

IN THE UNITED STATES DISTRICT COURT
 FOR THE DISTRICT OF SOUTH CAROLINA
 COLUMBIA DIVISION

R.O. Levy and Betty A. Etheredge,)	
)	C/A No.: 3:03-3093-MBS
Plaintiffs,)	
)	
v.)	
)	ORDER
Lexington County, South Carolina,)	
School District Three Board of Trustees;)	
and Elton Wilson, in his official capacity)	
as Chair of the Lexington County)	
Registration and Election Commission,)	
)	
Defendants.)	
_____)	

The parties’ respective experts are directed to respond no later than September 30, 2011 to the following questions propounded by the court:

1. All of the estimation methods used by the experts assume the absence of what is sometimes called “aggregation bias.” The lack of aggregation bias implies:

- the precinct-specific fraction of blacks who support a particular candidate in a particular election is not systematically related to the precinct-specific fraction of voters who are white (or black) in that election.
- the precinct-specific fraction of whites who support a particular candidate in a particular election is not systematically related to the precinct-specific fraction of voters who are white (or black) in that election.

Are there reasons to believe that either (or both) of these conditions are not satisfied for some race, candidate, precinct, and/or election combinations? If there are reasons to believe that these conditions are not satisfied for all precincts in a particular election, are there reasons to believe that

these conditions are satisfied, at least approximately, for a subset of the precincts in the election in question? If so, what are these precincts and what can be inferred about black and white voting behavior in these “no aggregation bias” precincts? More specifically, is it appropriate to use ecological regression for the subset of precincts that satisfy the assumptions underlying ecological regression in a particular election? Could the resulting estimates be combined with the observed aggregate data from the precinct(s) left out of the regression analysis to make inferences about black and white support for candidates in the district as a whole?

2. What is the precise scientific justification for performing ecological regression using weighted least squares with weights based on the size of the voting population in each precincts? Please justify the use of weighted least squares in light of criticisms of such an approach raised by King (1997).¹ If weighted least squares is not justified in the context of this case, new estimates of the relevant quantities of interest (black and white support for the various School District Three candidates) should be computed using regression models, such as ordinary least squares regression, MM-regression, etc., that do not differentially weight observations based on the size of the voting population.

IT IS SO ORDERED.

/s/ Margaret B. Seymour
United States District Judge

Columbia, South Carolina

September 9, 2011

¹ King, Gary. 1997. A Solution to the Ecological Inference Problem. Princeton NJ: Princeton University Press 60-65.