

SYMPOSIUM

Recap: Forecasting the 2012 Election

The October 2012 issue of *PS* published a symposium of presidential and congressional forecasts made in the months leading up to the election. In the following articles, the forecasters assess the accuracy of their models.

Editor's Note: A typographical error in the October 2012 issue of *PS* forecasting symposium's summary table of the forecasts (*PS: Political Science and Politics* 45 (4): 612) stated that Klarner predicted Obama would receive 51.1% of the two-party popular vote. His prediction was that Obama would receive 51.3%.

We regret the error.

PRIMARY MODEL GETS IT RIGHT AND EARLY

Helmut Norpoth, *Stony Brook University*

Michael Bednarczuk, *University of Wisconsin, Milwaukee*

In January of 2012, the Primary Model predicted that Barack Obama would defeat Mitt Romney by a comfortable margin. He did. Obama's popular vote total topped Romney's by more than three million votes. The Primary Model's forecast was by far the earliest of those assembled in the special 2012 *PS* symposium (45 (4): 614–617). Even so it predicted an Obama victory with greater certainty (almost 90%) than any other one. To put this performance in perspective, note that several models got it wrong in 2012, and hardly any of the other ones picking Obama to win did so with much certainty. Many preelection polls also failed to predict an Obama victory with their final estimate, including the venerable Gallup Poll. How did the Primary Model get it right so far in advance of Election Day 2012?

Recall that the model relies on primary elections as well as an electoral cycle. The cycle captures the historical fact that the presidential party more often wins than loses reelection after one term in office. Whenever one party wrests control of the White House from the other it can count on holding on to it for two terms, after which the odds even out. In that sense Obama had history on his side in 2012, like Ronald Reagan in 1984, and Bill Clinton in 1996, to cite a few recent cases. The American electorate is inclined to give first-term presidents the benefit of the doubt to make good on promises of change that brought them to office. There is no better proof of that

attitude in 2012 than findings from the exit poll about how voters weighed the economy for the vote choices. Although voters expressed much dissatisfaction with the overall economy and their own financial situation, Barack Obama got less blame for the current economic problems than did his predecessor George W. Bush.

Besides history, a strong performance in primaries also predicted Obama's reelection. As we have shown, no primary has a better record of predicting the outcome of the general election for president since 1952 than the New Hampshire primary. So this effect could be spotted very early in the election year. Obama was indeed on the ballot in that primary in 2012, and won in commanding fashion against a field of unknown candidates. This was a clear signal that Obama's renomination would go uncontested. Presidents who face a challenge to renomination rarely, if ever, go on to win reelection. Jimmy Carter's defeat in the 1980 election, following the Kennedy challenge for renomination, comes to mind. Obama's solid support in Democratic ranks on Election Day was confirmed by the exit poll finding that more than 90% of self-identified Democrats voted for Obama, with 45% of Independents doing so as well. While Romney's victory in his party's primary in New Hampshire made him the strongest possible Republican nominee, his win was not enough to trump the advantage that Obama, as the incumbent-party candidate, got from being unchallenged in primaries. Unfortunately for Romney as any out-party candidate, the Primary Model assigns far greater weight to the in-party candidate for predicting the outcome of the general election.

ELECTION FORECAST: A LOOK BACK AT THE TIME FOR CHANGE MODEL AND THE 2012 PRESIDENTIAL ELECTION

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The Time for Change Model once again correctly predicted the winner of the US presidential election. In late August, before the Republican and Democratic national conventions, the model predicted that President Obama would win 50.6% of the major party vote to 49.4% for his Republican challenger, Mitt Romney. When all the votes are counted, it now appears that Obama will end up with approximately 51.5% of the vote, making the Time for Change Model one of the nation's most accurate statistical forecasting models. Despite

Symposium: Recap: Forecasting the 2012 Election

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 about 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.

FORECASTING WITH LEADING ECONOMIC INDICATORS AND THE POLLS IN 2012

Robert S. Erikson, *Columbia University*

Christopher Wlezien, *Temple University*

On August 1, 2012, we prepared a forecast of the 2012 presidential vote for *PS*. Our model contains two variables: (1) the

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.

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 51.6% as of this writing (November 19, 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 some 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).

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 just about what the president received on Election Day.

ACKNOWLEDGMENTS

We thank Stuart Soroka for helpful comments.

NOTE

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

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PROXY FORECASTS: A WORKING STRATEGY

Michael S. Lewis-Beck, *University of Iowa*

Charles Tien, *Hunter College and The Graduate Center, CUNY*

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 1.4 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 Vote_t = the percentage of the two-party popular vote; 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

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

(48.23) (3.69)

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

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

* = 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

Symposium: Recap: Forecasting the 2012 Election

forecasting characteristics contrast starkly to those of certain state-level, sharply poll-driven models much in vogue.

