemporaneous standing with the electorate therefore depends on its *cumulative* economic record, rather than solely on economic conditions in the current period. The estimates for this model are derived from the equation

$$(8) \quad \ln(P'_t/1 - P'_t) = a_1 \text{ Soc. Dem.} + a_2 \text{ Bourgeois}$$

$$+ \sum_{q=1}^3 A_q \cdot b \left(\frac{1-g}{1-g^{q_t}} \right) \sum_{k=0}^{q_t-1} g^k Z_{t-k},$$

where: q is an index of each government (1 = Erlander, 2 = Palme, and 3 = Fälldin);

g is the rate of decay of the distributed lag weights,

$0 \leq g < 1$; $A_q = +1$ during the q th government and zero otherwise;

q_t is the number of periods that the q th government has been in power;

and, as before, Z represents the economic performance variables with associated coefficients b .

As Equation (8) implies, the regression coefficient b gives the total impact of a movement in Z on the political support index $\ln(P'_t/1 - P'_t)$. The total impact of a sustained change in Z is distributed over the life of a government according to the geometric lag sequence

$$b(1-g)/(1-g^{q_t})(Z_t + gZ_{t-1} + g^2Z_{t-2} + \dots + g^{q_t-1}Z_{t-q_t+1}).^B$$

The estimate of the nonlinear coefficient g was obtained manually by searching over the parameter space and choosing the value minimizing the error sum of squares.

The estimates for equation (8) in Table 3 show that it explains variations in the underlying political support proportions slightly better than equation (7); the correlation of the actual proportions and the fitted proportions implied by the logit model is 0.63 as opposed to 0.615 for the previous equation. However, the substantive implications are basically the same: only unemployment has a sizeable and statistically significant impact on political support. The persistent political impact of unemployment fluctuations revealed by the results for equations (7) and (8) causes little surprise. Although unemployment compensation and other trans-

fer payments cushion many of the unemployed against significant income losses,⁹ only about half the unemployed are members of an insurance fund. For at least a small fraction of the electorate, then, unemployment means real hardship.¹⁰ However, regardless of financial compensation, unemployment imposes psychological costs, that although difficult to measure quantitatively, are, nonetheless, likely to be sharply felt. Also, in addition to households touched directly by some form of unemployment or underemployment, an even larger number will be aware of unemployment among relatives, friends, neighbors and workmates. Moreover, since unemployment represents foregone real output and underutilized human resources, it confers costs on *society as a whole* as well as on the individuals affected directly.

The discomfort associated with inflation, on the other hand, arises primarily from unanticipated movements in prices rather than from the inflation rate *per se*. Anticipated inflation presumably is reflected in wage claims and settlements and in other nominally priced contracts that are not explicitly indexed and, therefore, does not generate great dissatisfaction in the electorate. Voters probably also give governing parties little credit for rates of growth in real disposable income, or for growth in disposable income relative to market income, that simply reinforce customary experience or prior trends. Therefore, the small, statistically insignificant coefficients for the inflation and income variables reported in Table 3 for equations (7) and (8) have a sensible interpretation.

The third performance evaluation function that we have investigated takes explicit account of actual economic performance *in relation to* customary or expected performance. This model formalizes the idea that voters react to sharp *deviations* of actual economic outcomes from their customary or expected levels, rather than to economic outcomes *per se*. If, for example, the contemporaneous inflation or unemployment rates exceed what people are accustomed to, political support will decline. Conversely, support is enhanced when unemployment declines briskly to historically low levels or inflation decelerates sharply. The same holds for the difference between the customary and actual tax gap or real income growth rate, but with opposite effects on political support. This reasoning implies the equation

$$(9) \quad \ln(P_t^*/1 - P_t^*) = a_1 \text{ Soc. Dem.} + a_2 \text{ Bourgeois} \\ + \sum_{q=1}^3 b((1-g)/(1-g^{aq})) \sum_{k=0}^{q-1} g_k (Z - Z^*)_{t-k}$$

where $Z_t^* = c_0 + \sum_{j=1}^J c_j Z_{t-j}$; and other terms are as defined earlier.

