Estimation of durable goods models for differentiated products

Short course offered at the Bureau of Economic Analysis

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Session 1: An introduction to recent advances in dynamic durable goods models
Sep. 17, 2010

Topics:
- Background on static models of demand for differentiated products: logit models, nested logit models, Berry, Levinsohn, Pakes (1995) [BLP] models
- Unobserved product characteristics and the relation between models for aggregate data (like BLP) and models for individual data
- Dynamic models of demand: the Gowrisankaran and Rysman model
- Understanding the roles of random coefficients, expectations and repeat purchases
- Applications of the models: price indices, network effects, switching costs, causes of price declines

Assignment:
Estimation of logit, nested logit and BLP models on camcorder data

Session 2: Toolkit: Estimation of simple dynamic models
Sep. 24, 2010

Topics:
- Understanding simple dynamic durable goods model with perfect foresight, no random coefficients and no repeat purchases, à la Melnikov (2000)

Assignment:
Estimation of Melnikov model
Session 3: Toolkit: A user’s guide to the Gowrisankaran-Rysman method  
Oct. 1, 2010

Topics:
- Adding random coefficients to the Melnikov model
- Adding repeat purchases to the Melnikov model
- Incorporating uncertainty about the future
- Grid approximations, tolerance levels, AR(1) approximations, grid minima and maxima, and other computational details

Assignment:
Estimation of Gowrisankaran-Rysman model

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Session 4: Broader context and future directions of the Gowrisankaran-Rysman approach  
Oct. 8, 2010

Topics:
- Other estimation methods for this model: Dube, Fox and Su (2010), Conlon (2010)
- Relation of models with aggregate data to models with micro data
- Use of micromoments
- Relation to dynamic estimation methods of Hotz and Miller (1993) and Bajari, Benkard and Levin (2007) and others
- Models of switching costs: Shcherbakov (2010)
- Models with resale markets: Schiraldi (2010)