Forecasting the Electoral College Vote

What finally matters is the Electoral College vote. We have used popular vote share to predict electoral vote share (Lewis-Beck and Tien 2012b):

$$\text{Electoral Vote} = -200.15 + 4.91 * \text{Popular Vote} \quad (5)$$

(−11.88) (15.27)

$$R\text{-sq.} = .94, \text{Adj. } R\text{-sq} = .94, \text{SEE} = 6.96,$$

$$D\text{-W} = 1.44, N = 16 (1948\text{--}2008),$$

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

Using this regression equation, the Proxy Model forecast of 52.7 predicts an electoral vote share of 58.61% or 315 Electoral College votes, which misses the 2012 Electoral College Obama vote of 332 by only 17 votes.

Conclusions

The proxy approach to US presidential election forecasting offers something new. Our Proxy Model appears to work well. Moreover, it has the favorable traits of a good forecasting instrument (accuracy, lead, parsimony, replication). Viewed substantively, it suggests the importance of economic voting in the Obama victory. Moreover, the fact that the model errors in the positive direction (that is, it is 1.4 points too high), also comports with our argument that Obama could expect to pay a “racial cost” from his expected vote total (Tien, Nadeau, and Lewis-Beck 2012). The Proxy Model also has familiarity value, following the tradition of national-level forecasting models. Further, it has ready transparency. The proxy approach may pose a path through the forecasting thicket.

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CLOSENESS COUNTS IN HORSE SHOES, DANCING, AND FORECASTING

James E. Campbell, *University at Buffalo, SUNY*

On September 10, 2012, immediately following the close of the Democratic Party’s national nominating convention and 57 days before Election Day on November 6, my Convention Bump and Economy Model predicted that Barack Obama was likely to receive 51.3% of the national two-party popular vote. The Convention Bump and Economy Model consists of Gallup’s preconvention preference poll, the net convention bump

in the polls, and an adjusted second quarter GDP growth rate. The forecast pegged the certainty of an Obama plurality at 67%. No sure thing, but more likely than not. The traditional Trial-Heat and Economy Model predicted Obama’s vote at 52.0%. The Convention Bump and Economy Model’s prediction was the preferred forecast in 2012 because of the lateness of the parties’ nominating conventions. Democrats did not even begin their convention until after Labor Day.

President Obama’s actual share of the two-party vote was 51.5 percentage points. The Convention Bump and Economy Model’s forecast error was a mere two tenths of a percentage point. This is about as accurate as it gets. Of course, some portion of the forecast’s accuracy is the result of an omitted variable: luck. No mix of the fundamentals can be reasonably expected to produce a forecast with anything approaching this accuracy, and there were at least the normal number of unanticipated twists and turns in this campaign that could not possibly have been predicted. Among these were the release of the “47 percent” video of Romney that offended some voters, President Obama’s poor performance in the first debate, the odd handling by all involved (including the third debate’s moderator) of the issue regard the administration’s response to the terrorist attack in Libya and, perhaps most notably, President Obama’s response to Hurricane Sandy about a week before the election accompanied by New Jersey’s Republican governor Chris Christie’s effusive praise for the president. There were certainly many other events as well. Beyond the public arena, the forecast also would not take into account in any way the superior “get out the vote” efforts of the Obama campaign.

Although many important events and developments took place during this campaign that the forecast could not have anticipated, many of these offset one another. The “47 percent video” and hurricane events helped President Obama, but the first debate helped Governor Romney. But beyond the simple cancelling effects of campaign events, this campaign sheds some light on the interesting interactions of the fundamentals and unanticipated campaign events. The pro-Romney effect of the first debate was a mix of the contrast between Romney’s masterful and Obama’s sleepwalking performance, but also President Obama’s weak economic record—a fundamental context of the election. Obama’s weak economic record was the ammunition for Romney’s strong debate showing and would not have been possible without it. The pro-Obama effect of Hurricane Sandy could not have been anticipated because the hurricane itself could not have been anticipated, but when it happened it reflected the impact of presidential incumbency, another fundamental context undergirding the election forecast.

In reviewing the Convention Bump and Economy forecast of the 2012 election, the forecast model appears to have captured successfully the precampaign fundamentals that largely shape presidential elections. The 2012 experience is only one election, but it should reinforce confidence in the model.

One final note: Democratic Party seat gains in the House of seven or eight seats were almost perfectly predicted between the Seats-in-Trouble Model’s forecasts for Democrats to pick up between three and 14 seats.

