

A Semiparametric Model for Heterogeneous  
Panel Data with Fixed Effects  
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In this talk, we develop methodology for semiparametric panel data models in a setting where both the time series and the cross-section are large. Such settings are common in finance and other areas of economics. We consider a panel model with a nonparametric regression function which may differ across agents, i.e., in the cross-section direction. To reduce the dimensionality of the model, the individual regression functions are supposed to have a sparse structure. In particular, they are assumed to be linear combinations of a small number of unknown (basis) functions which are the same across individuals. The project develops theory to estimate the unknown functions along with the parameters of the model. In addition, we apply the methodology to a question of recent policy interest, that is, the effect of trading venue fragmentation in equity markets on market quality. Joint work with Oliver Linton and Lena Koerber.