Forecasting the Presidential Vote with Leading Economic Indicators and the Polls

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INTRODUCTION

For the past five presidential elections, we have reported the results of forecasting models predicting the vote from two variables: a poll-based indicator and a measure based on the Conference Board's Index of Leading Economic Indicators (LEI). For 1996 and 2000, our poll measure was presidential approval (Wlezien and Erikson 1996; 2001). Starting with 2004, we substituted trial-heat polls (Wlezien and Erikson 2004; Erikson and Wlezien 2008; 2012a). The economic measure is the weighted average of quarterly growth in LEI where each quarterly reading is weighted 0.80 times the one for the following quarter.[1] Our attention is on the cumulative weighted growth in Leading Indicators through the thirteenth quarter of the election cycle, the first quarter of the election year. For shorthand we refer to this measure as "cumulative LEI growth."

Measured in Quarter 13, cumulative LEI growth represents both the economy as it has occurred over the election cycle and also the expected economy for the remainder of the election year. That is, leading economic indicators really do work, and forecast economic growth. Our cumulative LEI growth measure nicely taps economic trends as the election approaches, with the virtue of being measurable in advance (Wlezien and Erikson 1996). Indeed Quarter 13 cumulative LEI beats Quarter 15 measures of both cumulative per capita income growth and the Survey of Consumers' mean perception of the past year's economic growth as predictors of the November vote (see Erikson and Wlezien 2012a).[2]

LEADING ECONOMIC INDICATORS ALLOW EARLY ELECTION FORECASTS

As the timeline of the campaign progresses, presidential elections are easier to predict from economic indicators and polls measured at the moment.[3] One way to increase prediction accuracy would be to obtain early warnings about the values of the predictor variables. The Index of Leading Economic Indicators (LEI) serves this purpose. Our measure of cumulative LEI growth through the spring of the election year incorporates the objective economy up to that point and offers (imperfect) information about upcoming economic change. This, in turn, allows advance indication of changes in presidential approval (Wlezien and Erikson 1996). Further, with LEI growth controlled, the predictive power of early trial-heat poll results increases as a manifestation of non-economic issues on the outcome.[4]

Table 1 presents the details for equations predicting the incumbent party vote from 1952 through 2012. Four models are presented, one for each quarter of the election year during which we measure the trial-heat polls. Cumulative LEI growth is fixed at its value for Quarter 13—the first quarter of the election year—in all models.[5] The table shows that regardless of the quarter we measure trial-heat polls, both cumulative LEI growth and trial-heat polls are statistically significant as predictors. With time, the polls grow and LEI growth recedes in terms of predictive value. When trial-heat polls are measured in quarters 13 or 14, cumulative LEI growth through winter (January, February, March) tells more about the vote in November than do contemporary trial-heat polls.[6] By Quarter 15, trial-heat polls overtake cumulative LEI growth, but even then the measure of cumulative LEI growth from Quarter 13 adds some predictive power.

The value of the model is early prediction. For the past five presidential elections, we have used our model (as updated at that time) to predict the November vote using only Quarter 13 cumulative LEI growth and either presidential approval or trial-heat polls from Quarter 15. Our public forecasts have been close, picking the correct popular vote winner each time with an average absolute error of 1.6 percentage points of the two-party vote.[7]

Time for a Change?

Notably, our model ignores the number of years the presidential party has held office, given that the presidential party historically has won more often when in office only four years rather than longer.[8] We could incorporate Abramowitz's (1988) "time for a change" variable which takes the value "1" if a party has held the White House for eight or more years and "0" otherwise. If we predict the vote from only "time for a change" plus cumulative LEI Growth, the "time for a change" dummy achieves statistical significance, consistent with a mild penalty (apart from the economy) for being in power too long. However, when we add trial-heat polls to the model, the polls absorb the demand for change in advance of the election. The time for a change effect is already becoming apparent in the polls from the first quarter of the election year, and is fully absorbed in voter preferences before the fall general election campaign begins.

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For purposes of full information, we report in a footnote below predictions for 2016 when the variable is included in the model.

PREDICTING 2016 USING LEADING INDICATORS AND QUARTER 14 POLLS

What does our model suggest for 2016? For 2016, cumulative LEI growth is 0.22, just slightly below the average of 0.23 over the 16 elections between 1952 and 2012. Using RealClearPolitics.com, Quarter 14 Clinton-vs.-Trump trial-heat polls average 54.2% for Clinton. Plugging in our model from table 1 with trial-heat polls measured for Quarter 14 yields 52.2% as Hillary Clinton's predicted share of the two-party vote in 2016, which is only a little more than we predict (51.8%) with LEI growth alone. Based on the standard *forecast* error, the estimate implies a 76% chance of a Clinton popular vote victory.[9] Now, as of this writing (July and August, 2016), we actually are into Quarter 15 and so have more recent poll readings that we can incorporate. That we are in the midst of the party conventions requires us to pay special attention to timing, as these events are known to cause large swings in electoral preferences.

