

## Market Forecasting using NLS Regression

The file "Election 2016 Data.xls" contains election results by state for the U.S. Presidential election between Trump and Clinton in 2016.

- 1. What is the correlation among the various independent x-variables? Are there any combinations of variables that might cause problems if included together in a model?
- 2. Mathematically write out a potential regression model that would predict voter turnout.
- 3. In Excel, use the Regression tool to estimate this model.
- 4. In Excel, use the Solver tool to obtain the same estimates via non-linear least squares (NLS) estimation. How do these estimates compare to those obtained from the Regression tool?
- 5. Please calculate the mean absolute percentage error (MAPE) using the estimates obtained from NLS.
- 6. Can we treat the 2008 elections as a calibration sample to try and forecast the 2016 results? Why or why not?