[Ensemble Predictions of the 2012 US Presidential Elections]

Jacob Montgomery, Washington University St Louis   
Florian Hollenbach, Duke University   
Michael D. Ward, Duke University

Since at least 1996 political scientists have been comparing true out-of-sample predictions of Presidential elections, and since the 2004 Presidential election this journal has presented comparisons of them, published prior to the election. The spirit of these symposia has generally been to use the validation of correct predictions to additionally garner bragging rights about which model is best in the sense that it accurately captures a story—also known as a theory—about the contexts and determinants of electoral behavior. Alfred Cuzán focuses his model on the effects of fiscal expansion as a policy that is likely drive voters away from the incumbent and toward the challenger. The point of all of these models is to develop the best model of the underlying data generating process. One heuristic is how well they do in predicting the electoral results in upcoming elections. An added bonus of having the most accurate predictions is bragging rights about the quality, accuracy, and beauty of the model.

Different models are built with different insights. For example, developed by Douglas Hibbs, the 'Bread and Peace' model argues that the aggregate votes for the president in postwar U.S. elections are well explained by just two fundamental determinants: (1) weighted-average growth of per capita real disposable personal income over the term, and (2) cumulative US military fatalities owing to unprovoked, hostile deployments of American armed forces in foreign wars.

Our approach is entirely different. Rather than search for the best model, the best theory, the best insight, we instead are looking for the best prediction. Our approach can be thought of as predictive analytics, but quite simply we want to have the most accurate out-of-sample predictions. To do this, without creating a new theory or introducing a new specification, we rely on the insights of the extant models. We believe that each of these models captures an important set of insights about US electoral behavior, and each has been rigorously tested not only statistically, but also via a predictive heuristic. Therefore, our approach will attempt to combine the insights of each model into a single predictive model. It doesn’t matter to our approach if one model ``substantively’’ refutes another. All that matters is that they provide electoral predictions in previous elections.

The approach we use is called “Ensemble Bayesian Model Averaging,” or EBMA. EBMA was developed recently in the field of weather forecasting as a way of improving predictions by aggregating across models. Some weather models might be better at predicting “normal” weather patterns, and others better for rapidly changing conditions, for example. By averaging over these the overall prediction will be more accurate, even without having chosen the “best model.”

More technically, EBMA works in the following way. …Jacob…you have two pages if you want to take a shot at it.

About the authors

Jacob Montgomery is an Assistant Professor in the Department of Political Science at Washington University in St. Louis and a Fellow at the Center for Political Economy.  His research is in the areas of political methodology and American politics, with a special interest in political parties.  He teaches courses on statistical methods, experimental methods, and American political parties. He graduated with a B.A. from Wake Forest University with majors in Political Science and Mathematical Economics.  He earned an M.S. in Statistical Science, as well as his Ph.D. (2011) in Political Science from Duke University.

Florian Hollenbach is a PhD student with a focus in Political Economy and Methods. His current interests are the political economy of taxation, redistribution as well as state capacity and revenue extraction in developing countries. Additional interests include applied statistics and economic development.

Michael D. Ward is Professor of Political Science at Duke University. His primary interests focus on developing predictive models of political phenomena. His Ph. D. (1977) is from the home of political science forecasting, Northwestern University.