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The American Political Science Review, Vol. 83, No. 2. (Jun., 1989), pp. 567-573.

Stable URL:
http://links.jstor.org/sici?sici=0003-0554%28198906%2983%3A2%3C567%3AECATPV%3E2.0.CO%3B2-Z

The American Political Science Review is currently published by American Political Science Association.

ECONOMIC CONDITIONS AND THE PRESIDENTIAL VOTE

ROBERT S. ERIKSON
University of Houston

This analysis demonstrates that the relative growth of per capita income change is an important determinant of post-World War II presidential election outcomes. Per capita income change is even a better predictor of presidential election outcomes than the electorate's relative attraction to the Democratic and Republican candidates as calibrated in National Election Study surveys. The significance of this finding is discussed.

The state of the economy is widely believed to be a major determinant of presidential election outcomes. For supportive evidence, statistical analyses of the post-World War II time series do show a correlation between economic conditions and the incumbent party vote. Tufte (1978, 120–22) reports a correlation of .64 for the eight elections of 1948–76 between the election year growth in per capita income and the incumbent party vote. Using a more refined measure of income change, Hibbs (1987, 195–200) reports an even higher (and statistically significant) correlation of about .80 for 1952–80. Tufte's measure also achieves statistical significance when a control is added for "net candidate advantage" (net candidate likes and dislikes from the National Election Study [NES] data for that election). (See also Fair's [1978, 1988] more complex model based on presidential elections since 1916.)

Impressive as this evidence is, the statistical case for economic effects in presidential elections may seem more suggestive than persuasive. The cautious observer is tempted to discount a correlation based on a very small number of electoral observations (1988 is the eleventh since World War II), especially since so many additional variables besides the economy are believed to influence presidential outcomes. (For one perceptive discussion, see Rosenstone 1983, 40–42.)

My purpose is to demonstrate unmistakable evidence of the impact of economic conditions on presidential elections, which is far greater than is generally realized. For this exercise, I extend the time series of presidential elections from 1948 through 1984. As an important statistical control, I employ Tufte's measure of net candidate advantage. For the strongest estimates, I use Hibbs's measure of income change, adding an estimate for the 1948 observation. Hibbs's measure is preferable because it represents the cumulative lagged effect of personal disposable income over all but the final three months of the presidential administration. This choice is not crucial, however. Tufte's measure of income change for the election year is a servicable measure that predicts almost as well. (The two measures correlate at .92 for the 1948–84 observations.) Alternative specifications with different choices of variables and choices of election years are explored in the Appendix.

The Equation

For the 10 presidential elections of 1948–84 the equation is

$$V = 44.64 + 2.77 \cdot (I) + 6.50 \cdot (C) + e,$$

standard error of b	.52	1.51
t-ratio	5.28	4.31
significance level	.001	.004
standardized b	.63	.52
simple r with vote	.83	.75
partial r	.89	.85

Adjusted $R^2 = .888$
Standard error of the estimate = 2.21
Durbin-Watson = 2.10

where V = incumbent presidential party's percentage of the two-party presidential vote; I = cumulative weighted average of annual percentage change in per capita disposable income over the previous four years, based on data for 15 quarters, with recent quarters weighted most heavily (Hibbs 1987, 194);[1] and C = per respondent net candidate advantage, based on NES respondent likes and dislikes about the presidential candidates' personal characteristics (Tufte 1978, 121; corrected and updated through 1984 using NES data).[2] Four aspects of the equation are remarkable:

1. The two independent variables together account for almost 90% of the variance in presidential election outcomes. Little is left to explain from other variables.
2. Even with only 10 cases, the coefficients for income change and candidate evaluation are extremely significant (at .001 in the case of income change!). The high explained variance helps to account for this: each of the two central predictors explains the variance that the other does not.
3. As measured by the sizes of the standardized coefficients, the two central predictors account for presidential outcomes in about equal amounts. Income change in fact has the slight edge. One can better predict the presidential vote division from income change during the previous administration than from the voters' relative liking for the two candidates!
4. In the literature on economic voting, the high-side estimate of the effect of annual income change is about one percentage point of the vote for every annual percentage increase in per capita income (Kiewiet and Rivers 1985a). The estimate here (2.77) exceeds this consensus estimate by almost a factor of three.

