

Joon H. Ro

Department of Marketing, McCombs School of Business, University of Texas at Austin
Phone: +1 (512) 529-4596, Fax: +1 (512) 471-1034, Email: Joon.Ro@phd.mcombs.utexas.edu

(Updated on 2013-06-29)

Education

- 2014, (Expected) Ph.D. Marketing, University of Texas at Austin, Austin, TX
 - Dissertation Committee: Jason Duan and Leigh McAlister (Co-advisers), Ty Henderson, Raghunath S. Rao, Stephen P. Ryan (Economics)
 - 2009, M.S. Economics, University of Texas at Austin, Austin, TX
 - 2007, M.A. Economics, Sogang University, Seoul, South Korea
 - 2005, B.A. Economics and English Language and Literature, Sogang University, Seoul, South Korea
-

Research Interest

Discrete Choice Models, Dynamic Structural Models, Durable Goods Market, Network Effects, Used Goods Market, Imperfect Competition

Working Papers

A Dynamic Equilibrium Model of Durable Goods: Pricing and Resale Market Strategies for Video Games

(with Jason Duan)

This paper studies the impact of the used goods market on overall market outcomes and the implications of eliminating used goods in the video game industry. We develop a general modeling framework that incorporates rational expectations on new and used goods prices, inter-temporal pricing discrimination, and a competitive used goods market. The demand function is constructed from heterogeneous consumers modeled by a distribution of their valuation on a Hotelling line, which enables us to estimate sales volume shares over time from the varying decreasing rates of new and used goods prices without the need of observing real sales data. The equilibrium prices and sales for both new and used game markets are solved explicitly assuming that the observed new game prices are set optimally by firms and the used game prices clear the used goods market. A producer's inter-temporal pricing strategy is determined not only for price discrimination, but also from considering competition with the resale market. We estimate game specific demand with hand-collected prices data. Counterfactual analysis suggests the used game market significantly harms most games in terms of profitability, but can still benefit a smaller number of games, depending on the consumer valuation distribution and expected playtime.

Quality Uncertainty and Variety Seeking Behavior: the Role of Ratings in the Movie Industry

(with Romana Khan)

In this paper, we study variety seeking across genres in consumers' choices at movie theaters. While variety seeking encompasses an array of behaviors that promote diversity in choices made, we focus on two components: the tendency to engage in exploratory behavior, and the tendency to seek sequentially varied experiences. Although movies are a hedonic good for which we expect consumers to engage in variety seeking, several factors, uncertainty about movie quality in particular, mitigate this tendency. Online ratings provide signals of movie quality and serve as a mechanism to alleviate this uncertainty. We investigate the extent of variety seeking in movie choices, and the impact of online ratings on variety seeking. Using a unique consumer level panel data of movie-going at theaters, we estimate a movie choice model that accounts for consumers' intrinsic preferences for movie attributes, demographics, state dependence, and online movie ratings. Surprisingly, consumers exhibit positive state dependence (inertia) over genres in their choice of movies. However, higher online ratings diminish positive state dependence and induce consumers to seek more variety. We find considerable heterogeneity in exploratory behavior and sensitivity to online ratings across consumers. Demographic factors account for some heterogeneity, as older consumers show more inertia and less sensitivity to online ratings.

Work In Progress

A Model of Downloadable Contents: Add-on and Secondary Market

I study the profit implications and optimal release schedule of add-on packages in the video game industry. An add-on extends the durability of a video game by providing new maps and additional missions. The original disc is required in order to play the add-on and if consumers expect the future release of the add-on, they will hold on the game even after they finished the game. This will effectively reduce the inflow of used copy supply, alleviating the threat from the used goods market for producers. I plan to extend the dynamic structural model in my job market paper to include releasing add-ons as another control for the firm, and assess the profit implications of add-ons and also their optimal release schedule.

Measuring Benefits from Bilateral Free Trade Agreement: A Dynamic Structural Approach

I quantify the consumer welfare gains and supplier profit changes from the FTAs in the Korean Automotive Industry. Recently South Korea has negotiated a couple of major bilateral free trade agreements (FTAs), one with EU and the other with the U.S., which have come into force in 2011 and 2012, respectively. Due to the significant time gap between the announcement of an agreement and the actual date when the agreement enters into effect, durable goods consumers might postpone purchase, expecting future price decline. Thus modeling dynamics is important in the welfare calculation. Utilizing unique, hand-collected automotive characteristics information and aggregate level sales data, I estimate dynamic new durable goods demand model and conduct counterfactual analysis to measure the welfare gains and profit implications.