PREDICTING FROM LEADING INDICATORS PLUS POLLS BEFORE AND AFTER THE CONVENTIONS

In recent election years, the national party conventions were held in August or even into September. In 2016 they occurred in July, the earliest in the calendar since 1960. Historically, the conventions have considerable impact, with the leader in the polls afterward almost always winning the election (Erikson and Wlezien 2012b). This can be seen in table 2, which displays poll shares for the incumbent party candidate from one week before the first convention and then two weeks after the second convention, along with the final vote.[10] There we can see that the leader in the polls before the conventions ultimately won the popular vote in 11 of the 16 elections; after the conventions, the leader won the popular vote in every year, bearing in mind that the polls were tied in 1980.

The conventions clearly can meaningfully impact the polls and the election outcome, and so we need to take into the account the timing of polls. Table 3 shows the resulting pre- and post-conventions equations. As indicated by the *R*-squareds, predictability increases using post-convention polls. Prior to the conventions, cumulative LEI growth is the strongest predictor. Afterwards, the polls dominate. (Also see Holbrook 1996; Campbell 2008.) One interpretation is that the conventions help to clarify for the voters the fundamentals that drive the election, and an important aspect of these fundamentals is the state of the economy, which our cumulative LEI measure reveals in advance.[11]

Table 4 shows the out-of-sample forecasts using the two models, and here we can see that the model performs well before the conventions, "forecasting" the correct winner in 13 of 16 cases, which is slightly better than what we obtain using raw polls (11 of 16, per table 2). The post-conventions model works better still, correctly predicting the popular vote winner in all 16 elections since 1952.

Table 1

Predicting the Presidential Vote during the Election Year, 1952–2012

	Quarter of the Election Cycle			
	13	14	15	16
Intercept	35.10**	35.82**	27.31**	21.26**
	(5.86)	(4.12)	(3.08)	(3.01)
Cumulative LEI	10.93**	9.29**	6.11**	5.07**
Growth, Quarter 13	(2.54)	(2.47)	(1.64)	(1.37)
Trial Heat	0.26*	0.27**	0.45**	0.56**
Poll Results	(0.10)	(0.08)	(0.06)	(0.06)
R-squared	0.71	0.77	0.91	0.94
Adjusted *R*-squared	0.66	0.73	0.90	0.94
Standard Error of the Estimate	3.17	2.91	1.77	1.42
Number of Cases	15	16	16	16

Note: Numbers in parentheses are standard errors. Cumulative LEI Growth = summed weighted growth in leading economic indicators through quarter 13 of the election cycle, with each quarter weighted .8 times the following quarter. Trial-heat poll results are for the quarter (13 through 16) indicated, and are missing in the first quarter of 1952, leaving 15 cases for analysis in the Quarter 13 model.
*p < .05; **p < .01 (two-tailed).

Table 2

Incumbent Party Candidate Poll Shares Before and After The Conventions, 1952–2012

Election Year	Before Conventions	After Conventions	Final Vote
1952	34.4	40.9	44.6
1956	58.2	54.1	57.8
1960	47.3	47.9	49.9
1964	79.2	69.8	61.3
1968	53.2	44.3	49.6
1972	58.4	64.9	61.8
1976	40.4	42.3	48.9
1980	42.9	50.0	44.7
1984	56.8	61.1	59.2
1988	46.7	53.0	53.9
1992	52.9	43.8	46.5
1996	63.2	58.1	54.7
2000	47.4	54.3	50.3
2004	49.2	53.1	51.3
2008	49.2	48.5	46.3
2012	50.3	51.5	51.9

Note: Numbers are two-party poll share averages one week prior to the first convention, and two weeks after the second convention, from Erikson and Wlezien (2012b) and Erikson and Wlezien (2014).

So, what did our model say about 2016 before the conventions began? Our 2016 pre-conventions trial-heat reading, from RealClearPolitics.com is 51.5% of the two-party vote for Clinton. Plugging into our pre-conventions equation in table 3 predicts 52.0% for Clinton, with a probability of winning of .72. This is only slightly less than what we forecasted in early-June, as discussed above.

What about after the conventions? For the polls centered on dates August 9-16, fully two weeks after the Democratic convention ended, the one available poll (from PEW) indicates 52.6% for Clinton.[12] Inserting the number into our post-conventions equation in table 3 predicts 52.0% for Clinton, with a probability of victory of .82. Once again, this is little changed from what we predicted prior to the conventions and also earlier, in June. Our electoral expectations have remained quite stable.

Table 4

Summary Statistics for Out-of-Sample Forecasts Using Pre- and Post-Convention Polls, 1952–2012

	Timing of Polls	
	One week before First Convention	Two weeks after Second Convention
Mean Absolute Error	2.4	1.7
Standard Error	1.9	1.5
Predictive Accuracy	13/16	16/16

Note: For each of the pre- and post-convention periods, the out-of-sample forecast for each election year represents the vote predicted from an estimated model that excludes the particular year. Predictive accuracy is the number of elections in which the equation "forecasts" the popular vote winner.