As in equation (8), the relative performance deviations in equation (9), $Z - Z^*$, are cumulated over the life of each government with past deviations weighted g_k . Customary or expected performance outcomes, Z^* , which serve as the benchmarks for voters' reactions to actual outcomes, Z , are generated autoregressively. In other words, the Z_t^* are formed from linear combinations of previous outcomes with coefficients c_j obtained by regressing Z_t on $Z_{t-1}, Z_{t-2}, \dots, Z_{t-j}$.¹¹ Notice that customary performance, Z^* , is not fixed: the equation for Z^* in (9) means that performance standards are relative rather than absolute and adjust dynamically over time. Hence, any sustained rate of inflation, unemployment, real income growth or tax gap will eventually become 'customary' to the electorate, satisfying $(Z_t - Z_t^*) = 0$. Political rewards and penalties are conferred only by fluctuations in economic conditions producing non-zero deviations of Z from Z^* , that is, deviations of current conditions from a linear combination of conditions in the recent past.

The parameter estimates for equation (9) are shown in Table 3, column 3. The correlation of the predicted and actual SIFO proportions shown at the bottom of the Table ($r = 0.7$) indicates that this equation does a better job of explaining the underlying empirical data on political support than equations (7) and (8). All parameters have the anticipated sign and, with the exception of the real income growth rate coefficient, are statistically significant. It is clear from these results, then, that sharp upward movements in the rates of unemployment and inflation (positive deviations of Z from Z^*) yield losses of support for the governing party or political bloc, and that unexpected upward movements in disposable income growth rates relative to market income growth rates (tax gap) produce increases in the government's support in the electorate. It should be noted that large gaps between disposable and market income growth rates generally imply expansions (if the gap is positive) or contractions (if the gap is negative) of cash transfers relative to collective consumption. Nonzero values of this term may also stem from reductions (if $Z - Z^*$ is positive) or increases (if $Z - Z^*$ is negative) of direct rates of personal taxation that are not accompanied by changes in transfers. The significant positive coefficient for tax gap variable in equation (9) means, therefore, that voters reward governments for unexpected increases in transfers relative to collective consumption expenditures or, alternatively, react favorably to sharp reductions in direct taxation that do not adversely affect the flow of transfer spending.¹² Finally, the empirical results indicate that in the presence of the unemployment, inflation and tax gap variables, the real disposable income growth rate alone does not have a sizeable impact on the government's standing in the SIFO polls.

The estimate of the lag weight decay parameter g in equation (9), which defines the distribution over time of the ultimate impact of a sustained

value of $(Z - Z^*)$, is about 0.8. This implies that the electorate's current vote intentions are influenced by relative performance outcomes extending many periods back through time. As the normal electoral period is

11

three years (12 quarters), we have at the election quarter $(1-.8)/(1-.8^{12}) \sum_{k=0}^{11}$

$g_k(Z - Z^*)_{t-k}$ and, therefore, the percentage of the election quarter impact of a persistent unit deviation of Z from Z^* that is felt by the k th lag is given by $(1-.8^{k+1})/(1-.8^{12})$.¹³ Hence, at the typical election period contemporaneous relative economic performance ($k = 0$) accounts for about 21 percent of the economy's impact on voting preferences, relative performance over the previous year ($k = 0, 1, 2, 3$) picks up about 63 percent of the economy's election quarter impact, and relative performance over the preceding two years ($k = 0, 1, \dots, 7$) represents about 89 percent of the economy's effect on the governing parties' electoral support.

4. Implications for Observed Political Support

The empirical results discussed above indicated that equation (9) is the most satisfactory specification of the impact of economic performance on electoral support. However, the regression coefficient estimates pertain to the logits, $\ln(P_i/1 - P_i)$, whereas practical interest centers on the consequences of relative economic performance for the *percentages* (or proportions) of the electorate supporting governing parties. Since the survey proportions, P_i , are a nonlinear function of the corresponding logits, $\ln(P_i/1 - P_i)$, the precise effects of practical interest are not immediately obvious from direct inspection of the parameter estimates. Therefore, to illustrate the practical political consequences of fluctuations in the significant economic variables, we have computed the changes in the *percentage* of the electorate supporting the governing parties following unfavorable movements of Z relative to Z^* that are sustained for one and four periods prior to the end of the Erlander, Palme and Fälldin regimes. To facilitate comparisons of the estimated effects of movements in the economic variables, changes of one *standard deviation* in the $(Z - Z^*)$ terms are considered. Table 4 displays the results.¹⁴