How well does per capita income growth predict elections? One might be tempted to answer this question by observing the beta, or standardized coefficient for income change. But this test would be misleading. The standardized regression coefficients for income change and candidate advantage are actually lower than the zero-order correlations. This is because standardized coefficients run into a statistical ceiling: the sum of the products (beta) • (r) must equal the R-squared, which of course cannot exceed 1.00.

The importance of income change can best be seen from the partial correlation, a relatively underused statistic. The partial correlation between two variables is the correlation between the two variables' residuals from regression equations predicting the variables from the controls. For candidate advantage, the partial correlation with the vote (controlling for income change) is an impressive .85. This is reassurance that elections tend to be won by the candidates that the voters like best. But the partial correlation between income change and the vote (controlling for candidate advantage) is an even stronger value of .89! This convincing correlation is shown in Figure 1. Evaluations of candidate personal characteristics aside, the vote is determined almost entirely by the amount of prosperity that the incumbent party delivers.

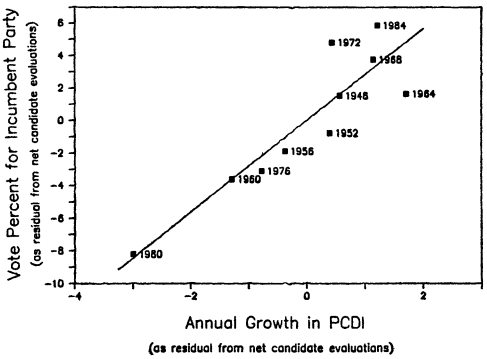
The Economy vs. the Campaign?

Typically, scholars discuss different explanations for a phenomenon as if the

explanations were in competition with one another: if one explanation is strengthened, the other, by implication, is weakened. Here we see that economic conditions matter considerably, just as many observers have suspected. But does this evidence for "economic determinism" disturb the traditional paradigm of voting studies, which posits a strong role for candidates and campaign events? The answer, of course, is *not at all.* As summarized by the electorate's net candidate evaluations, candidates and campaigns matter about as much as the state of the economy. We are left, therefore, with a multivariate explanation. (See also Markus 1988.)

So far I have neglected the matter of indirect effects. In addition to its direct effect, the state of the economy could also exert an *indirect* effect via the net candidate advantage. The explanation might be a presidential-level version of Jacobson and Kernell's (1981) "strategic politicians" theory: the economy determines the parties' prospects, which determine the quality of their candidates and the vigor of their campaigns. Also, voters could evaluate the candidates through the filter of the state of the economy. Given these plausible arguments, the actual correlation between these two independent variables is rather low, only .37. A correlation this small means little with only 10 cases. (The adjusted R-squared, for instance, is only .03.) The net candidate advantage, therefore, is a "wild card" influence on the election that cannot be forecast in advance even if one knows how the state of the economy will play out through the year of the election.

Figure 1. Presidential Vote by Per Capita Income Growth



The Reagan Elections and Economic Voting

To a considerable extent, the Reagan elections account for the strength of the model. Reagan won in 1980, even though the NES net candidate advantage went to President Carter. Reagan, of course, benefited from the unprecedented election year economic downturn. In 1984 Reagan won in a landslide even though his net candidate advantage over Mondale was only slightly greater than Carter's over Reagan four years before. (Reagan's supposed popularity and Mondale's supposed unpopularity do not register strongly in the NES candidate likes-dislikes questions; see Appendix, Table A-2.) The strong preelection prosperity, of course, accounts for the 1984 outcome. This interpretation fits nicely with the school of thought which holds that observers too readily attributed Reagan's electoral success to his personal appeal and the appeal of his conservative ideology and underestimated his good economic luck (Ferguson and Rodgers 1986; Hibbs 1987; Kiewiet and Rivers 1985b).

"Forecasting" 1988

How well did the model do in 1988? As of this writing, the NES 1988 Election

Study is not yet available for analysis. Thus, the 1988 net candidate evaluation cannot be included in the 1988 "forecast." But the appropriate economic statistics have been reported. Using Hibbs's algorithm for giving greater weight for quarters close to the election, per capita income grew at annual rate of 2.1% in 1985–88 (2.3% in 1988 alone).