THE BREAD AND PEACE MODEL: 2012 PRESIDENTIAL ELECTION POSTMORTEM

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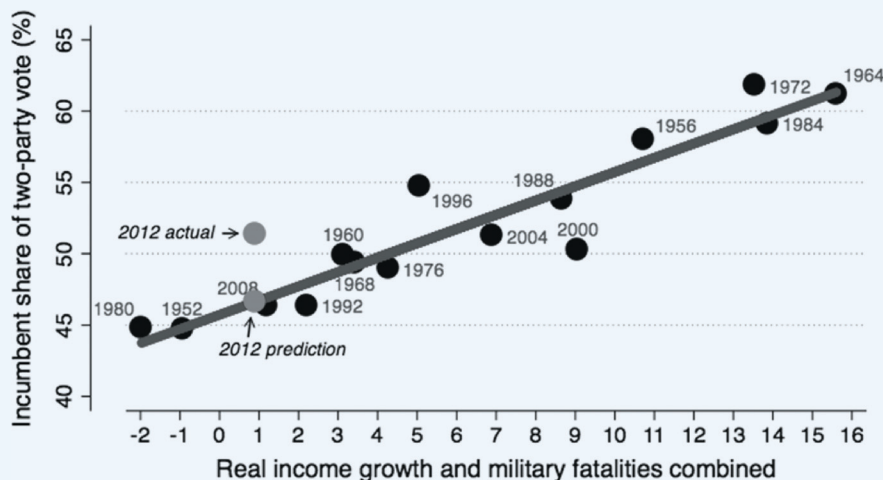
President Obama received approximately 51.5% of the two-party vote in the 2012 election. The last Bread and Peace Model forecast of Obama's vote share, based on advance estimates of 2012:quarter 3 personal income posted on October 26, 2012, by the Bureau of Economic Analysis (BEA), was 46.6%—lower than the 47.5% forecast appearing in the October issue of *PS*, which was based on July 27, 2012, BEA data. The Bread and Peace Model therefore underpredicted Obama's vote by 4 to 5 percentage points, equivalent to around 2 model standard errors. The president's vote therefore benefited from a +2-sigma composite shock to Bread and Peace Model fundamentals. Figure 1 shows actual and predicted values for 2012 in perspective of incumbent vote shares at all presidential elections 1952–2012.

My *PS* article in October emphasized that the Bread and Peace Model aims to pin down quantitatively the persistent influence of objectively measured political-economic fundamentals, rather than to predict vote shares optimally or to track them statistically after the fact. Consequently the model makes no use of time-coded variables or poll readings of presidential approval and vote intentions. It is not surprising that models incorporating the latter, along with generic poll data (especially those so skillfully aggregated by Nate Silver at 538) and betting price data (my personal prediction favorite), delivered the most accurate 2012 forecasts at all sensible preelection horizons. However forecasts based on polls or betting prices yield no insight about causal forces driving political valuation and electoral choice—which are what the Bread and Peace Model is designed to identify. Models including both fundamental variables (almost always measures of economic performance) and poll readings of presidential approval rates or vote intentions supply some information about underlying causal forces, but I am unable to determine how much because poll variables clearly are endogenous. We learn nothing about the causes of electoral outcomes from correlations between aggregated poll data on pre-election candidate sentiments and Election Day outcomes.

Demographic analyses of poll data suggest that partisan cleavage over immigration reform and reproductive rights were the main idiosyncratic issues behind President Obama overcoming the poor reelection prospects implied by weak economic performance. If those issues turn out to be enduring, I

Figure 1

Bread and Peace Voting in 2012—Actual and Predicted Values in Postwar Perspective



Combination of real growth and fatalities weights each variable by its estimated coefficient. Estimated effects of fatalities on vote shares: -0.7% in 2008 (Iraq), -7.4% in 1968 (Vietnam), -9.7% in 1952 (Korea); negligible in 1964, 1976, 2004, 2012, and null in other years. Source: www.douglas-hibbs.com, November 11, 2012

would be delighted to enhance the Bread and Peace Model with a composite “social” variable measuring their net, concrete effects on the electorate’s aggregate wellbeing. I do not know how to calibrate those net concrete effects objectively and ex-ante. Yet I believe immigration will prove to be transitory because in the wake of 2012 a widely accepted resolution of the issue will attract enough Republican support to pass comfortably on a bipartisan basis in the next Congress, and that will remove immigration tensions from the national political arena. I am more uncertain about reproductive rights. A decisive affirmation of *Roe v. Wade* by the Supreme Court (perhaps after a new appointment or two during Obama’s second term) would put that issue to rest nationally as well, but I don’t have much confidence in this conjecture.

Of course if every election were dominated by transitory, idiosyncratic issues—and there is no reason, in principle, why not—one would not observe the strong relationship of incumbent vote shares to Bread and Peace fundamentals graphed in the figure, notwithstanding the model’s 2-sigma error in 2012.

