

**Consortium for Education and Social Science Research
2011-2012 Workshop in Methods**

Panel Data Analysis: The Basics

by

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Panel data contain many individual units that are observed at more than one point in time. This workshop covers the basic theory underlying the analysis of panel data along with essential terminology, an overview of the kind of data that are appropriate for panel analysis, examples from various disciplines, and a list of common mistakes made when working with panel data models. We then work through an example of a practical application of the linear error components model from assumptions to estimation, specification tests and interpretation of the first difference model, fixed effects model, and random effects model. The workshop concludes with a brief discussion of limitations, extensions, and related approaches.

Patricia A. McManus is Associate Professor of Sociology at Indiana University, where she studies inequality, poverty and mobility. She teaches graduate courses in applied statistics for the social sciences, including a course on panel data analysis at the University of Michigan's ICPSR and a spring semester course on longitudinal data analysis. Her work on social mobility processes using longitudinal data techniques has appeared in *American Sociological Review*, *American Journal of Sociology*, and *Social Forces*.

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