Honors & Awards

- 2011, 2013, [SciPy Conference](#) Student Sponsorship
- 2010, 2013, Bonham Funds, Department of Marketing, University of Texas at Austin
- 2013, Nominated for Fred Moore Assistant Instructor Awards for Teaching Excellence

- 2010, [Columbia-Duke-UCLA Workshop on Quantitative Marketing and Structural Econometrics](#) Funding
 - 2006, Brain Korea 21 Scholarship, Sogang University
 - 2005, Graduate School Department Scholarship, Sogang University
 - 2005, Unbong Scholarship Foundation Scholarship, Korea
 - 2003-2004, Undergraduate Distinguished Student Scholarship, Sogang University
-

Software Packages Authored

- [BLP-Python](#): a Python with Cython implementation of random coefficients logit model of Berry, Levinsohn and Pakes (1995).
 - [Fast Cubic Spline Python](#): an implementation of fast spline interpolation algorithm of Habermann and Kindermann (2007) in Python with Cython.
-

Colloquia/Presentations

- Ro, J. H., & Duan, J. A. (2012) "A Dynamic Equilibrium Model of Durable Goods Market: Intertemporal Pricing and Durability Extension for Video Games," Paper presentation at annual INFORMS Marketing Science Society Conference, Boston, MA
 - Ro, J. H., & Duan, J. A. (2012) "A Dynamic Equilibrium Model of Durable Goods Market: Intertemporal Pricing and Durability Extension for Video Games," Paper presentation at the University of Houston Doctoral Symposium
 - Ro, J. H., & Khan, R. (2011) "Quality Uncertainty and Variety Seeking Behavior: the Role of Ratings in the Movie Industry," Paper presentation at annual INFORMS Marketing Science Society Conference, Houston, TX
-

Teaching

Teaching Interests

Principles of Marketing, Marketing Research, Pricing, and Data Mining.

Instructor

- 2012, Principles of Marketing, University of Texas at Austin
 - Nominated for Fred Moore Assistant Instructor Awards for Teaching Excellence
- 2012, Instructor for *Numerical Computation with Numpy* at 2012 [Software Carpentry](#) Bootcamp at the University of Texas at Austin

Training

- 2013, Software Carpentry Instructors Study Group
- 2012, Graduate Teaching Scholars Seminar
- 2012, Supervised Teaching

Teaching Assistant

- University of Texas at Austin
 - Bayesian Econometrics (Graduate)
 - Principles of Marketing
 - Marketing Information and Analysis
-

Selected Coursework

Quantitative Marketing

- Marketing Models I (Frenkel Ter Hofstede)
- Marketing Models II (Jason Duan)
- Marketing Research Methods (Raghunath S. Rao)
- 2010 Columbia-Duke-UCLA Workshop on Quantitative Marketing and Structural Econometrics

Economics

- Microeconomics I (Thomas Wiseman)
- Microeconomics II (Svetlana Boyarchenko)
- Macroeconomics I (Fatih Guvenen)
- Macroeconomics II (P. Dean Corbae)
- Industrial Organization I (Kenneth Hendricks)
- Industrial Organization II (Eugenio J. Miravete)
- Empirical IO Lecture Series (Amil Petrin, Ali Hortascu, Daniel Akerberg)

Econometrics

- Econometrics I (Stephen Donald)
- Econometrics II (Jason Abrevaya)
- Econometrics III (Russell W. Cooper, Eugenio J. Miravete)
- Bayesian Econometrics (Rob McCulloch)
- Discrete Choice Theory and Modeling (Chandra Bhat)

Operations Research

- Applied Stochastic Processes (John Hasenbein)
 - Markov Decision Processes (John Hasenbein)
 - Stochastic Optimization (David Morton)
-

Computational Skills

- General-Purpose Languages: C, Python
 - Numerical Programming Languages: Gauss, MATLAB, R
 - Others: Git, GNU/Linux, HTML, JavaScript, LaTeX, RegEx, VBA
-

References

Jason Duan

Assistant Professor of Marketing
McCombs School of Business
University of Texas at Austin
+1 (512) 232-8323
Jun.Duan@mcombs.utexas.edu

Ty Henderson

Assistant Professor of Marketing
McCombs School of Business
University of Texas at Austin
+1 (512) 232-3746
ty.henderson@mcombs.utexas.edu

Stephen P. Ryan

Associate Professor of Economics
University of Texas at Austin
+1 (512) 475-8543
sryan@utexas.edu

Leigh McAlister

Ed and Molly Smith Chair in Business Administration
McCombs School of Business
University of Texas at Austin
+1 (512) 471-5458
leigh.mcalister@mcombs.utexas.edu

Raghunath S. Rao

Assistant Professor of Marketing
McCombs School of Business
University of Texas at Austin
+1 (512) 232-3748
Raghunath.Rao@mcombs.utexas.edu