POSTMORTEM: INCUMBENCY, NATIONAL CONDITIONS, AND US PRESIDENTIAL ELECTIONS

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The Incumbency and National Conditions (presidential approval and aggregated personal finances) Model predicted President Obama would garner 47.9% of the two-party vote, whereas he ended up with 51.4% (based on available information on November 13, 2012). The error in this forecast (3.5 points) is somewhat higher than the average out-of-sample error from 1952–2008 (2.4 points). Although the forecast was

Symposium: Recap: Forecasting the 2012 Election

Table 1

Incumbency-Based Forecasting Model for US Presidential Elections

| | 1952–2008 | | 1952–2012 | |
|--|-------------|-------|-------------|-------|
| | b | t | b | t |
| National Conditions | 0.42 | 6.63 | .40 | 6.43 |
| Open Seat | 17.49 | 2.47 | 15.15 | 2.17 |
| National Conditions* Open Seat | –0.27 | –2.92 | –.25 | –2.65 |
| Constant | 21.20 | 4.22 | 23.53 | 4.94 |
| N | 15 | | 16 | |
| Adj. R ² | 0.81 | | .78 | |
| R.M.S.E. (sample) | 2.54 | | 2.60 | |
| R.M.S.E. (out-of-sample) | 3.29 | | 3.45 | |
| Mean Absolute Out-of-Sample Error | 2.39 | | 2.47 | |

Note: The dependent variable is the percent of the two-party vote won by the incumbent presidential party.

off the mark, the addition of the 2012 result to the data set does little to change the slope estimates, and the overall fit of the model is only slightly worse (table 1).

The updated model still points to the importance of incumbency as a conditioning variable: incumbents are given more blame or credit for existing national conditions. In 2012, President Obama did not bear the full brunt of tepid approval ratings and generally negative evaluations of personal finances. There are a number of plausible explanations for this—including differences in campaign strategies—and they all may have played some role. From the perspective of a forecasting model, however, the 2012 election represents another useful data point to add to the pool of experiences from which we can generate future predictions.

ECONOMIC EXPECTATIONS AND ELECTION OUTCOMES

Brad Lockerbie, *East Carolina University*

At its most basic level, this forecast of the 2012 presidential election performed successfully. The model forecasted the reelection of President Obama. With 53.8% of the two-party vote; he ended up with 51.6% (as of November 20, 2012), yielding an error 2.2 percentage points. Prior to 2012 the average out-of-sample forecasting error was 3.34 points. Here, the model does better than the average of the previous years by almost a point. Running the model with the added data point does not change matters appreciably. The economic item increases slightly and the logged time in the White House item weakens slightly. The overall fit of the model is just a bit lower.

The results of the House of Representatives model were not quite as accurate. The model forecast that the Republicans would pick up 10 seats. Instead, they lost nine seats (as of November 13, 2012). The model was off by 19 seats and the average out-of-sample error prior to 2012 was 15 seats. One

possibility for this result is that the larger than average error might be the result of the first election after redistricting. An examination of the out-of-sample forecasts does not support that conjecture.

Looking forward to 2016, the incumbent party will be at a disadvantage. Given that the Democrats will be seeking a third term, the nation will have to be less pessimistic than is typical for the incumbent party to emerge victorious. If the electorate is as pessimistic in 2016 as they were this election season, the Democrats will lose handily.

FISCAL MODEL FAILURE: A MEASUREMENT PROBLEM? A PRELIMINARY ASSESSMENT

Alfred G. Cuzán, *University of West Florida*

The Fiscal Model of presidential elections not only failed to predict that President Obama would win reelection handily, but the error incurred in the forecast of the incumbent share of the two-party vote was such (46.9% vs. 51.4% or more) as to warrant a rating of “inaccurate” or “quite inaccurate” in Campbell’s table of benchmarks for evaluating forecasts (Campbell 2012, 611). This recap is a preliminary assessment of what went wrong.

Five predictors make up the Fiscal Model. Two measures of the economy, a weighted index of length of party reign and the party of the incumbents are borrowed or adapted from Fair (2012). Finally comes fiscal policy, the variable after which the model is named, categorized as expansionary or contractionary on the basis of quadrennial changes in F , the share of gross domestic product taken up by federal outlays, from one presidential election year to the next (Cuzán 2012).

Fiscal policy is a potent predictor of incumbent victory or defeat in presidential elections. Normally, incumbents under whose administration federal spending relative to GDP falls or decelerates are reelected, while those who pursue an expansionary fiscal policy are not. It is this relationship that prompted me to ask as early as the spring of 2009 whether Barack Obama would turn out to be a one-term president. As I wrote at the time, “The most recent estimate for 2012 is that federal outlays will take up 24.3% of GDP, up 3.5% points since 2008. This is the second-largest peacetime increase from one election year to the next since 1880, edged out only by Franklin D. Roosevelt’s first-term surge of 3.6% points” (Cuzán 2009).

The Roosevelt parallel was not lost on President Obama. In his acceptance speech at the Democratic National Convention he invoked FDR’s name. Elsewhere he has done so indirectly, by claiming to have “inherited the worst economy since the Great Depression.” The electorate appears to agree with this claim: exit polls on Election Day show that a majority blames George W. Bush for the poor economy. If that is the case, there can be little doubt that in 1936, too, most voters held Hoover responsible for the economic problems with which FDR was wrestling.

