Professor Susan Athey NBER Digitization Tutorial

February 2015

**Search and Information on the Internet**

**Course Overview**

This section will review research on how consumers find information on the internet. We will begin with price comparison search and price dispersion. A second topic examines the role of intermediaries in affecting user behavior and user consumption of information, including search engines and search advertising, the impact of the internet on the news media, and the role of news aggregators and social media on news consumption and political information.

**Readings**

***Sugggested:***

* Athey, Susan and Glenn Ellison. "Position Auctions with Consumer Search,” *Quarterly Journal of Economics,* 2011, Vol. 126, Issue 3, Pages 1213-1270. <http://economics.mit.edu/files/7560>
* Dinerstein, Michael, et al. *Consumer price search and platform design in internet commerce*. No. w20415. National Bureau of Economic Research, 2014. <http://web.stanford.edu/~leinav/Search.pdf>
* Fradkin, Andrey. Search frictions and the design of online marketplaces. Working paper, Stanford University, 2013. <http://andreyfradkin.com/assets/Fradkin_JMP_Sep2014.pdf>
* Gentzkow, Matthew and Shapiro, Jesse,"Ideological Segregation Online and Offline," *Quarterly Journal of Economics*. 126 (4). November 2011.

**For More Background:**

***Price Comparison and Price Search***

* Baye, M., and J. Morgan. "[Information Gatekeepers on the Internet and the Competitiveness of Homogeneous Product Markets](http://pubs.aeaweb.org/doi/pdfplus/10.1257/aer.91.3.454)." *American Economic Review* 91, no. 3 (June 2001): 454-474.
* Baye, Michael, John Morgan, and Patrick Scholten, "[Price Dispersion in the Small and in the Large: Evidence from an Internet Price Comparison Site](http://www.jstor.org/stable/3569859)," Journal of Industrial Economics, Vol. 52, No. 4, December 2004, pp. 463-96.
* Brynjolfsson, E., and M. Smith. "[Frictionless Commerce? A Comparison of Internet and Conventional Retailers](http://mansci.journal.informs.org/content/46/4/563.full.pdf)." *Management Science* 46, no. 4 (April 2000): 563-585.
* Dinerstein, Michael, et al. *Consumer price search and platform design in internet commerce*. No. w20415. National Bureau of Economic Research, 2014. <http://web.stanford.edu/~leinav/Search.pdf>
* Ellison, Glenn (2005): "[A Model of Add-on Pricing](http://www.google.com/url?q=http://qje.oxfordjournals.org/content/120/2/585.full.pdf+html&sa=D&sntz=1&usg=AFQjCNFXfO1ORttXB-Wtg3Z4-W9SstEDeQ)," *Quarterly Journal of Economics*, 120, 585-637.
* Ellison, Glenn and Ellison, Sara, 2009, "[Search, Obfuscation, and Price Elasticities on the Internet](http://www.econ2.jhu.edu/People/Harrington/2611/ee_09.pdf)," *Econometrica*
* Glenn Ellison and Alexander Wolitzky, “A Search Cost Model of Obfuscation,” 2012, Rand Journal of Economics.
* Fradkin, Andrey. Search frictions and the design of online marketplaces. Working paper, Stanford University, 2013. <http://andreyfradkin.com/assets/Fradkin_JMP_Sep2014.pdf>
* Ghose, Anindya and Yuliang Yao, "[Using Transaction Prices to Re-Examine Price Dispersion in Electronic Markets](http://pages.stern.nyu.edu/~aghose/transpd.pdf)," Information Systems Research, forthcoming.
* Hortacsu, Ali, Babur de los Santos and Matthijs Wildenbeest, "Search with Learning", working paper [(.pdf)](http://www.kelley.iu.edu/mwildenb/learning.pdf)
* Hortacsu, Ali, Babur De los Santos and Matthijs Wildenbeest, Testing models of consumer search using data on web browsing and purchasing behavior [(.pdf)](http://www.kelley.iu.edu/mwildenb/searchtest.pdf) , forthcoming, *American Economic Review*
* Kumar, Anuj, Michael Smith, Rahul Telang, [*Information Discovery and the Long Tail of Motion Picture Content*](http://www.nber.org/confer/2011/SI2011/PRIT/Telang.pdf)
* Scott Morton, Fiona and Jorge Silva-Risso, [**Zettelmeyer, Florian**](http://www.kellogg.northwestern.edu/Faculty/Directory/Zettelmeyer_Florian.aspx) 2003. [Consumer Information and Discrimination: Does the Internet Affect the Pricing of New Cars to Women and Minorities?](http://www.nber.org/papers/w8668.pdf?new_window=1). *Quantitative Marketing and Economics*. 1(1): 65-92.
* Scott Morton, Fiona and Jorge Silva-Risso, [Florian](http://www.kellogg.northwestern.edu/Faculty/Directory/Zettelmeyer_Florian.aspx) [Zettelmeyer](http://www.kellogg.northwestern.edu/Faculty/Directory/Zettelmeyer_Florian.aspx) 2006. [How the Internet Lowers Prices: Evidence from Matched Survey and Auto Transaction Data](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=776003). *Journal of Marketing Research*. 43(2): 168-181.
* Stahl, Dale. "[Oligopolistic pricing with heterogeneous consumer search](http://www.sciencedirect.com/science/article/pii/0167718794004749)," *International Journal of Industrial Organization*, 14 (2), 1996, 243-268.

