

**Economics 520a**  
**Advanced Microeconomic Theory I (Part II)**  
**Topics in Intertemporal Choice**  
**Fall 2001**

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**Requirements:**

There will be a few problem sets and a final exam (12/14, 2-4PM, Room B8).

**Outline**

0. Background: history and early axiomatic representations.
1. Axiomatic foundations for discounted utility representation.
2. Some empirical observations - do economic agents behave as maximizers of standard discounted utility?
3. Alternative models: habit formation, hyperbolic discounting, set-dependent utilities.
4. Foundations for alternative models: axiomatic and evolutionary.
5. Welfare considerations in dynamic settings.
6. Information aggregation over time: cascades, herding, and conformity.
7. Looking backwards: some evidence and contemporary modeling efforts.
8. Reinforcement learning.

## Reading List

### 0. Background: history and early axiomatic representations.

\* Kreps, D. M. [1979], "A Representation Theorem for "Preference for Flexibility","  
*Econometrica*, Vol. 47, No. 3, pp. 565-578. (JSTOR)

Mas-Collel, A., Whinston, M. and Green, J. [1995], *Microeconomic Theory*, Oxford University Press, Chapter 6.

### 1. Axiomatic foundations for discounted utility representation.

\* Epstein, L.G. [1983], "Stationary Cardinal Utility and Optimal Growth under Uncertainty,"  
*Journal of Economic Theory*, 31, pp.133-152.

Koopmans, T. C. [1960], "Stationary Ordinal Utility and Impatience," *Econometrica*, Vol. 28, No. 2., pp. 287-309. (JSTOR)

### 2. Some empirical observations.

Lowenstein, G. and Thaler, R. H. [1989], "Anomalies: Intertemporal Choice," *Journal of Economic Perspectives*, Vol. 3, No. 4, pp. 181-193. (JSTOR)

Prelec, D. and Loewenstein, G. [1998], "The Red and The Black: Mental Accounting of Savings and Debt," *Marketing Science*, Vol. 17, No. 4, pages 4-28.

\* Thaler, R. H., Kahneman, D., Knetsch, J. [1992], "Intertemporal Choice," *The Winner's Curse*, New York: Free Press.

### 3. Alternative models.

#### Habit Formation

\* Becker, G. S. Grossman, M. and Murphy, K. M. [1991], "Rational Addiction and the Effect of Price on Consumption (in Economics of Drugs)," *The American Economic Review*, Vol. 81, No. 2, Papers and Proceedings of the Hundred and Third Annual Meeting of the American Economic Association, pp. 237-241. (JSTOR)

Becker, G. S. [1998], *Accounting for Tastes*, Harvard University Press.

Bernheim, D. and Rangel, A. [2001], "Addiction, Conditioning, and the Visceral Brain," mimeo. (Theory and reading seminars, 10/30,31)

Campbell, J. Y. and Cochrane, J. H. [1999], "By Force of Habit: A Consumption-Based Explanation of Aggregate Stock Market Behavior," *Journal of Political Economy*, Vol. 107, pp. 205-251.

\* Laibson, D. [2001], "A Cue-Theory of Consumption," *Quarterly Journal of Economics*. (Laibson's home-page)

### Hyperbolic Discounting

Laibson, D. [1995], "hyperbolic Discount Functions, Undersaving, and Saving Policy," Harvard University mimeo.

Laibson, D. [1997], "Golden Eggs and Hyperbolic Discounting," *Quarterly Journal of Economics*, Vol. 112, No. 2, pp. 443-478.

\* O'Donoghue, T. and Rabin, M. [1999], "Incentives for Procrastinators," *Quarterly Journal of Economics*, Vol. 114, No. 3, pp. 769-816.

\* O'Donoghue, T. and Rabin, M. [1999], "Doing It Now or Later," *American Economic Review*, Vol. 89, No. 1, pp. 103-124.

O'Donoghue, T. and Rabin, M. [2000], "The Economics of Immediate Gratification," *Journal of Behavioral Decision Making*, Vol. 13, No. 2, pp. 233-250.

O'Donoghue, T. and Rabin, M. [2001], "Choice and Procrastination," *Quarterly Journal of Economics*, Vol. 116, No. 1, pp. 121-160.

\* Rubinstein, A. [2001], "Is it 'Economics and Psychology'?: The Case of Hyperbolic Discounting," mimeo. (Rubinstein's home-page)

### Other Suggestions

Koszegi, B. [2001], "Who Has Feelings?," mimeo. (SITE web-site)

Yariv, L. [2001], "I'll See It When I Believe It: A Simple Model of Cognitive Consistency," mimeo.

#### **4. Foundations for alternative models.**

\* Gul, F. and Pesendorfer, W. [2001], "Temptation and Self-control," forthcoming in *Econometrica*. (Pesendorfer's home-page)

Samuelson, L. and Swinkels, J. [2001], "Information and the Evolution of the Utility Function," mimeo. (SITE web-site)

#### **5. Welfare considerations in dynamic settings.**

\* Caplin, A. and Leahy, J. [2000], "The Social Discount Rate," NBER Working Paper 7983. (NBER web-site)

Harris, C. and Laibson, D. [2001], "Dynamic Choices of Hyperbolic Consumers," forthcoming in *Econometrica*. (Laibson's home-page)

Laibson, D. [1997], "Golden Eggs and Hyperbolic Discounting," *Quarterly Journal of Economics*, Vol. 112, No. 2, pages 443-478.

#### **6. Information aggregation over time: cascades, herding, and conformity.**

\* Banerjee, A. V. [1992], "A Simple Model of Herd Behavior," *Quarterly Journal of Economics*, Vol. 107, No. 3, pp. 797-817.

\* Bernheim, B. D. [1994], "A Theory of Conformity," *The Journal of Political Economy*, Vol. 102, No. 5, pp. 841-877.

Bikhchandani, S., Hirshleifer, D., and Welch, I. [1992], "A Theory of Fads, Fashion, Custom, and Cultural Change as Informational Cascades," *The Journal of Political Economy*, Vol. 100, No. 5, pp. 992-1026.

\* Rabin, M. and Schrag, J. L. [1999], "First Impressions Matter: A Model of Confirmatory Bias," *The Quarterly Journal of Economics*, pp. 37-82.

#### **7. Looking backwards.**

\* Mullainathan, S. [1998], "A Memory Based Model of Bounded Rationality," mimeo. (Mullainathan's home-page)

Ray, D. and Wang, R. [2001], "On Some Implications of Backward Discounting," mimeo. (SITE web-site)

Schacter, D. L. [1996], *Searching for Memory: The brain, the mind, and the past*. New York: Basic Books.

\* Schacter, D. L. [2001], *The Seven Sins of Memory*. Houghton Mifflin Company.

## **8. Learning.**

Camerer, C. and Ho, T. [1999], "Experience Weighted Attraction (EWA) Learning in Normal-Form Games," *Econometrica*, Vol. 67, pp. 827-874.

\* Erev, I. and Roth, A. E. [1997], "Modeling How People Play Games: Reinforcement Learning in Experimental Games with Unique, Mixed Strategy Equilibria," mimeo. (Roth's home-page)

Roth, A. E. and Erev, I. [1995], "Learning in Extensive-Form Games: Experimental Data and Simple Dynamic Models in the Intermediate Term," *Games and Economic Behavior*, Special Issue: Nobel Symposium, 8, pp. 164-212.