But if the electorate rationally parcels out blame for a depressed or recessionary economy between a Democratic president and his Republican predecessor, might it not do the same

with fiscal policy? After all, during a president's first year in the White House spending is largely a function of the previous administration. It was in the fall of 2008 that the bank and auto bail-outs were enacted into law. So neither Mr. Obama nor his party is accountable for any but a relatively small portion of the enormous spike in outlays, from 20.8% of GDP in 2008 to 25.2% in 2009. Actually, as economists Paul Krugman and Mark Thoma pointed out, from 2010 to 2012 spending under Obama was relatively restrained. Indeed, after peaking in 2009, F drifted down a bit, settling at 24.3% this year.

To test this idea systematically, I proceeded as follows. In cases of a president in the first term of a new party reign, fiscal policy was measured not between presidential election years, but between the current year and his first year in the White House. Starting with the 1916 election which, following Fair, is the first in the series for estimating the Fiscal Model for forecasting purposes, this includes the first or only reelection bids of Wilson, Coolidge, F. D. Roosevelt, Eisenhower, Johnson, Nixon, Carter, Reagan, Clinton, G.W. Bush, and Obama. In the remaining fourteen cases, the original fiscal policy value was retained. This resulted in two coding changes, both from an expansionary to a contractionary fiscal policy: Reagan and Obama

The estimate of the model with the revised values for fiscal policy is similar to that published in the October issue (Cuzán 2012, 649). The coefficients undergo marginal changes. Also, in out-of-sample forecasting the mean absolute error of the model with either the traditional or the revised values of fiscal policy is less than 2%. But the difference in the forecast for 2012 is dramatic: whereas with the unrevised measure Obama was predicted to lose with 46.9% of the two-party vote, now it shows him winning with 51.1%.¹

Conclusion

A preliminary assessment of this year's Fiscal Model failure suggests that the problem lay in the miscoding of Obama's fiscal policy, a measurement error caused by the spill-over in spending from the last year of the Bush administration into his own term. By recalculating the change in spending from the first to the fourth year of all presidents in the first term of a new party reign, including Obama, the fiscal model yields an accurate forecast for 2012.

NOTE

1. In out-of-sample forecasting, the mean absolute error of the model with either the traditional or the revised values of fiscal policy is less than 2%. Space limitations do not allow display of model estimates, data, or a full list of references. By the time this article is published, all this will be available in an expanded version of this essay, available on my publications page (<http://uwf.edu/govt/CuzanPublications.htm>) and at ssrn.com.

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AGGREGATION AND ENSEMBLES: PRINCIPLED COMBINATIONS OF DATA

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Perhaps the major story in forecasting the 2012 election is the growing awareness of the benefits of aggregating multiple sources of data for improving prediction. Most prominently, polling analysts including Simon Jackman, Drew Linzer, and Nate Silver made the strong case, ultimately validated by the election results, that combining information from multiple polls gives a better picture of the electorate than any poll analyzed in isolation.

Our approach, ensemble Bayesian model averaging (EBMA), draws on this same basic intuition, even if the specifics differ considerably from the poll aggregation methods referenced earlier. Instead of creating the single "best" forecasting model, EBMA aims to "combine the intuition, theories, and concepts implicit in all of the forecasting models presented in this symposium to make an accurate out-of-sample prediction" (Montgomery, Hollenbach, and Ward 2012a, 651).

Although no single election can validate the ensemble approach, the performance of EBMA in 2012 was encouraging. The final outcome, 51.3% of the vote for President Obama, was well within our 95% predictive credible interval [46.4%, 52.5%]. Our point prediction, the median of the predictive posterior, was 50.3%. Thus, our prediction was off by about 1%. Of the ten forecasts included in the ensemble, only the Abramowitz and Campbell (Trial Heat) models offered a more accurate prediction with absolute errors of 0.7% each. Indeed, we especially give credit to these authors, whose accurate forecasts of the 2012 outcome contributed so much to the ensemble's performance. The Trial-Heat Model and especially Abramowitz's Time for Change Model were among the most heavily weighted in the ensemble. EBMA's reliance on them was based, in part, on their previous accuracy, which they repeated this cycle.

EBMA's strong performance provides additional support for the notion that more information is better. Yet, note that EBMA does not simply aggregate forecasts without respect to their past performance. For the purposes of this symposium, we weighted forecasts based on the accuracy of each model's pseudo-forecasts (their in-sample predictive ability). Elsewhere, we took the more stringent approach of evaluating forecasting teams based on their true out-of-sample forecast made in advance of elections (Montgomery, Hollenbach, and Ward 2012b). In either case, models that provided less accurate forecasts received less weight. This discrimination is why EBMA, in general, outperforms more naïve approaches to aggregating forecasts. The mean prediction of the models included in our ensemble was 50.0 and the median was 49.4; the EBMA aggregation performed considerably better than

Symposium: Recap: Forecasting the 2012 Election

either of these. At the same time it preserves information about the uncertainty of the ensemble average.

