

Structural estimation of dynamic discrete choice models

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Description:

The goal of this lecture is to provide a very brief introduction to the estimation of structural dynamic models of discrete choice using longitudinal micro data. It is assumed that outcomes of interest, such as labor force participation decisions over the life cycle, are the optimal choices of rational forward looking agents solving a stochastic dynamic programming problem. Optimal decision rules do not have closed forms, which complicates the estimation problem. The tools we review allow researchers to recover the structural parameters of the behavioural model, and the estimated model can be used for policy evaluation by means of counterfactual simulations.

Tentative plan:

- 1) After a very brief Introduction, go through an example paper in some detail (either Rust and Phelan or Keane and Wolpin), for at least 2 hours.
- 2) The rest of the time (an hour at most) would be spent giving a very quick overview of other issues and methods.

References:

Example:

- 1) Keane, M. and Wolpin, K. (1997) "The Career Decisions of Young Men", *Journal of Political Economy* 105(3), 473-522.
- 2) Phelan, C. and Rust, J. (1997) "How Social Security and Medicare Affect Retirement Behavior in a World of Incomplete Markets", *Econometrica* 65(4), 781-831.

General:

- 1) Aguirregabiria, V. and Mira, P. (2007) "Dynamic Discrete Choice Structural Models: A Survey". CEMFI Working Paper 0711.
- 2) Rust, J. (1994): "Structural estimation of Markov decision processes," in R. E. Engle and McFadden (eds.) *Handbook of Econometrics* Volume 4, North-Holland.