Time for Change Model one of the nation's most accurate statistical forecasting models. Despite the fact that this prediction was made more than two months before Election Day, the Time for Change forecast was more accurate than the results of many national polls conducted immediately before the election including the Gallup and Rasmussen tracking polls both of which predicted a popular vote win for Mitt Romney.

The Time for Change Model has correctly predicted the winner of the popular vote in every presidential election since 1988. This year, however, I made one small modification to the model. In addition to the three predictors that I have used since 1988—the incumbent president's net approval rating in late June, the change in real GDP during the second quarter of the election year, and a dummy variable for first-term incumbents, I added a polarization correction for elections since 1996. The polarization correction reflects the reduced willingness of voters to cross party lines to vote for an incumbent from the opposing party or any candidate from the opposing party in an era of heightened partisan polarization. Thus, the incumbency advantage enjoyed by President Obama was estimated to be about half the size of the advantage enjoyed by first-term incumbents before 1996.

The results of the 2012 presidential election provide strong support for the inclusion of the polarization correction. According to the national exit poll, the level of partisan voting in 2012 was the highest since the beginning of presidential exit polls in 1972—92% of Democrats and 93% of Republicans voted for their party's candidate. The result was a close election in which the modest-6-point Democratic advantage in party identification proved decisive.

It now appears that President Obama will exceed his predicted share of the major party vote by just over one percentage point. Part of this error may be attributed to the fact that economic conditions in the United States continued to improve somewhat during these two months with unemployment falling below 8% shortly before the election. Perhaps more importantly, the president's approval rating on Election Day was somewhat higher than it had been in late August. According to the data from the national exit poll, Obama had an approval rating of 54% with a disapproval rating of 45%, yielding a net approval rating of +9% compared with a net approval rating of +2% in the Gallup Poll at the end of June. Nevertheless, an error of approximately one percentage point is certainly acceptable given the forecast's lead time of more than two months.

As they search for explanations for their party's defeat this year, Republicans can at least look forward to the 2016 presidential election with some hope—after eight years of Democratic control of the White House, the time for change factor will swing back in favor the GOP.

*Table 1*

**Forecasts of the Obama Vote Share at Different Points in 2012**

| DATE OF POLLS | FORECAST |
|---|---|
| January–March | 52.2 |
| April–June | 52.3 |
| July | 52.6 |
| Before conventions | 52.7[a] |
| After conventions | 52.6[b] |
| After first debate | 51.4[c] |
| Week before election | 51.6 |

Note: Based on models with trial-heat polls measured at various points in the campaign timeline. The equations are all based on data from 15 elections between 1952 and 2008. Poll data for 2012 are from Real Clear Politics.

[a] In the equation, poll data are from 11 weeks before the election, consistent with one week before the Republican 2012 convention.

[b] In the equation, poll data are from 8 weeks days before the election, consistent with one week after the Democratic 2012 convention.

[c] In the equation, all poll data is from 4 weeks before the election, consistent with one week after the first 2012 presidential debate.

## FORECASTING WITH LEADING ECONOMIC INDICATORS AND THE POLLS IN 2012

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On August 1, 2012, we prepared a forecast of the 2012 presidential vote for *PS*. Our model contains two variables: (1) the cumulated weighted growth in leading economic indicators (LEI) through quarter 13 of the current presidential term and (2) the incumbent party candidate's share in the most recent trial-heat polls, which were for the month of July. What mostly distinguishes our model from others is the reliance on leading indicators from the quarter ending in March of the election year. The early reading of LEI works well as a predictor because it summarizes growth in the economy leading up to the election year and also provides advance indication of changes in the economy during the election year. The exact equation and the exact forecast change as the poll readings change during the election year.

Our forecast, published in *PS* (Erikson and Wlezien 2012a), based on trial-heat polls in July, was that Barack Obama would win 52.6% of the two-party popular vote. This turned out to be quite close to the Election Day outcome, which is 51.8% as of this writing (November 28, 2012). Contributing to the forecast of Obama's (close) reelection was that the LEI numbers were slightly above the average of the previous 15 presidential cycles.[1] These numbers pointed to economic expansion during the election year, which did materialize, at least to some extent; what may be most important is that public perceptions trended positive leading up to Election Day (see Erikson and Wlezien 2012a).

The forecasts made at different points in the election year were largely unchanged from this "official" forecast based on July polls. Details are shown in table 1. Most notably, the model including our measure of LEI and polls from January–March predicted a 52.2% vote share for Obama. The value of this model with quarter 13 LEI and quarter 13 trial-heat polls is that it allows prediction of the November vote early in the election timeline, long before trial-heat polls by themselves provide a useful prediction (Erikson and Wlezien 2012b).