CONCLUSIONS

Our forecast model based on trial-heat polls and the cumulative growth in Leading Economic Indicators predicts a victory for Hillary Clinton over Donald Trump when polls are averaged for the second quarter of the election year or when polls are measured shortly after the second of the two national conventions. We underscore the chief advantage of our model, namely that exploiting LEI growth through the start of the election year allows earlier prediction than many other models, indeed, once first quarter numbers are released.[13] By election eve, the best bet is to follow the polls, keeping in mind that the economic trends tapped by our measure of early LEI growth tend to impact things even then, if only a little.

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Table 3

Predicting the Presidential Vote Before and After the Conventions, 1952–2012

	Timing of Polls	
	One week before First Convention	Two weeks after Second Convention
Intercept	35.35**	26.41**
	(4.13)	(3.85)
Cumulative LEI	8.21**	6.64**
Growth, Quarter 13	(2.57)	(1.87)
Trial Heat	0.28**	0.46**
Poll Results	(0.08)	(0.08)
R-squared	0.77	0.89
Adjusted *R*-squared	0.74	0.87
Standard Error of the Estimate	2.86	2.03

Note: $N = 16$. Numbers in parentheses are standard errors. Cumulative LEI Growth = summed weighted growth in leading economic indicators through quarter 13 of the election cycle, with each quarter weighted .8 times the following quarter. Trial-heat poll results are for the week prior to the first party convention and for two weeks after the second convention, as indicated.
**p < .01 (two-tailed)

We close with an obvious caveat about forecasting the presidential vote in the unique election of 2016. The theoretical underpinning of forecasting models is bolstered by arguments that each party runs a typical campaign that is supported by party elites. Donald Trump's surprising candidacy can instill a premonition of greater uncertainty—and a larger error term—in 2016 than normal. Our model partially captures a Trump effect by the incorporation of trial-heat polls, which reflect Trump's support at the moment. With trial-heat polls in the equation, the error term represents the effects of cumulative campaign shocks from the date of the poll to Election Day. The possibility of greater campaign effects than we typically observe should constrain our confidence in the predictions presented here. ■

NOTES

1. In some of our earliest forecasts, we weighted each quarterly reading 0.90 times that of the next quarter, but discovered prior to the 2012 election that 0.80 works best for predicting the presidential vote (see Erikson and Wlezien 2012a). Thus, LEI growth in quarter 13 counts approximately fourteen times ($1/.8^{12}$) as much as LEI growth in the first quarter of the president's term. We sum the weighted quarterly growth rates through quarter 13 and then calculate the average. To calculate the average, we divide the sum of the weighted growth rates by the sum of the weights for the thirteen quarters, not the number of quarters (13) itself. (The sum of quarterly weights is 4.73.) More details of our procedure can be found in the appendix of Erikson and Wlezien (2012a).

2. Note that separate analysis indicates that cumulative LEI growth through the 12th quarter of the cycle—the final quarter of the year before the election year—works just as well, and this offers an even earlier forecast of the economy and the presidential vote.
3. See Erikson and Wlezien (2012b) for details.
4. All of the trial poll data used here are drawn from Erikson and Wlezien (2012b; 2014) and are available at: http://liberalarts.utexas.edu/government/faculty/profile.php?id=cw26629#datasets.
5. Consistent with its value for tapping the future, cumulative LEI growth predicts the vote best when measured through Quarter 13 rather than subsequent quarters (Wlezien and Erikson 1996), though also see footnote 2 above.
6. As an indicator of predictive value, the *t*-value (coefficient divided by standard error) is greater for cumulative LEI growth than for trial-heat polls in Quarters 13 and 14.
7. Our one major prediction error was 2000, an election that foiled all forecasters. We overestimated the Gore vote by 5.2 points. (In that year, we used presidential approval as our indicator of public opinion; using trial-heat polls, as we have since, the forecast error would have been a smaller, but still a sizable 3.7 points.) Our other forecasts using LEI were much better, producing an absolute error of under 1.0 in three years—in 1996, 2000, and 2012—and a middling error of 1.5 points in 2008.
8. The "time for a change" pattern may be better known as the "cost of ruling" effect, and holds fairly generally across countries and periods of time (Paldam 1986; Nannestad and Paldam 2002; Budge et al. 2012; Cuzán 2015).
9. When time for a change is included, the Clinton vote forecast drops to 51.2% and the probability of winning to .65, though note that the variable is a decidedly insignificant (p = .35) predictor.
10. The pre-convention measure is for the week ending the Monday before the start of the first convention. The post-convention measure is for the week starting the second Tuesday after the second convention. Only live-interviewer polls are included. Where data are missing for some years (no polling in the designated week), we substitute the most recent poll (pre-conventions) or the next poll (post-conventions). The data of the poll is always the midpoint of the reported polling period. See Erikson and Wlezien (2012b).
11. Consistent with our earlier discussion, the number of terms for the presidential party is not a factor here since its influence is absorbed in the polls. With post-election trial heat polls in the model, the significance level for the time-for-a-change dummy variable is .98.
12. Per our past practice, we only consider live-interview polls, which rules out Internet polls and others, which are slightly more favorable for Clinton, e.g., the RealClearPolitics average on August 22 implies a 53.1% share.
13. And as noted above, one obtains about the same forecasting leverage from LEI growth cumulated only through the previous year.

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