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# Modeling the Future: Lessons from the Gore Forecast

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Our 2000 presidential election forecast was considerably off the mark. We predicted Gore would receive 56.9% of the two-party popular vote. Gore did get the majority of this popular vote (about 50.2%), as we predicted, but his total fell many points short of our forecast. Does such a large error (of 6.7 points) invalidate our model? We are hesitant to say so, since we forecast Clinton's victory in 1996 almost exactly using the same model, and more closely than other political scientists. While the Gore result has some outlier characteristics, incorporating it into the model does not really budge the structural coefficients. Put another way, introducing the 2000 data does not alter the magnitude of the regression estimates for the three independent variables: GNP change, popularity, peace and prosperity. As shown in the second column of Table 1, the coefficients from the 1952–2000 estimates are, respectively, 1.81, .14, and .14, while the coefficients from the 1952–1996 estimates are, respectively, 1.83, .16, .14.

The implication is that we are including appropriate variables in our forecast model. Our model is based on the assumption that individuals' presidential vote decisions are a function of their retrospective and prospective evaluations of the candidates. In practice, in 1996 and 2000, we used measures of GNP change, incumbent popularity, and peace and prosperity (defined below) to generate our prediction for in-party vote share of the two-party vote (Table 1, column 2). The specification is correct as far as it goes. Our focus in this brief article is on whether the variables we used are the best measures of how voters cast their ballots.

The core of our (and many other scholars') political economy models is a standard retrospective evaluation of presidential and economic performance, as measured by GNP growth and presidential popularity (see Table 1, column 1). Incorporate the Gore result into the core model, and it remains solid, i.e., the *t*-ratios remain significant at .05. The difficulty comes with the introduction of the prospective variable, peace and prosperity (i.e., an index that measures which party survey respondents think will bring peace and prosperity). Now the *t*-ratios erode, and the out-of-sample 2000 forecast actually increases (see Table 1, column 2). Our initial hypothesis is that the peace and prosperity variable imperfectly taps the prospective dimension of economic evaluation. Therefore, we will explore how incorporation of other variables in the basic model could improve measurement of prospective voting behavior.

First, perhaps measures of the prospective variables we had investigated earlier, future problems and leading indicators, might now perform better once 2000 was incorporated (Lewis-Beck and Tien 2000, 89). However, as shown in columns 3 and 4 of Table 1, such is not the case. In terms of $R^2$, standard error of estimate, and forecast error, the equations including these variables produce results inferior to the equation with the variables specified in column 2. An alternative measure of economic performance, hitherto untried, is the stock market trend. We reasoned that, in the months preceding an election, voters would perceive an upward (downward) trend as an indicator of future prosperity (decline). However, when we included such a variable alongside the modified core model, it fell far short of statistical significance at a conventional level (see Table 1, column 7). Thus, despite the current talk about using stock market performance as an economic indicator, we found it had no vote effect after all.

Is there an improved way to get at prospective effects? Yes. In a recent paper, Nadeau and Lewis-Beck (2001) reported the results of a pooled survey analysis, which showed that when the incumbent candidate is an elected president economic voting is mostly retrospective, and when the incumbent

candidate is not an elected president economic voting is mostly prospective. This makes good sense: Presidents running for reelection are judged on their record, but incumbent candidates who are not president (such as Vice President Gore) must be judged on their promises. Given this, the retrospective GNP variable in the model should be measured as an interaction—GNP multiplied by incumbent (scored 1 = elected president running and 0 = otherwise). This conditioned GNP measure, in conjunction with the presidential popularity measure, yields the results shown in column 5 of Table 1. The results are dramatic. The $R^2$ value jumps up to .86 (10 points more than the core model), the standard error drops almost one point, and the 2000 out-of-sample

