

June 5, 2002

Dr. Rita Colwell, Director  
National Science Foundation  
4201 Wilson Blvd.  
Arlington, VA 22230

Dear Dr. Colwell

I appreciate the review of our concerns by the NSF Inspector General's Office. Yet public oversight hearings by the National Science Board, concerning problems of derailment and stagnation in NSF-supported social science, would be advisable as a next step. [ . . . ]

#### The Importance of Statistical Controls

Following-up my letter of May 8, may I raise one additional specific area, that I hope NSB hearings can clarify?

Economic modeling typically uses the statistical technique of regression analysis. However, when relevant variables are missing from an equation, or poorly estimated, the values of coefficients for the included variables may be too high, too low, and even inaccurately change their sign. And regression results can be highly sensitive to measurement error. (In the bivariate case, random measurement error in the independent variable always will bias the regression coefficient toward zero.)

Thus, excluding relevant variables across twenty years, NSF's agents (Dr. Alberts et al.) have destroyed the integrity and potential reliability of NSF- and other government-supported research in macro-economics. All the results have become (and continue to be) uninterpretable and may be inaccurate or wrong. The problem affects estimates of economic growth; of tax revenues and deficits; of the Social Security Trust Fund; of fiscal, monetary, and other policy options.

It would be outrageous if the Director of the National Cancer Institute

decided to dispense with experimental controls/clinical trials. Is there a deeper problem - that statistical controls and standards for the social sciences are not taken seriously?

Alternatively, the National Science Board may find that the problem is inadequate scientific backgrounds. It strikes me that none of the scientists involved are trained in econometrics - Luce (psychology), Smelser (sociology, but mostly verbal), Dr. Woolsey (clinical psychology), Robert Adams (anthropology), Ms. Torrey (no doctorate), Alberts (biology), Press (Chemistry?). Until Dr. Alberts et al. offer a credible theory, it is impossible to know how easy (or how difficult) the correction might be.

Sincerely,

(Dr.) Lloyd S. Etheredge, Director  
Government Learning Project

cc: Dr. John Marburger, OSTP  
Mr. Lawrence Lindsey, NEC  
National Science Board