It seems easy to predict that ensemble averaging will continue to be a part of election forecasting, given Drew Linzer and Simon Jackman's success this year, as well as the accuracy and popularity of Nate Silver's efforts. Doubtless it will be advantageous—and fruitful—to continue to broaden the range of models included in the ensemble in the next symposium.

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2012 PRESIDENTIAL, US HOUSE, AND US SENATE FORECASTS

Carl E. Klarner, Indiana State University

For the second presidential election in a row no other forecast in the October *PS* election forecast symposium was closer to the actual vote than that of the "Klarner Model." This model forecast that Obama would receive 51.3% of the two-party vote, while he actually received 51.4%. The model also called all states correctly, with the exception of Florida, which was predicted to be narrowly lost by Obama with 49.7% of the vote. These forecasts were made on July 15, 2012. This success does not indicate the model is better than the other models in the symposium as luck is a major determinant of which model gets closest to the mark. Although the Klarner Model correctly called 49 out of 50 states, that means little in an election where merely calling states on the basis of 2008 results would have called all but two correctly.

Two other state-level presidential forecasting models were presented in the October *PS* election forecast symposium: that of Jerome and Jerome-Speziari (J&J), which called two states incorrectly, and that of Berry and Bickers (B&B), which called nine incorrectly. The accuracy of the J&J model for the national popular vote was essentially tied with the Klarner Model, while B&B were 4.3% off. If we stopped here, we could conclude that the J&J model did as well as the Klarner Model whereas the B&B Model did worse. However, all three models were equally unimpressive in one way, and the B&B Model brought information to the table that was not in a variety of other sources, as explained next.

Making accurate forecasts at the state level is a function of two things: correctly calling the national tide and correctly ordering Democratic success across states. One standard of how good a model is at ordering the states is determined by its ability to add prediction success to a variable measuring the percent of the vote obtained by the Democrat in the last election. Table 1

reports the results of five regressions, with the dependent variable in all being the 2012 Democratic percent of the two-party vote. All variables are centered around 50% to facilitate assessment of bias.

The first regression reported in table 1, in row two, indicates that the 2008 vote accurately ordered the states from most to least Democratic. When using the predictions from the three state-level forecasts as independent variables (rows three, four, and five), none perform better than lagged vote. The fifth regression in the table uses Nate Silver's November 5, 2012, state predictions as an independent variable as a useful summary of forecasts from polls immediately before Election Day: it only marginally improves on 2008 vote share in its ability to order states, but this indicates that it is possible to improve over prior vote share. When the four forecasting variables are added to a model with lagged vote share in turn, only those of B&B and Silver attain statistical significance (analyses not shown). Perhaps the care that B&B took in modeling state economic conditions yielded predictive capacity not found in other sources. When pitted against Silver's Election Eve forecasts, their forecasts still attained statistical significance ($p < .05$, analyses not shown).

Figure 1 reports the unstandardized regression coefficient from bivariate regressions of the state Democratic two-party vote on lagged vote share for each of the 17 elections from 1948 to 2012, but excluding the "one party" states not used in the prediction model (Klarner 2012, 655). The figure indicates that the impact has gone up over time, while prediction error (measured by the standard error of the estimate from those 17 regressions, not shown) has gone down, with lagged vote doing better at predicting current vote in 2012 than any other postwar election. This trend is what one would expect with the increased polarization of the electorate over time. These findings suggest that the longer time period used in the Klarner Model may have decreased its ability to order states correctly

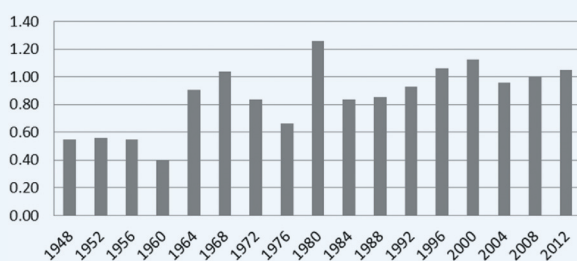
Table 1

Five Regressions Assessing the Relationship between 2012 State Democratic Vote, Forecasts, and Lagged Vote

| INDEPENDENT VARIABLE | INTERCEPT | INDEPENDENT VARIABLE COEFFICIENT | STANDARD ERROR OF THE ESTIMATE | R-SQUARED |
|------------------------|-------------------|----------------------------------|--------------------------------|-----------|
| Lagged Vote | -2.408* (.320) | 1.049* (.029) | 2.241 | .966 |
| Klarner Prediction | -.190 (.346) | 1.229* (.037) | 2.468 | .958 |
| J&J Prediction | -2.163* (.777) | 1.239* (.089) | 5.449 | .797 |
| B&B Prediction | 4.711* (.344) | 1.059* (.029) | 2.267 | .965 |
| Nate Silver Prediction | .151 (.264) | 1.049* (.024) | 1.882 | .976 |

Note: standard error in parentheses. * = $p < .05$. $N = 51$

Figure 1
Impact of Lagged Presidential Vote



from least to most Democratic, as it “overaggregates.” In contrast, the longer time period of the Klarner Model in comparison to the other two state level models may have helped it call the national tide more accurately. Combining the advantages of both will be a goal for 2016.