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We can also check how our forecast prevails if we substitute trial-heat polls later than July. Table 1 includes subsequent forecasts that we made, based on equations using recent trial-heat polls conducted at those points later in the campaign timeline. There we see that models of the vote from dates before and after the conventions yielded virtually no changes in the forecast (52.6% or 52.7% Obama). The first debate shifted the forecast of the Obama vote downward, but only slightly. Using a model including polls after that debate, we predicted a 51.4% share for Obama. This is a little less than the president received on Election Day.


## ACKNOWLEDGMENTS

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### NOTE

1. We would have forecasted a nearly identical share (52.9%) only using LEI, that is, without the polls.

### REFERENCES


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## PROXY FORECASTS: A WORKING STRATEGY


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Our Proxy Model of presidential election forecasting declared, from data issued six months before the November contest, that Obama would garner 52.7% of the two-party popular vote. [See the model release in our *Monkey Cage* blog-post (Lewis-Beck and Tien 2012a) on September 18, 2012, and in the October issue of *PS* (Lewis-Beck and Tien 2012b).] Thus, that forecast called the correct winner, with a point estimate error of only 0.9 percentage points.

Before the 2012 election, we offered two forecasting models: our long-standing Jobs Model and our new Proxy Model (Lewis-Beck and Tien 2012b). Whereas the Jobs Model derives from voting behavior theory, the Proxy Model derives from a data-driven search. Unexpectedly, the two models did not converge in their forecasts. We felt a scientific obligation to announce a preference, and initially gave the nod to the Jobs Model (Lewis-Beck and Tien 2012b). However, an accumulation of external evidence finally convinced us to give the nod instead to the Proxy Model.

### The Proxy Model Applied

The Proxy Model for vote forecasting bases itself on an empirical surrogate for that vote, measured prior to the election. The model reads as follows:

$$\text{Vote}_t = f(\text{Vote Proxy}_{t-x}) \quad (1)$$

where $\text{Vote}_t$ = the percentage of the two-party popular vote; $\text{Vote Proxy}_{t-x}$ = an observed indicator of the unobserved vote, measured at a prior time. The proxy variable we identify can be labeled the National Business Index (NBI), so

$$\text{Vote} = f(\text{NBI}_{t-x}) \quad (2)$$

where NBI = respondent share who say "business conditions are better" minus the respondent share who say "business conditions are worse," as reported in the national University of Michigan Survey of Consumers. The NBI, measured in April about six months before the November 2012 election, maximizes its correlation with incumbent vote, r = .83. (Other variables could be added and were, for example, incumbency, presidential popularity, macroeconomic indicators, at different lags. None added significantly to the predictive power of the single variable model below.)

The simple regression estimation for the Proxy Model yields

$$\underset{(48.23)\quad(3.69)}{\text{Vote}_t = 51.67^* + .09^* \text{NBI}_{t-6} + e} \quad (3)$$

$$\text{R-sq.} = .69, \text{Adj. R-sq.} = .64, \text{SEE} = 2.96,$$

$$\text{D-W} = 2.45, \text{n} = 8 \text{ (1980–2008)},$$

* = statistical significant at .05, two tails, figures in parentheses are t-ratios.

The equation has statistical strengths in addition to the fit statistics. Within-sample, it predicts the popular vote winner every year, on a mean absolute error of only 2.19 points. Forecasting out-of-sample, as in 2012, involves the following calculations. The NBI score = 11. This says that in 2012 (spring), 51 percent saw business conditions as "better," while only 40 percent saw business conditions as "worse." On balance, the public saw the economy as improving. Plugging this NBI estimate into the Proxy Model yields the 2012 forecast:

$$\begin{aligned} \text{Obama Vote}_t &= 51.67 + .09\ \text{NBI}_{t-6} + e \\ &= 51.67 + .09\ (11) \\ &= 52.7\%. \end{aligned} \quad (4)$$

### The Proxy Model and the Economy

The proxy variable, based on consumer sentiments, has substantive implications. As a naïve model of economic voting, it is suggestive. Our recent work shows voter perceptions link to the real US economy, with perception of economic change counting heavily (Lewis-Beck, Martini, and Kiewiet 2012). The Proxy Model implies that if the public sees economic improvement, they strongly reward the incumbent.

### The Proxy Model as a Forecasting Instrument

We have offered four characteristics for forecasting model evaluation: accuracy, lead, parsimony, and replication (Lewis-Beck 2005). Examining the model by these criteria, it scores high. With respect to accuracy, the Proxy Model is off by less than one and one-half percentage points. With respect to lead, the forecast comes from a measure taken six months before the election. Its parsimony is absolute, with only one independent variable. Finally, its replication is simple. These favorable

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