

Quantifying Family, School, and Location Effects in the Presence of Complementarities and Sorting

Mohit Agrawal
Yale University

Joseph G. Altonji
Yale University and NBER

Richard K. Mansfield
University of Colorado-Boulder and NBER *

February 13, 2017

Abstract

We extend the control function approach introduced by Altonji and Mansfield (2016) for bounding the variance of group treatment effects by 1) introducing complementarities between individual and group-level inputs and 2) allowing for multiple group levels. We implement the augmented control function approach using a mixed effects specification with data from two panel surveys, and use the results to characterize the importance of neighborhood, school, and commuting zone inputs during childhood for determining student long-run educational attainment and wages as well as the degree to which certain types of students are differentially sensitive to these inputs. We find that experiencing a school/location combination at the 90th versus 10th percentile of the school/location treatment effect distribution increases the high school graduation probability and college enrollment probability for a randomly selected student by at least .05 and .18, respectively, with dropout rates for disadvantaged students exhibiting particular sensitivity to school/location inputs.

*Agrawal: Department of Economics, Yale University, PO Box 208264, New Haven CT 06520-8264, mohit.agrawal@yale.edu. Altonji: Department of Economics, Yale University, joseph.altonji@yale.edu. Mansfield: Department of Economics, University of Colorado, Boulder. richard.mansfield@colorado.edu. We thank David Card and other participants in the a pre-conference meeting for helpful input. We also thank participants in the Yale labor/public economics lunch. **This draft is preliminary and incomplete. Do not circulate without authors' consent.**