The influence of state-level economic conditions on presidential elections

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Introduction

Recently, economists and political scientists have demonstrated considerable interest in assessing the influence of general economic conditions on election outcomes.[1] These studies have sought to rationalize − at least from the politician's perspective − the tendency for the incumbent(s) to stoke the economic coals prior to election day.[2] The election-year boom and the post-election slow-down needed to cool the economy have spawned what is now called the 'political business cycle.'

Research on the political business cycle necessarily seeks to clarify three relationships: (1) to determine which politicians, if any, are held responsible by the electorate for changes in general economic conditions; (2) to identify which general economic conditions influence the electorate's voting; and (3) to establish the time period that the electorate uses to assess economic policies. Unfortunately, prior theorizing sheds little light upon these issues. While it does not make much sense to blame the small-town mayor for a rise in the nation's unemployment rate, where culpability can reasonably be placed is less clear. Is it sensible to blame one's congressman for deteriorating economic conditions? The president? Only members of the president's party? No general agreement exists regarding answers to these questions. At one extreme, George Stigler (1973) argues that there exists little reason to expect that *moderate* fluctuations in general economic conditions would alter voting patterns in any consistent or significant manner. Ultimately, the issues surrounding the political business cycle must be resolved empirically.

Presidential elections: The case for state-level analyses

Although previous research on the political business cycle has relied primarily on changes in national-level economic conditions to test hypotheses, prior theorizing suggests that some disaggregation of the economic-conditions variables might be appropriate. For example, a voter in Missouri might quite reasonably identify with and weigh general economic conditions in his own state more so than general economic conditions in, say, California or the nation at-large. Presidents — or at least the government in general — are surely influential in differentially affecting state-level economic conditions: a strong space program favors Californians more than residents of Iowa but the latter group benefits more from an increase in agricultural price supports than do Alaskans. Even in bear markets some stocks perform well (or so the brokers say) and even in a recession some states may prosper. Changing the management might throw each of these owner-voter groups from the primrose path into the thorn bushes. So, it does not seem unreasonable to hypothesize that some individuals would use changes in state-level economic conditions to substitute for or complement changes in national-level economic conditions as criteria for assessing presidential policies.[3]

Meltzer and Vellrath (1975) provide somewhat mixed evidence for the disaggregation hypothesis. Using pooled state-level data from four recent presidential elections (1960-72), they report that changes in the unemployment rate and growth in personal income — two economic-conditions variables which have evidenced explanatory power in national-level time-series studies — are statistically insignificant in explaining state-level vote shares. In contrast to the findings of earlier studies, the *level* of unemployment and the rate of inflation prove statistically significant in affecting voting outcomes. However, it is unclear whether these different results are due to the disaggregation of variables or to a change in model specification.

Using a model more in keeping with previous studies, Wright (1974) finds evidence which supports the disaggregation hypothesis and is consistent with the general findings regarding which economic conditions influence voting behavior. He reports that growth in state-level per capita income plays a significant role in influencing Roosevelt's state-level vote shares during the New Deal era. However, Wright avoids generalizing the results and notes that rather special circumstances may lie behind the significant findings: a rapid rise in the funds available for discretionary presidential spending and an amiable Democrat-controlled congress combined to produce a 'presidentially-dominated environment' which seemingly established a clear link between presidential programs and state-level economic conditions. However, whether or not presidential policies are less influential in affecting state-level economic conditions today is a difficult, if not impossible, issue to resolve. Regardless, the key issue is whether or

not voters behave *as if* the president were responsible for changes in state-level economic conditions. To see if state-level economic conditions influence voting behavior in more recent elections, the following model is used to analyze the 1956 and 1972 presidential elections:

$$\text{VOTE SHARE}_i = f(\text{PREVIOUS VOTE SHARE}_i, \text{SPENDING SHARE}_i, \Delta U_i, \%\Delta Y_i)$$

where

VOTE SHARE_i	= the vote share for the incumbent president in state i.
$\text{PREVIOUS VOTE SHARE}_i$	= the vote share for the incumbent president in state i in the preceding election.
SPENDING SHARE_i	= the campaign-spending share of the incumbent president in state i.
ΔU_i	= the change in the unemployment rate in state i over some (as yet unspecified) time period preceding the incumbent's re-election attempt.
$\%\Delta Y_i$	= the percentage change in real per capita income in state i over some (as yet unspecified) time period, preceding the incumbent's re-election attempt.

All the preceding explanatory variables — or somewhat modified versions of them — have been used in other studies to analyze election outcomes.[4] Presumably, an increase in a candidate's spending share or favorable changes in state-level economic conditions would raise vote share in the present election. The candidate's vote share in the previous election serves to measure a state's predisposition towards the candidate and can be expected to reveal a positive correlation (*ceteris paribus*) with vote share in the present election. If voters use national-level economic conditions exclusively to evaluate the president's economic performance, then state-level economic conditions should prove to have no influence on voting behavior. For the analyses, separate regressions are run for the 1956 and 1972 elections. These two elections were selected because (1) they are the two most recent campaigns in which a popularly elected president has stood for re-election and (2) substantially different macroeconomic conditions are present during these elections and should help to indicate the robustness of any support for the disaggregation hypothesis.