The Klarner state level US House Model predicted that the Republicans would pick up two seats and leave the Democrats with 191. Currently six seats are undecided, but Democrats have 195, and the Republicans have 233. Assuming that Democrats win half the undecided contests, this will leave them with 198, making the model 7 seats off. Therefore, the US House Model performed reasonably well, as it did in 2006 and 2008.

The Klarner state level US Senate Model did much worse. It predicted that after the election Democrats would have 48 seats (including Bernie Sanders), and the Republicans would have 51 (a forecast was not made for Maine). Actually, the Democrats were left with 54 seats, and the Republicans with 45, making the forecast six seats off. The Klarner US Senate Model has never performed well, being off by three seats in 2006 and five seats in 2008. US Senate elections appear to be influenced by race-specific factors that are difficult to include in forecasting models.

NOTE

1. 2012 vote percentage based on figures from <http://www.politico.com/2012-election/map/#/President/2012/>, accessed Nov 17, 2012 at 3:005 a.m. Eastern time. The summary table to the symposium incorrectly reported that the Klarner Model predicted 51.2% of the vote for Obama. Campbell's 2012 forecast was tied with the Klarner Model in accuracy. In 2008, the Klarner Model predicted Obama would receive 53.0% of the two-party vote while he received 53.4%.

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WHY THE STATE-BY-STATE POLITICAL ECONOMY MODEL DID IT RIGHT

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One hundred and forty two days before the 2012 US presidential election our final State-by-State Political-Economy Model gave an advantage to Barack Obama with 51.6% of the popular

vote (error margin ± 4.47) and 324 electoral votes (see *PS* 45 (4): 663–68). On November 6, 2012, with 51.6%¹ of the vote and 332 electoral votes, the Democratic incumbent wins a second term. Regarding certainty of an Obama plurality, the model gave a probability of victory by 64%. In 2012, it seems that this was enough to ensure a good predictability.

Thus, our model successfully predicted the correct Democratic/Republican balance of power. Moreover, this ratio was correctly forecast in 48 states (+DC) out of 50 (+DC) with the exceptions of Virginia (given to Republicans) and West Virginia (given to Democrats), for which an explanation of the gap between forecast and actual results should be provided. (See figure 1.)

Note that the model correctly predicted the results in the main battleground states such as Colorado, Florida, Iowa, and Ohio. At last, it has been sensitive enough to forecast that Indiana and North Carolina would return to the Republican side.

The vote predictions based mainly on economic determinants (local change in unemployment) and political determinants (president's job approval and parties' local partisan dynamics) helped to correctly predict the election's outcome.

If we decode our results, it seems that the change in unemployment—and not the level—was a decisive factor in the vote, more or less amplified depending on the states. From a 10% peak in October 2009, the unemployment decreased to 7.8% in October 2012 (this rate was the same when Barack Obama took office). It should be added that Obama succeeded in keeping afloat his popularity. Over the long term, from 68% satisfied at the beginning of his term, his popularity decreased to 56% in October 2009 before reaching 51% in November 2012 (Gallup poll).

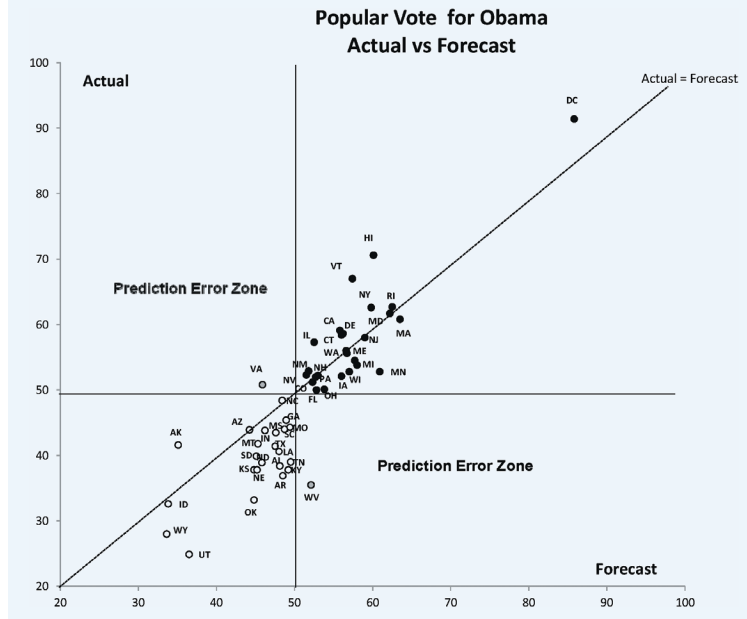
At least, since 2008, partisan dynamics across the states seem to have been particularly stable given that only Indiana and North Carolina flipped back compared to the previous election.

