SYMPOSIUM

The Referendum Model: A 2010 Congressional Forecast

Michael S. Lewis-Beck, *University of Iowa*
Charles Tien, *Hunter College and the Graduate Center, CUNY*

Congressional election forecasting has experienced steady growth. Currently fashionable models stress prediction over explanation. The independent variables do not offer a substantive account of the election outcome. Instead, these variables are *tracking* variables—that is, indicators that may trace the result but fail to explain it. The outstanding example is the generic ballot measure, which asks respondents for whom they plan to vote in the upcoming congressional race. While this variable correlates highly with presidential party House seat share, it is bereft of substance. The generic ballot measure is the archetypical tracking variable, and it holds pride of place in the Abramowitz (2010) model. Other examples of such tracking variables are exposed seats or lagged seats, features of the Campbell (2010) model. The difficulty with such tracking models is twofold. First, they are not based on a theory of the congressional vote. Second, because they are predictive models, they offer a suboptimal forecasting instrument when compared to models specified according to strong theory.

Since embarking on House election forecasting, we have been strongly committed to the use of established voting behavior theory for model formulation (Lewis-Beck and Rice 1984). In a book on the subject, Lewis-Beck and Rice argued that "future improvements in election forecasting will come increasingly from explorations and testing of voting theory" (1992, 141). Later work claimed that "forecasting requires more than curve-fitting. It wants good theory" (Lewis-Beck and Tien 2000, 98). For theory, a model developed over 25 years ago by Lewis-Beck and Rice relies on a referendum model inspired by the classic work of Tufte (1978). That model holds House seat change in a midterm context to be a function of national economic and political forces (Lewis-Beck and Rice 1984). Forecasts from it have been released subsequently. This model's most recent success came with the 2006 midterm, for which its forecast was virtually without error (i.e., it forecast a White House seat loss of 32 seats, and real seat loss was 31 seats). In the following sections, we apply the model to the 2010 midterm.

CONGRESSIONAL VOTE THEORY: THE REFERENDUM MODEL

In the original statement of the referendum theory, Tufte noted that "overall election outcomes represent a referendum on the incumbent administration's handling of the economy and of other issues" (1978, 106). His empirical evidence came from a midterm regression equation ($N = 8$) that regressed a standardized House vote dependent variable on two independent variables, presidential approval and per capita disposable income, $R^2 = .825$ (Tufte 1978, 108–13). This simple model meets our criterion, originally laid down elsewhere, that "the variables in the models must measure, at least by proxy, what we know for sure about voter decision-making" (Lewis-Beck and Tien 2008, 230). For example, we know that the economy matters for voters (for literature reviews, see Lewis-Beck and Stegmaier 2000 and Lewis-Beck and Stegmaier 2007), and we know that other political issues matter for voters (Lewis-Beck et al. 2008, chapter 8). These two variables constitute a political economy theory of the congressional vote. As we have argued elsewhere, we consider this strong theoretical core to be inviolate (Lewis-Beck and Tien 2008, 230). That is, while other variables in the model specification may provoke a quarrel, economics and popularity should not.

In words, our referendum model says:

$$\text{House Seat Change} = \text{Economy} + \text{Popularity} + \text{Midterm} \quad (1)$$

ESTIMATING THE REFERENDUM MODEL

Operationalizing the model required changes from the Tufte (1978) approach. First, his dependent variable was a standardized vote averaged over eight contests. Second, income change was measured over the whole election year. Third, presidential approval was measured just before the election. Fourth, the analysis was restricted to midterm contests. These specifications were changed, leading to the following,

$$\text{House Seat Change} = \text{Disposable Income}_{t-1} + \text{Presidential Approval}_{t-1} + \text{Midterm}_{t} \quad (2)$$

The dependent variable is a simple change score of presidential party seats. The independent variables, disposable income and presidential approval, are widely used in aggregate time series models of U.S. congressional races. They are measured at a lag sufficient to produce a forecast well in advance of the contest. The midterm dummy variable captures the well-known tendency for the president's party to lose seats in off-years.

The results, with variables operationalized and coefficients estimated (OLS), are shown in equation 3:

$$S = \underset{}{-41.94^{*}} + \underset{(3.43)}{5.82^{*}}\,I + \underset{(3.48)}{.73^{*}}\,P - \underset{(3.08)}{26.29^{*}}\,M + \underset{(-4.20)}{e}$$

$$R^2 = .63, \text{adj. } R^2 = .59, \text{SEE} = 16.99, \text{D-W} = 2.09, N = 31 \quad (3)$$

where S = seat change in the House of Representatives for the president's party, I = change in real disposable income during

doi:10.1017/S1049096510001071

https://doi.org/10.1017/S1049096510001071 Published online by Cambridge University Press

the first six months of the election year, P = Gallup presidential popularity rating in June of the election year, M = midterm dummy (0 = presidential election year, 1 = midterm election year), figures in parentheses are *t*-scores, * = statistical significance beyond .05, R^2 = coefficient of multiple determination, adj. R^2 = adjusted coefficient of multiple determination, SEE = standard error of estimate, D-W = Durbin-Watson statistic, and *N* = elections between 1948 and 2008.