Contrary to the most exaggerated claims of how prosperity made a Republican victory in 1988 all but certain, the 2.1% rate of income growth for 1988 was below par (see Appendix, Table A-2). Suppose we plug the 2.1% grow rate into the forecasting equation while assuming an even balance of zero for the net candidate advantage. This gives a 1988 "forecast" of a 50.4% Republican vote, a margin "too close to call."

Although Bush obtained about four percentage points more of the vote than "predicted" from the economy alone, the difference can readily be attributed to the unmeasured net candidate evaluation. Since campaign polls showed a clear Bush advantage over Dukakis in popularity and approval (variously measured), almost certainly the NES net candidates scale shows the same differential. A net candidate advantage on the order of Eisenhower's over Stevenson in 1952 (or half Eisenhower's larger edge in 1956) would be enough to predict the 1988 outcome almost exactly.

Thus, the story of 1988 seems to be as follows: The actual degree of economic prosperity was less than commonly supposed. In fact, the degree of prosperity was at the margin where it was insufficient to forecast the presidential winner without additional information. A more popular Republican than Democratic candidate—not the economy—was the decisive factor. Still, because the 1988 data point appears to fit the equation, the 1988 result in no way diminishes the interpretation that the economy contributes greatly to presidential outcomes.[3]

Economic Voting and the Theory of Elections

The major purpose of the statistical model is to advance the theory of election outcomes rather than to make predictions. The model demonstrates that the state of the economy and the electorate's evaluations of the candidates together but independently drive presidential election outcomes. That the economy can match candidate evaluations in importance is an unexpectedly strong result. Consider that presidential elections tend to be determined by the electorate's relative liking of the two candidates but that independent of this almost tautological effect, the state of the economy is an even-better predictor of the outcome. More than ever, there appear to be grounds for investigating the process that causes individual voters to respond to the nation's recent economic performance (Fiorina 1981; Kiewiet 1983; Markus 1988). And more than ever, we see evidence of a rational incentive for the party in power to manipulate the business cycle for electoral benefit.

Appendix

Table A-1 presents some of the results of alternative specifications of the regression model. As the base, column 1 reports the equation discussed in the text.

Column 2 shows the result omitting candidate evaluations (C). Omitting candidate evaluations allows the coefficient for income change to reflect both direct effects and indirect effects via candidate evaluations. Removing C from the equation increases the coefficient for income change (I) but at the cost of a larger standard error and lower t-ratio.

Column 3 shows the result of substituting Tufte's measure of annual income change (I') for Hibbs's (I) for 1948–84. Tufte's measure yields a lower coefficient for income change and a higher coefficient

Table A-1. Alternative Equations Predicting the Incumbent Party Presidential Vote, 1948–84

Independent Variable	(1)	(2)	(3)	(4)	(5)	1948–76 Only (6)	1948–76 Only (7)	(8)
Hibbs PCDI Growth (I)	2.77 (.52)	3.60 (.87)		2.87 (.49)		2.46 (.88)		2.93 (.80)
Tufte PCDI Growth (I′)			1.80 (.32)		1.81 (.45)		1.31 (.79)	
Candidate Evaluations (C)	6.50 (1.51)		7.20 (1.78)	5.41 (1.57)	6.55 (2.06)	6.77 (1.70)	7.72 (2.09)	7.25 (3.09)
Democratic Incumbent Dummy (D)				-2.19 (1.45)	-1.38 (1.97)			
Presidential Approval (P)								-.04 (.14)
Adjusted R-squared	.888	.641	.836	.905	.823	.867	.779	.871
Standard error of estimate	2.21	3.95	2.67	2.03	2.77	2.30	2.97	2.50
Number of cases	10	10	10	10	10	8	8	10

Note: Standard errors are shown in parentheses. Variables are defined in text.

[a]Annual percentage change in per capita real income, Hibbs measure. See n. 1.

[b]Annual percentage change in per capita real income, Tufte measure. This measure is the percentage change for the election year, based on annual (not quarterly) estimates.

[c]Net candidate advantage. See n. 2.

[d]Incumbent party dummy variable, 1 if Democratic president, otherwise 0.