As regards exogenous parameters (e.g., not in the model) that could perturb it, it seems that “Obama's failure” in the first debate had no negative effect on the Democratic vote, neither was there a “Sandy” effect that might have had a particular impact within some kind of Rally-around-the-Flag effect. Similarly, the likelihood of an “anti Obama” referendum and the Romney's slogan “are you better off than four years ago” seem not to have been decisive, nor a “racial cost” possibly offset by the growth in the population of visible minorities and their high level of participation once again.

Finally, even if we obtained a very satisfactory performance, how could we improve our model to do even better in 2016?

First, we certainly have to pay more attention to two states, Virginia and West Virginia. First, in Virginia, the model failed because the partisan dynamics variable (establishing this state as a solid historical Republican stronghold) did not capture the silent change in the Virginian electoral sociology (in suburban areas especially). This means that the components of our state-level partisan dynamics index, which performs rather well but is still a black box, need to be more precisely measured. Second, the error on West Virginia comes from our Job Approval Index, measured at a national level, which overestimated Obama's popularity in a state where the incumbent has

Symposium: Recap: Forecasting the 2012 Election

Figure 1**State-by-State Political Economy Model Forecast for 2012 US Presidential Election**

one of the worst job's approvals at a state level (32.7% according to Gallup) after Oklahoma, Utah, Idaho, and Wyoming. This suggests we should experiment the insertion of state-level job's approvals in our model if available in each state in the long run.

As a whole, subject to these limitations, unlike other forecasting methods, our State-by-State Political Economy Model correctly meets the main criteria of Lewis-Beck Quality Index,² that is, lead time, accuracy, reproducibility, and parsimony (see Michael Lewis-Beck, 2005).

NOTES

1. On the basis of a counting ended on 19 November 2012 (Two Party Popular Vote).
2. Our estimation of Q is 0.85. Maximum = 1.

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FORECASTING THE 2012 ELECTION WITH STATE-LEVEL ECONOMIC INDICATORS: A POSTMORTEM

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Our State-Level Economic Model incorrectly forecast the outcome of the presidential election. The model's projections were based on the two-party vote in the prior election, the

status of the incumbent party in the election/re-election cycle, national and state unemployment rates, and changes in real per capita personal income levels for state residents. Even before the Republican nomination process began, President Obama's success in the 2008 campaign coupled with the electoral advantage typically enjoyed by first-term incumbents bode well for his reelection chances. However, by the arrival of the fall campaign, unemployment remained high and income growth was stagnant, meaning that the president faced significant economic headwinds. Our estimates indicated that Governor Romney would carry most of the battleground states. We were wrong. President Obama carried all but one of them.

When Obama's two-party vote percentage is regressed on the estimates published in this journal's October issue, we find a fairly consistent over-performance of the president relative to our forecast. Specifically, this regression produces a Y-intercept of 1.77 (t -value = 1.30) and a slope of 1.06 (t -value = 36.44) with an R-squared of 0.964. This result suggests that current economic conditions did not pull down the president's vote share by as much as our model anticipated.

Surely many explanations can account for our inaccurate forecast. Among the first to consider is the model's underlying assumption that a poorly performing economy will generally erode the vote received by the in-party candidate as voters grow more concerned about economic conditions. By a variety of economic indicators, it was apparent that the economy was underperforming relative to prior election cycles at the time of the 2012 campaign.

When asked by exit pollsters about the nation's current economic condition, three out of every four voters responded that it was either "poor" (31%) or "not so good" (45%). Such an unfavorable perception of the economy by a large subset of the electorate should generally benefit the out-party candidate. However, when asked which candidate would better handle the economy, voters were nearly perfectly divided. Forty-nine percent trusted Romney to do a better job on economic issues, while 48% preferred the president.

Although the economy was by far the issue of most importance among voters in this election, exit poll data from this year's election also revealed that a majority of voters did not blame the Obama administration for the poor economy. According to responses from a question asking whether President Obama or President George W. Bush was more to blame for the country's current economic problems, 53% stated that President Bush bore most of the responsibility. Only 38% considered the incumbent president responsible. Thus, despite the salience of the economy in this election and the generally negative impression of the current economy held by most voters, the even bifurcation of the electorate regarding which candidate would better handle the economy further neutralized what should have been an inherent advantage for the Romney campaign. ■

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