**TABLE 1**
**Alternative Specifications for Presidential Election Forecasting**

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|---|---|---|---|---|---|---|---|
| Constant | 37.58 | 27.89 | 28.77 | 37.36 | 37.13 | 30.01 | 37.51 |
| | (12.73) | (4.94) | (4.07) | (12.00) | (16.62) | (7.37) | (16.56) |
| GNP change | 1.29* | 1.81* | 1.37* | 1.42* | | | |
| | (2.00) | (2.64) | (2.07) | (1.94) | | | |
| Popularity | .26* | .14** | .16** | .26** | .29* | .21* | .28* |
| | (3.87) | (1.45) | (1.74) | (3.75) | (6.40) | (3.65) | (6.25) |
| Peace and prosperity | | .14* | | | | .10* | |
| | | (1.89) | | | | (2.04) | |
| Future problems | | | .27** | | | | |
| | | | (1.48) | | | | |
| Leading indicators | | | | −.14 | | | |
| | | | | (−.43) | | | |
| GNP * incumbent | | | | | 1.57* | 1.76* | 1.72* |
| | | | | | (3.86) | (4.36) | (3.97) |
| Dow Jones | | | | | | | −.10 |
| | | | | | | | (−1.00) |
| R-squared | .76 | .83 | .78 | .76 | .86 | .91 | .87 |
| Adj. R-squared | .72 | .78 | .70 | .69 | .84 | .87 | .84 |
| SEE | 3.08 | 2.85 | 3.03 | 3.21 | 2.35 | 2.15 | 2.35 |
| D-W | 2.31 | 1.67 | 1.50 | 2.26 | 1.61 | .91 | 1.33 |
| 2000 forecast | 56.7 | 56.9 | 58.0 | 57.4 | 54.9 | 55.2 | 54.91 |
| Sample size | 14 (1948–2000) | 13 (1952–2000) | 13 (1952 missing) | 14 | 14 | 13 | 14 |

2000 forecast uses parameters generated from data without 2000 case.

Dependent variable = Percent of incumbent party's share of the two-party popular vote.

The figures in parentheses are *t*-ratios.

*$P$ = .05, one-tailed test.

**$P$ = .10, one-tailed test.

GNP change = percentage change (nonannualized) in GNP (constant dollars) from the fourth quarter of the year before the election through the second quarter of the election year.

Popularity = Gallup approval rating of the president's job handling measured in the first July poll before the election.

Peace and prosperity = index constructed by adding the percentage of two-party respondents who favored the incumbent party on keeping America out of war and the country prosperous (Gallup questions).

Future problems = percent of two-party respondents who favored the incumbent party on handling the country's most important problem (Gallup poll question).

Leading indicators = percent change in index of leading economic indicators over the first two quarters of the election year.

GNP * incumbent = interaction term between GNP change and incumbent, where 1 = elected incumbent and 0 = otherwise.

Dow Jones = percent change in the Dow Jones Industrial Average from the fourth quarter of the year before the election through the second quarter of the election year.

R-squared = coefficient of multiple determination.

adj. R-squared = the coefficient of multiple determination adjusted for degrees of freedom.

SEE = standard error of estimate.

D-W = Durbin-Watson statistic.

forecast is about two points closer to the actual result (falling from 56.7 to 54.9).

What happens when the peace and prosperity variable is put back into the mix, along with this interaction variable, appears in Table 1, column 6. The outcome is encouraging. The significance tests all easily pass the .05 level. Further, the $R^2$ value exceeds .91. Finally, the standard error of estimate is only 2.15, actually lower than the standard error of estimate from the best 1996 model (Lewis-Beck and Tien 2000, 90).

## Conclusions

Our forecasting model is predicated on the assumption that presidential voters act on retrospective and prospective evaluations of political economic performance. We stand by our original choice of the three variables, but believe our model will yield more accurate predictions if we include a theoretically induced remeasurement of the GNP variable (i.e., letting it mean more for candidates who are previously elected presidents). With this judicious modification, the Gore forecast is brought within more understandable range. That is, the out-of-sample forecast is only about two standard errors of estimate high. Obviously, that is larger than a forecaster might generally like. There is still something left to explain about the Gore result. But the suggestion is that use of the modified model will allow us to make more accurate forecasts in the future.

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