[e]Presidential approval, last Gallup reading prior to election.

for net candidate advantage. Still, use of Tufte's measure reinforces the message of a powerful economic effect.

Columns 4 and 5 show the results with the addition of a term for the party in power—a dummy variable (*D*) coded 1 for Democratic administrations and 0 for Republican administrations. This variable has a negative (but nonsignificant) coefficient, suggesting the possibility that campaign issues not directly brought into the model tend to disadvantage the Democrats.

The strongest results require inclusion of the two Reagan elections. Columns 6 and 7 show the consequences of their omission. (Column 7 is a replication of Tufte's 1948–76 equation. Differently from this replication, Tufte's original analysis showed an income effect that was modestly significant at the .05 level. I used revised per capita disposable income [PCDI] estimates, and corrected candidate evaluations, which accounts for this discrepancy.)

Finally, column 8 returns to the original model but with presidential popularity added. The final presidential approval reading before the election is known to be an excellent predictor of the outcome, presumably as a surrogate for other variables (Brody and Sigelman 1983; Lewis-Beck and Rice 1982). For 1948–84, this popularity measure correlates at .85 with the incumbent party vote. Could presidential popularity predict so well because it reflects income change and the electorate's net candidate evaluations? As col-

Table A-2. Data

Year	Incumbent Party Presidential Vote	Per Capita Income Change		Net Candidate Evaluations
		Hibbs Measure	Tufte Measure	
1948	52.37	2.58	3.73	.093
1952	44.59	1.80	1.34	-.488
1956	57.76	2.63	2.93	1.025
1960	49.91	1.03	0.15	.376
1964	61.34	4.72	5.47	1.031
1968	49.59	2.60	2.86	-.438
1972	61.79	3.14	2.88	.745
1976	48.89	1.37	2.58	.214
1980	44.70	-.78	-1.09	.279
1984	59.17	3.51	5.80	.358
Mean	52.98	2.26	2.67	.314

Note: Variables are defined in text.

umn 8 shows, with these variables controlled, the coefficient for presidential approval diminishes to insignificance and even becomes slightly negative. This neat result gives added theoretical support for the original model.

Table A-2 presents the raw data.

Notes

The author appreciates the helpful comments of Raymond Duch and Lee Sigelman on an earlier draft of this paper and the research assistance of David W. Romero.

1. Hibbs's measure is the annualized average of the quarterly income growth from the first quarter of the term to the fifteenth. The quarters are weighted so that each quarter is given 1.25 times the weight of the previous quarter (Hibbs 1987, 193, 197, 367-69n). Because Hibbs "OPEC-adjusts" his PCDI estimates, one cannot replicate his measure of cumulative income growth exactly from reported quarterly PCDI estimates.

Hibbs provides estimates for the four-year terms preceding each election, 1952-84 (Hibbs 1987, 193). He does not present an estimate for 1945-48, probably because quarterly readings of PCDI were not introduced until 1947. To obtain a measure of Hibbs's cumulative weighted average for 1945-48, I prorated the pre-1947 quarterly changes based on the annual PCDI readings for 1945 and 1946.

2. The exact candidate evaluations measure is based on as close a replication as possible of Tufte's procedure. I used the mean (for major party voters only) net number of in-party candidate likes and out-party candidate dislikes minus the out-party candidate likes and in-party candidate dislikes. I excluded all issue-based and group-based likes and dislikes. For 1952-76 this index corresponds closely but not exactly ($r = .99$) with Tufte's reported mean candidate evaluations. For 1948 I used Tufte's reported score. (For 1976 it was necessary to correct the sign of Tufte's reported score. Tufte inadvertently assigned Ford's net candidate advantage to Carter.) See also Stokes 1966 and Kagay and Caldeira 1980.

3. We can incorporate the 1988 observation into a regression model predicting the vote from income change alone. This extra data point has virtually no effect on the original equation (see Appendix, Table A-1), adding .01 to the estimated slope and subtracting .01 from the correlation. Adding 1988 as the eleventh case does reduce the standard error of estimate by .19 and the standard error of the regression coefficient by .06.

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Robert S. Erikson is Professor of Political Science, University of Houston, Houston, TX 77004.