Adverse fluctuations in unemployment relative to expectations that are based on recent past experiences, clearly exhibit stronger influence on electoral preferences during the Erlander, Palme and Fälldin governments than unfavorable shifts in the inflation or tax gap variables. Averaged over all governments, a standard deviation increase of unemployment beyond the expected level and las-

Table 4. Simulated Losses of Aggregate Political Support Resulting from Unexpected, Unfavorable Changes of One Standard Deviation in the Macroeconomy (based on eq. 9, Table 3).

<i>Government</i>	Sustained for:	<i>Losses of Support in Percentage Points</i>	
		1 quarter	4 quarters
<i>Erlander (1967:1-1969:3)</i>			
	change of 1 standard deviation in ($Z - Z^*$):		
	inflation	0.88	2.58
	unemployment	1.22	3.58
	tax gap	0.42	1.23
<i>Palme (1969:4-1976:2)</i>			
	change of 1 standard deviation in ($Z - Z^*$):		
	inflation	0.87	2.54
	unemployment	1.20	3.52
	tax gap	0.41	1.21
<i>Fälldin (1976:3-1978:3)</i>			
	change of 1 standard deviation in ($Z - Z^*$):		
	inflation	1.06	3.11
	unemployment	1.47	4.31
	tax gap	0.50	1.48
Average Loss of Political Support			
	inflation	0.94	2.74
	unemployment	1.30	3.08
	tax gap	0.44	1.31

ting only one period produces a decline of about 1.3 percentage points in the governing parties' mass political support. Sustained a full year (4 quarters), the same adverse increase (acceleration) of unemployment relative to expectations on average generates losses of about 3 percentage points in governments' electoral support.

The political consequences of unfavorable, relative changes in the inflation and tax gap variables are smaller, with the former variable being about twice as important as the latter. Sustained just one period, adverse movements in inflation and tax gap relative to voters' recent past experiences decrease political support on average by 0.9 and 0.4 percentage points, respectively. The political penalties are larger if the same unfavorable relative changes in these variables are sustained over four quarters: the loss associated with inflation averages 2.7 percentage points and with tax gap it averages 1.31 percentage points.¹⁵

In view of the extremely competitive electoral politics of the postwar Swedish party system, the losses of political support attributed to reasonable movements in the macroeconomy in Table 4 are hardly trivial. Al-

though the 'Socialist bloc' (Social Democrats and Communists) commanded a comfortable lead during the 1960s, subsequent electoral margins were much narrower. As Table 5 shows, averaged over all elections beginning in 1952, the margin of victory separating the Socialist and Bourgeois blocs has only been 1.6 percent of the vote.¹⁶ Even though partisan preferences are obviously also based on more enduring characteristics of political life than those incorporated explicitly in our model, our results indicate that macroeconomic management can play a pivotal role in electoral shifts.

The comparatively strong electoral effects arising from movements in the unemployment rate illustrated in Tables 3 and 4 obviously reflect the salience of the employment issue in postwar Swedish politics. While the anticyclical policies pursued by the Social Democrats in the 1930s provided only marginal relief from the severe recession, they skillfully exploited its symbolic significance and became identified with full employment and prosperity. The specter of a repetition of the mass unemployment of the 1930s under a Bourgeois government became the underlying theme in the Social Democrats' electoral strategy, and it proved to be an advantageous mobilizing device. However, it gradually receded in importance as postwar cohorts entered the electorate and as a result of Bourgeois parties' successful efforts to convince the electorate that they also were committed to full employment.¹⁷ As a result, by the late sixties the relative tightness of labor markets was the preeminent measure of governments' economic performance, which is what our estimates suggest. A subsequent paper will pursue the implications of these results for the formation of macroeconomic policies in Sweden.

