Election Data

We collected data on the total number of votes cast in the 1980 presidential election per county (VOTES), the population in each county of 18 years of age or older (POP), the population in each county with a 12th grade or higher education (EDUCATION), the number of owner-occupied housing units (HOUSES), and the aggregate income (INCOME).

We elected to examine the log of the proportion of votes cast for both candidates in the 1980 presidential election. Hence, we can express our dependent variable as ln(PRVOTES)=ln(VOTES/POP)=ln(VOTES)–ln(POP). We fit the following model via OLS:

$$\ln(\text{PRVOTES}) = \ln(\text{POP})\beta_1 + \ln(\text{EDUCATION})\beta_2 + \ln(\text{HOUSES})\beta_3 + \ln(\text{INCOME})\beta_4 + C + \varepsilon$$

where C is an intercept. Hence, there are four non-constant variables and they appear in this order in xsub.mat. The dependent variable appears in y.mat, and the locational coordinates appear in xcoord.mat and ycoord.mat. The locational coordinates are in signed decimal degrees.

References

Pace, R. Kelley, and Ronald Barry. (1997) "Quick Computation of Regressions with a Spatially Autoregressive Dependent Variable," *Geographical Analysis* 29, 232-247.