Each of these presidential campaigns possesses a particularly favorable feature as well as an undesirable one. Because of a series of surveys undertaken by the Federal Communication Commission, state-level broadcast-spending data are available for the 1972 campaign. The somewhat undesir-

able feature of the 1972 campaign is that substantial shifts in Nixon's state-level vote-shares occurred between 1968 and 1972. These shifts are apparently due, in large part, to the Democrats' substitution of McGovern for Humphrey and the absence of Wallace in the 1972 election. So, in the 1972 race, factors other than those incorporated into the model may have played a significant role in shifting support towards Nixon.[5]

The 1956 campaign is especially interesting in that it pits the 1952 candidates in a rematch. This provides a relatively controlled setting for assessing the influence of changes in state-level economic conditions on Eisenhower's state-level vote shares. Unfortunately, state-level campaign-spending data are unavailable for the Eisenhower-Stevenson rematch. The next section explains the operational forms and reports the sources for the variables used in the statistical tests.

Statistical tests

Vote share. As the dependent variable, the incumbent presidential candidate's re-election state-level share of major-party votes is used. (Nixon's for 1972 and Eisenhower's for 1956.) Source: *The World Almanac*, selected years.[6]

Previous vote share. As one independent variable, the state-level vote share for the incumbent in his previous election is used. Source: *The World Almanac*, selected years.

Spending share. To measure the influence of campaign spending on voting behavior, Nixon's state-level share of total broadcasting expenditures (network and non-network) is used. State population (in 1972) is used to allocate network broadcasting between the states. Source: U.S. Congress, Committee on Commerce, and own calculations.

Economic conditions. Changes in the state's unemployment rate (ΔU) and percentage changes in real per capita personal income ($\%\Delta Y$) are used to measure changes in general economic conditions at the state level.[7] Two time periods are examined: changes in economic conditions (1) during the year of the election and (2) over the incumbent's entire four-year term. (The numbers 1 and 4 designate the time periods for the variables in Table 1.) Sources: *Statistical Abstract* (1975) and *Manpower Report of the President* (1963).

The findings

The regression results for the models in the linear form $Y = a_0 + a_1 X_1 + \ldots a_n X_n$ are reported in Table 1. The 1972 estimates indicate that state-level spending share had a positive and statistically significant effect on

Table 1. Vote-share equations

| | 1972 | | 1956 | |
	I	II	III	IV
CONSTANT	0.41*	0.36*	0.04	0.06
	(5.46)	(5.69)	(0.77)	(1.28)
ΔU1	. . .	-1.72	. . .	0.54
		(1.21)		(0.52)
%ΔY1	. . .	0.34	. . .	1.32*
		(1.45)		(3.97)
ΔU4	-0.07	. . .	-1.51**	. . .
	(0.86)		(1.72)	
%ΔY4	0.46*	. . .	0.27**	. . .
	(3.29)		(1.82)	
PREVIOUS	0.18**	0.20	0.90*	0.85*
VOTE SHARE	(1.68)	(1.66)	(10.19)	(11.44)
SPENDING	0.21*	0.36*	. . .	. . .
SHARE	(2.34)	(3.59)		
N	50	50	48	48
R^2	.57	.40	.73	.77

* Significant at 5% level.   ** Significant at 10% level.

Source: See page 626 for sources and definitions of variables.

The numbers in parentheses are t-ratios; ellipses denote that variable did not enter that model.

state-level vote share. A one-percent increase in Nixon's spending share is associated with a .002 to .004 (approximately) increase in his vote share. Notably, these results are highly similar to the results obtained by Abrams and Settle (1978) using nation-wide presidential time-series data. Previous studies acknowledge that a reciprocal causation may exist between spending-share and vote-share variables. Likewise, these estimated coefficients may contain some simultaneity bias.[8]

Eisenhower's 1952 vote shares were positively and strongly correlated with his 1956 vote shares. Nixon's were much less so due in large part to Southern Democrat shifts towards Nixon in response to McGovern's candidacy and Wallace's absence. A dummy variable for Southern states proved highly significant in the 1972 regression.[9]

The coefficients for the income variables are consistently positive, as expected, and statistically significant at the 10% level or better in all but model II. Unfortunately, the findings do not establish clearly the time-period that voters use to evaluate economic policies. The regressions seem to suggest that the one-year income growth has relatively better explanatory power in 1956 while the four-year income growth proves most strongly related to vote share in 1972. However, the one-year period produces a substantially different estimate for each election. A one-percent increase in real per capita personal income in the year of the election raises vote share by .0132 in 1956 but by only .0034 in 1972. Further, the latter estimate is statistically insignificant. In contrast, the four-year period produces rather similar estimates: a one-percent increase in a state's real per capita income is associated with an increase in the incumbent president's vote share of .0027 in 1956 and .0046 in 1972. Using consistency as the criterion, the four-year period would seem to hold an advantage over the one-year period in determining which time-period is used by the voters to evaluate presidential policies.