Table 5. The 'Margin of Victory' Separating the 'Socialist' and the 'Bourgeois' Bloc at the Parliamentary Elections 1952 to 1976.*

	<i>In Percentage Points</i>
1952	0.4
1956	0.35
1958	0.4
1960	2.35
1964	4.15
1968	4.0
1970	1.25
1973	0.05
1976	1.65
Average	1.6

* defined as the minimum share of those voting that was necessary to give the losing bloc a majority, that is, the absolute value of (% voting for the Socialist bloc - % voting for the Bourgeois bloc)/2.

NOTES

1. See, for example, Petersson (1978) and Zetterberg (1977).

2. For example, in the post election sample of the 1976 election survey, 33 percent of the respondents who reported changing party between the 1973 and the 1976 election rated taxation as one of the absolutely most important issues for their vote in 1976. Thirty-one percent identified the nuclear power problem as the most important; twenty percent thought of inflation in that way, while fifteen percent emphasized the employment issue.

3. Until 1969 the question asked was 'Which party do you prefer today?' Since 1970 the phrasing has more explicitly focussed on vote intention: 'Which party do you consider voting for at the next election?' A similar survey was initiated by Statistiska Centralbyrån in 1972. Since the SIFO surveys extend further back in time and are available more frequently, we have used the SIFO data time-series.

4. Since c is necessarily embedded within the intercept constants of $f(Z)$ evaluation equation (see ahead), nothing is lost by setting it to zero here.

The proof that eq. (5) implies eq. (6) is as follows.

For simplicity let $P^* = \frac{\exp(Z)}{1 + \exp(Z)}$, which is the form of eq. (5). Then,

$$1 - P^* = 1 - \frac{\exp(Z)}{1 + \exp(Z)}, \text{ hence}$$

$$\frac{1 - P^*}{P^*} = \frac{1}{\exp(Z)}, \text{ and}$$

$$\frac{P^*}{1 - P^*} = \exp(Z), \text{ from which it follows that}$$

$\ln(P^*/1 - P^*) = Z$, which is the form of eq. (6).

5. During the Erlander and Palme governments P_i^* is the proportion supporting the Social Democrats; during the Fällidin government it is the sum of the proportions supporting each of the bourgeois parties in the government.

6. Hence tax gap $_t = (Z_{1t} - Z_{2t})$ where Z_{1t} is the growth rate of per capita personal disposable income, and Z_{2t} is the growth rate of per capita market earnings.

An appendix giving data sources and data series is available from the authors upon request. All rates of change are formed $\ln(Z_t/Z_{t-1}) \cdot 400$, i.e., quarter-on-quarter differences of the logs expressed at annual rates.

7. Jonung and Wadensjö (1979) also estimate models with a lagged endogenous variable to pick up (via the Koyck transformation) distributed lag effects. However, the Durbin's h statistics they report are significant, indicating that the disturbances are autocorrelated and, therefore, that the regression coefficient estimates are biased and inconsistent.

8. Since the sum of the geometric lag weight sequence

$$\sum_{k=0}^{q_t-1} g^k \text{ is } \frac{1-g^{q_t}}{1-g}, \text{ premultiplying the lag distribution by } (1-g)/(1-g^{q_t}) \text{ simply acts as a}$$

normalizing constant that insures that the lag weights sum to 1.0 at every period during the life of a government. This is why b gives the total impact of a sustained movement in Z and the lag weights define its distribution backward through time.

9. For example, the annual disposable income of a male metal worker unemployed for one month in 1978 amounted to 97% of his full employment annual income. If unemployed for six months, he would have 90% of his full employment annual disposable income (cf. J. Persson-Tanimura 1980, table 1).

