

# A Simple Globally Consistent Continuous Demand Model for Market Level Data

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# Overview: model

- Two broad classes of demand models
  - **Heterogeneous** consumers with **discrete** choices → computationally burdensome
  - **Representative** consumer with **continuous** demands → simpler to estimate, but no easy account for entry and exit of products
- Propose continuous choice demand model that is:
  - Flexible (regarding own- and cross-price elasticities)
  - Globally consistent (account for product entry/exit as price becomes infinity)
  - Incorporates a structural econometric error
- Monte Carlo analysis shows practical use
- Extensions: consumer heterogeneity, dynamic demand

# General comments

- Very interesting paper
- More solid foundation for representative consumer/continuous demand models by
  - accounting for entry/exit of products
  - structural demand errors
- Flexible yet computationally tractable
- Can be of practical use in demand estimation and applications to competition policy

# Relation to other literature

- Older literature: Hausman and Leonard (2002):
  - Concept of “virtual price”, i.e. price such that demand is zero

$$CV = e(p_1, p_N, r, u_1) - e(p_0, p_N^*(p_0), r, u_1)$$

- $p_N^*(p_0)$  is “virtual” price for the new product: reservation price at which demand for the new product would be zero given other product prices
- Applies this to Two-stage Budgeting with Almost Ideal Demand Specification
- Compute variety and price effect from the introduction of a new product

## → More motivating discussion

- Why is this approach is not satisfactory for estimation? They have to limit sample
- Can also do decomposition into price and variety effect

# Relation to other literature

- Recent literature:

- Fosgerea, Monardo, de Palma (2022):

- Inverse product differentiation logit model
    - Generalizes nested logit, linear IV estimation
    - Founded in representative consumer model with taste for variety

- Monardo (2021):

- Flexible inverse logit, no nesting structure
    - May provide better fit than BLP, relatively easy to implement

→ More discussion on pros and cons

- Both rooted in representative consumer models and structural error
  - But only this paper deals with new goods?

# Specific functional form

- After general results, the paper proposes a quadratic specification
  - Quadratic in inverse prices
  - Accommodates entry and exit

→ More discussion on

- Implications of this specification for demand curvature and pass-through
- Other possible functional form specifications?
- Implications for markups (single product versus multiproduct firms)

# Application

- Monte Carlo analysis is interesting and instructive, but ...
- ... it would be nice to consider a real application
  - Own-price and cross-price elasticities
  - Markups, pass-through
  - Merger illustration?
  - Computational time, flexibility