A FORECAST FOR THE HOUSE FOR 2010

To estimate seat change for 2010, we simply plug in the relevant numbers: I = 2.03, P = 47, and M = 1.

$$S_{2010} = -41.94 + 5.82\ (2.03) + .73\ (47) - 26.29\ (1) \qquad (4)$$

which leaves –22 Democratic seats.

The forecast, then, shows Democratic losses, but not great Democratic losses. This loss, for example, would not be nearly as great as the Democratic loss of 54 seats in 1994. Instead, this predicted number comes close to the actual Republican loss of 31 seats in 2006 and 25 seats in 1982.

MODEL DIAGNOSTICS

There are multiple ways to diagnose the performance of our referendum model. First, we can adopt a traditional approach. The coefficients are all in the expected direction and are easily statistically significant. The fit statistics—the R^2 and the SEE—are reasonable as well. At first blush, one could raise a concern that the fit is not tighter; however, this is not a special worry here because of the strong theory that undergirds the model. A marker can be found by comparison of the coefficients to an early version of the model, estimated on data only through 1990: I = 6.20, P = .60, M = 29.08 (Lewis-Beck and Rice 1992, 63). Note that these magnitudes are quite similar to those shown in equation 3. We thus suggest that the model is properly specified, with unbiased estimates of the underlying parameters, and data-mining avoided. Moreover, this model meets Campbell's standard: "Model stability (the constancy of model specification from one election to the next) must be a goal of election forecasting" (2004, 735).

Beyond such evidence, one can examine the step-ahead forecasts. The errors, from sequentially dropping out the last election in the series and asking the model to forecast it are: 1994 = 21, 1996 = 2, 1998 = 24, 2000 = 11, 2002 = 16, 2004 = 21, 2006 = 1, and 2008 = 11. The average error over this series equals 13. Let us take the extreme possibility and posit that our model underestimated Democratic losses by the full 13. In that case, Democratic losses would climb to 35 seats, still short of a Republican takeover. We believe this extreme scenario to be very unlikely to occur. In sum, the Democrats should keep their House majority.

CONCLUSIONS

We argue that forecasting models derived from theory are to be favored over those models that are derived from fit, including those that we have dubbed tracking models. Models that aim at explanation rather than prediction should accomplish the task of prediction better. The referendum model we offer derives from strong theory about the workings of the political economy during elections. Congressional voters perceive how the president and his party are handling the major economic and political issues of the day. If they approve, they stay with his party at the ballot box; if they do not, they vote against his party. At the time of midterms, the electorate's assessment is especially critical, meaning the president's party almost never escapes heavy additional punishment. In 2010, these forces have all come together in negative ways, foretelling a Democratic loss of 22 seats. While serious, this outcome is not as serious as it could be, as this number allows the Democrats to retain their majority in the House. Given the difficulties of the times, Obama and the Democrats could do worse. ■

REFERENCES

Abramowitz, Alan. 2010. "How Large a Wave? Using the Generic Ballot to Forecast the 2010 Midterm Elections." *PS: Political Science and Politics* 43 (4): 631–32.

Campbell, James E. 2004. "Introduction—The 2004 Presidential Election Forecasts." *PS: Political Science and Politics* 37: 733–35.

Campbell, James E. 2010. "The Seats in Trouble Forecast of the 2010 Elections in the U.S. House." *PS: Political Science and Politics* 43 (4): 627–30.

Lewis-Beck, Michael S., William Jacoby, Helmut Norpoth, and Herbert Weisberg. 2008. *The American Voter Revisited.* Ann Arbor: University of Michigan Press.

Lewis-Beck, Michael S., and Tom W. Rice. 1984. "Forecasting Presidential Elections: A Comparison of Naive Models." *Political Behavior* 6: 9–21.

———. 1992. *Forecasting Elections.* Washington, DC: Congressional Quarterly Press.

Lewis-Beck, Michael S., and Mary Stegmaier. 2000. "Economic Determinants of Electoral Outcomes." *Annual Review of Political Science* 3: 183–219.

———. 2007. "Economic Models of Voting." In *The Oxford Handbook of Political Behavior*, ed. Russell J. Dalton and Hans-Dieter Klingeman, 518–37. New York: Oxford University Press.

Lewis-Beck, Michael S., and Charles Tien. 2000. "The Future in Forecasting: Prospective Presidential Models after the 1996 Election." In *Before the Vote: Forecasting American National Elections*, ed. Jim Campbell and James C. Garand, 83–102. Thousand Oaks, CA: Sage.

———. 2008. "Forecasting Presidential Elections: When to Change the Model?" *International Journal of Forecasting* 24 (2): 227–36.

Tufte, Edward R. 1978. *Political Control of the Economy.* Princeton, NJ: Princeton University Press.

https://doi.org/10.1017/S1049096510001071 Published online by Cambridge University Press