10. The Swedish Low Income Commission identified unemployment as accounting for about 50% of the poverty gap.

11. Since the c_j coefficients in the autoregressive equations generating Z^* are likely to evolve through time, these equations were reestimated for each government using observations up to the beginning of that government. The optimal autoregressive equations for each variable were:

Autoregressive Equations Generating Expected
Economic Performance (Z_t^*)
(standard errors in parentheses)

	<i>constant</i>	Z_{t-1}	Z_{t-2}	Z_{t-3}	<i>standard error of the regression</i>
<i>Erlander (1951:4-1955:4)</i>					
Inflation	2.535 (0.72)	0.246 (0.13)	0.068 (0.13)		3.24
Unemployment	0.299 (0.09)	0.667 (0.12)	0.154 (0.12)		0.25
Real Disposable Income	3.754 (0.95)	-0.371 (0.14)	-0.259 (0.16)		5.96
Tax gap	1.403 (1.06)	-0.755 (0.14)	-0.361 (0.17)	-0.18 (0.18)	7.64
<i>Palme (1951:4-1969:3)</i>					
Inflation	2.535 (0.66)	0.191 (0.12)	0.099 (0.12)		3.21
Unemployment	0.294 (0.09)	0.638 (0.12)	0.194 (0.11)		0.25
Real Disposable Income	3.531 (0.83)	-0.324 (0.12)	-0.229 (0.12)		5.95
Tax gap	1.72 (0.94)	-0.683 (0.13)	-0.317 (0.15)	-0.21 (0.15)	7.22
<i>Fälldin (1951:4-1976:3)</i>					
Inflation	1.947 (0.733)	0.204 (0.10)	0.157 (0.10)	0.234 (0.103)	3.56
Unemployment	0.256 (0.08)	0.745 (0.10)	0.117 (0.09)		0.24

	<i>constant</i>	Z_{t-1}	Z_{t-2}	Z_{t-3}	<i>standard error of the regression</i>
Real Disposable Income	5.201 (1.17)	-0.516 (0.11)	-.461 (0.11)	-0.483 (0.11)	9.05
Tax gap	1.027 (0.75)	-0.513 (0.11)	-0.17 (0.12)	-0.199 (0.12)	7.16

12. See Hibbs and Madsen, 1981, for some comparative evidence on this point.

13. The sum of the finite geometric series $(1-0.8)/(1-0.8^{12}) \sum_{k=0}^{11} g^k$

is $\frac{1-0.8}{1-0.8^{12}} \cdot \frac{1-0.8^{k+1}}{1-0.8} = \frac{1-0.8^{k+1}}{1-0.8^{12}}$. Since by construction the lag weights sum to 1.0 at every period, this gives immediately the percentage of the ultimate impact felt by the k th lag.

14. The losses are inferred by comparing the support percentages predicted by equation (9) from the actual, historical economic data to predictions generated by the equation holding the $(Z - Z^*)$ variables one standard deviation above or below their historical values.

The end of the Erlander and the Fälldin governments of course did not follow elections. Nevertheless, for illustrative purposes the impact calculations in Table 4 might be interpreted as the implied losses of support on 'election days'. The Erlander government was considered to have been in office since 1964:3 and the standard deviations were therefore calculated for a period starting at this date and ending in 1978:3. As the economic variables are expressed as deviations from autoregressively formed expectations, a four quarter sustained change implies *accelerating* rates of inflation, unemployment and tax gap. The mean and standard deviations of the three $(Z - Z^*)$ performance variables are

	<i>mean</i>	<i>standard deviation</i>
inflation	1.85	3.81
unemployment	0.05	0.23
tax gap	-0.05	6.35

15. The difference in the simulated losses of political support between the three administrations partly reflect differences in the lengths of time in office. As the Fälldin government ruled for only eight quarters (compared to Erlander's 72 quarter tenure and Palme's 28 quarter incumbency), the economic effects tend to be larger, due to the g lag weight scheme, for the Bourgeois coalition.

The estimated electoral losses based on equation 8 (for appropriately calculated standard deviations of the original variables) are similar to those presented in Table 4. The implied electoral losses averaged over all three governments are (in percentage points):

<i>sustained for</i>	<i>1 quarter</i>	<i>4 quarters</i>
inflation	-0.53	-0.86
unemployment	-1.36	-2.22
tax gap	-0.57	-1.09

Notice that movements in the rate of unemployment and in tax gap variable are relatively more important here.

16. When evaluating Table 5 in conjunction with Table 4, it should be remembered that the dependent variable in the regressions for 'Socialist' governments was based on the survey proportions supporting the Social Democrats only.

17. See, for example, Särilvik 1977.

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