***Search Engines and Search Platforms***

* Athey, Susan, “Information, Privacy, and the Internet,” Central Planning Bureau Lecture, CPB Netherlands Bureau for Economic Policy Analysis, June, 2014. <http://www.cpb.nl/sites/default/files/CPB-Lecture-2014-Information-Privacy-and-the-Internet-an-economic-perspective.pdf>
* Fradkin, Andrey. Search frictions and the design of online marketplaces. Working paper, Stanford University, 2013. <http://andreyfradkin.com/assets/Fradkin_JMP_Sep2014.pdf>
* Hagiu, Andrei and Bruno Julien, "Why Do Intermediaries Divert Search?" Rand Journal of Economics, 2012.
* Halaburda, Hanna and Mikolaj Jan Piskorski, “Competing by Restricting Choice: The Case of Search Platforms,” Harvard Business School Working Paper, 2013.
* Ron Kohavi, Thomas Crook, Roger Longbotham, Brian Frasca, Randy Henne, Juan Lavista Ferres, Tamir Melamed, [Online Experimentation at Microsoft](http://ai.stanford.edu/~ronnyk/ExPThinkWeek2009Public.pdf)

***Search Advertising***

* Athey, Susan and Glenn Ellison. "Position Auctions with Consumer Search,” *Quarterly Journal of Economics,* 2011, Vol. 126, Issue 3, Pages 1213-1270. <http://economics.mit.edu/files/7560>
* Athey, Susan and Denis Nekipelov, 2012, "An Empirical Model of Sponsored Search Advertising." <http://faculty-gsb.stanford.edu/athey/documents/Structural_Sponsored_Search.pdf>
* Blake, Thomas, Nosko, Chris, and Tadelis, Steven. 2014. “Consumer Heterogeneity and Paid Search Eﬀectiveness: A Large Scale Field Experiment”, Working Paper. http://faculty.haas.berkeley.edu/stadelis/BNT\_ECMA\_rev.pdf
* Edelman, Benjamin, Ostrovsky, Michael, and Schwartz, Michael. 2007. "[Internet Advertising and the Generalized Second Price Auction: Selling Billions of Dollars Worth of Keywords.](http://www.atypon-link.com.ezp1.harvard.edu/AEAP/doi/abs/10.1257/aer.97.1.242)"*American Economic Review*, 97(1), 242-259.
* Edelman, Ben and Michael Schwarz. [*Optimal Auction Design and Equilibrium Selection in Sponsored Search Auctions*](http://www.benedelman.org/publications/optimalauction.pdf). *American Economic Review*, 100, no. 2 (May 2010).
* Ostrovsky, Michael and Michael Schwarz, "[Reserve Prices in Internet Advertising Auctions: A Field Experiment](http://faculty-gsb.stanford.edu/ostrovsky/papers/rp.pdf)," Stanford University, 2009.
* Varian, Hal. “The Economics of Internet Search.” Anglo Costa lecture. Rome, Italy, February 2007. ([PDF](http://people.ischool.berkeley.edu/~hal/Papers/2007/costa-lecture.pdf))
* Varian, Hal R. 2006. "[Position Auctions](http://www.ischool.berkeley.edu/~hal/Papers/2006/position.pdf)."
* Varian, Hal R. 2009. "[Online Ad Auctions](http://people.ischool.berkeley.edu/~hal/Papers/2009/online-ad-auctions.pdf) ", AER Papers and Proceedings, May 2009

***News Media***

* Athey, Susan, Emilio Calvano, and Joshua Gans, “[The Impact of the Internet on Advertising Markets for News Media"](http://faculty-gsb.stanford.edu/athey/documents/Athey-Calvano-Gans-media-14-10-07.pdf), Working Paper.
* Athey, Susan and Markus Mobius, "[The Impact of News Aggregators on Internet News Consumption: The Case of Localization](http://kuznets.harvard.edu/~athey/localnews.pdf)," working paper.
* Chiou, Leslie and Catherine Tucker, "[Copyright, Digitization, and Aggregation](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1864203)," Working Paper.
* Gentzkow, Matthew, “Trading Dollars for Dollars: The Price of Attention Online and Offline,” *American Economic Review*, May, 2014. <http://faculty.chicagobooth.edu/matthew.gentzkow/research/DollarsForDollars.pdf>
* Gentzkow, Matthew and Shapiro, Jesse,"Ideological Segregation Online and Offline," *Quarterly Journal of Economics*. 126 (4). November 2011.