The coefficients for the unemployment variables are generally negative, as expected, but marginally significant in only one model. The results are consistent with the time-series findings reported by Kramer (1971) and Fair (1976). Because of the negative correlation between the income and unemployment variables, deletion of either one improves the statistical significance of the other.[10]

Attempts were made to find support for the Meltzer-Vellrath result that the level of unemployment during the year of the election influences voting outcomes. In contrast to their findings, an unemployment-level variable proved consistently insignificant when entered either jointly with the other economic-conditions variables or singly. (For economy, the results are not reported.) These findings are consistent with the widely held view that *changes* in economic conditions – not their levels – are the criteria used by voters to assess the government's economic policy.

Conclusions

Evidence from recent presidential elections indicates that voters behave as if they hold presidents accountable for changes in state-level economic conditions. Given the apparent political payoffs, it is almost a certainty that macroeconomic pump-priming (which affects state-level conditions on

average) and certain inter-state redistributive policies would engender support from pragmatic incumbent presidents. The finding that state-level economic conditions can affect voting behavior is particularly relevant to the president already caught in an over-heated macroeconomic environment; for example, because of the peculiarities of the electoral college, Carter might improve his chances for re-election in 1980 by cutting some federal programs in Arizona and Nebraska (strong Ford states) and switching them to Illinois or Texas (closely contested states in 1976).[11] Abolishing the electoral college and permitting popular votes to determine presidential-election outcomes would greatly reduce, if not eliminate, the president's political gains from such state-level redistributive policies.

This study's findings also suggest a potentially perverse side-effect from the Federal Election Campaign Act (FECA) as amended in 1974. By legislatively equalizing the major-parties' presidential campaign spending, FECA has removed the natural fund-raising advantage of the incumbent president – especially Republican incumbent presidents.[12] Removing this advantage could well increase the relative importance of other vote-getting activities – for example, the manipulation of national and state-level economic conditions.

The findings for the 1972 election suggest that state-level campaign spending influences state-level voting outcomes. Since FECA has lowered major-party presidential campaign spending – which presumably has had the effect of raising the marginal productivity of campaign spending – the allocation of spending across states may be more important than ever in deciding presidential-election outcomes.

Finally, the finding that state-level economic conditions affect voting outcomes raises the possibility that earlier studies which have found voter responses to national-level conditions may actually only be measuring the influence of state-level conditions (on average). Determining to what extent voters respond to national-level economic conditions after controlling for state-level conditions must await further analysis.

NOTES

1. For a comprehensive review of the literature see Frey (1978).
2. Tufte (1978) has an interesting discussion of the pump-priming actions taken by the Nixon administration prior to the 1972 election.
3. Statistical evidence which reveals that aggregate economic conditions – either at the state or national level – affect voting behavior may actually be measuring the effect of individual-level conditions on individual voting behavior. That is, individuals may care little about aggregate conditions per se. State-level economic-conditions variables would tend to track individual-conditions better than national-level data. So, statistically significant findings for state-level conditions lend support for the individual-level hypothesis; insignificant state-level findings

would serve to refute it. Recent studies which rely on survey data suggest that changes in an individual's economic conditions tend to affect his voting for president but not congressional offices (Fiorina, 1978) and that different income classes respond differently to changes in economic conditions (Weatherford, 1978).

4.   See, e.g., Abrams and Settle (1978), Palda (1976), and Kramer (1971).

5.   Of course, if these shifts in vote shares should coincidentally correlate with one of the independent variables, then the estimated coefficient would be biased.

6.   Summary statistics (means, standard deviations, and correlation matrix) for all the variables used in this study can be obtained from the author.

7.   The CPI was used to transform nominal income into constant 1967 dollar income. No attempt was made to correct for any possible inter-state differences in inflation rates.

8.   These estimates, however, might be less subject to simultaneity bias than previous ones. Since the presidential candidates were free to spend their financial contributions in any state that they chose (regardless of the fund's state of origin), reciprocal causation may not be a problem.

9.   For example, when a dummy variable for Southern states is incorporated into model I, the results are:

VOTE SHARE = 0.27   +   0.34 (PREVIOUS VOTE SHARE)
     (3.44) (3.19)

       +   0.15 (SPENDING SHARE) +   0.48 $\Delta U4$
        (1.78)   (0.58)

       +   0.30 %$\Delta Y4$ +   .07 SOUTH
        (2.87)   (3.57)

If Southern state, SOUTH = 1, zero otherwise; t-ratios in parentheses; R^2 = .67.

10.   The income and unemployment variables were also entered into the regression equation separately to compare their explanatory powers. As a general rule, the income variables added more to the explained variance than did the unemployment variables.

11.   Wright (1974) finds evidence that Roosevelt's New Deal administration took advantage of these types of politically profitable spending activities.

12.   Abrams and Settle (1978) discuss other aspects of FECA in greater detail. It need only be noted here that the legislation was passed by a Democratic-dominated congress during a Republican president's term.

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