

# ECO663 Experimental Economics

Instructor  
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- [Syllabus](#)

## Introduce Yourself



- Name
- Job
- Interests in Economics
- Interests in Life
- Expectation from the course
- Most Important Problem for You

## What is Experimental Economics?

- The use of experimental methods to answer economic questions in various areas of study.

- Behavioral Economics
- Behavioral Finance
- Marketing
- Consumer Decision Making
- Choice Architecture
- Nudge
- Game Theory
- Auctions
- Decision Making Under Uncertainty
- Voting Mechanisms
- Political Psychology
- Collective Decision Making Mechanisms

- Social and Political Collaboration/Networking
- Ethics and Integrity
- Decision Making of Local Government
- Preference/Risk Perception Studies
- Energy Consumption/Conservation
- Social Networking
- Crisis and Conflict Management and Decision Making
- Organizational Behavior
- Environmental Economics
- Adaptation/Mitigation Policies for Global Warming
- Transportation Policy
- Health Economics

### 3 major reasons of economic experiments

1. Experiments designed to test the predictions of well articulated formal economic theories and to observe unpredicted regularities, in a controlled environment.
2. Experiments studying the effects of variables about which existing theory may have little to say. Designed to isolate the cause of some observed regularity.
3. Analyze the effect of changes in the way some market is organized and formulate advice on questions of policy.

Paul Samuelson once said...

*“Economists ... cannot perform the controlled experiments of chemists and biologists because they cannot easily control other important factors”*



[Samuelson and Nordhaus,  
Principles of Economics, 1985, p.8]

von Neumann and Morgenstern



*Theory of Games and Economic Behavior (1944)*

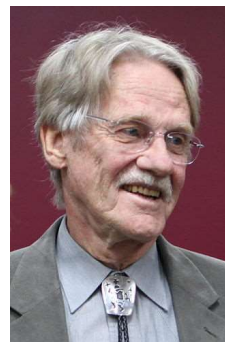
contributed to the birth of experimental economics

## Sidney Siegel

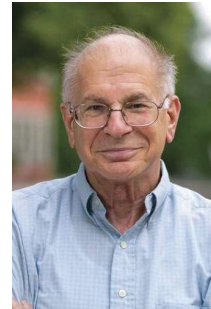
- The most extensive experiment in 1950s
- A systematic investigation of bargaining behavior
- Attempt to combine economics and psychology.
- (Siegel and Fouraker, 1960)

## Vernon Smith

- Nobel Prize Winner in 2002 (shared the prize with Daniel Kahneman)
- Properties of different market institutions and their effects on the convergence towards equilibrium (Smith, 1981)
- Smith meets Siegel in 1961 => development of methodologies of economic experimentations.



## Daniel Kahneman



- 2002 Nobel Price for “integrating insights from psychological research into economic science, especially concerning human judgment and decision-making under uncertainty”
- Prospect Theory
- Thinking Fast and Slow

<https://scholar.princeton.edu/kahneman>

## Richard Thaler

University of Chicago



- 2017 Nobel Price in Economics

"incorporat[ing] psychologically realistic assumptions into analyses of economic decision-making. By exploring the consequences of limited rationality, social preferences, and lack of self-control, he has shown how these human traits systematically affect individual decisions as well as market outcomes."

- Nudge

## Behavioral Economics and Public Policy

- Nudge
- Framing
- Loss Aversion
- Hyperbolic Discounting
- Default
- Subjective Probability
- ....
- Tax Collection
- Saving program
- Enhancing applications
- Organ donation
- Energy saving
- Recycling
- Health issues (smoking cessation, obesity, exercise, healthy life-style..)
- ....

## Behavioral Economics in Turkey

- [..\senin kararın mı.pdf](#)



## Individual Decision Making /Choice Behavior

- Individuals as consumers, labors, investors...
- Prospect Theory ( $\Leftrightarrow$  Expected utility theory)

### Anomalies

Loss Aversion  
Reference-Dependence  
Endowment Effect  
Status Quo Bias  
Sunk Cost Effect  
Framing  
Preference Reversals

### Heuristics

Availability Heuristics  
Anchoring and  
Adjustment  
Representativeness

## Questioning “Rational Decision Maker” assumptions

### **Perfect Knowledge of the problem**

$\Rightarrow$  Decision maker (DM) has a clear picture of the problem set of alternatives.

### **Clear preferences**

$\Rightarrow$  DM has a complete ordering over the entire set of alternatives.

### **Ability to optimize, Do not make mistakes**

$\Rightarrow$  DM has all the skill (unlimited capacity) necessary to make whatever complicated calculations are needed to discover his optimal course of action.

## Intertemporal Decision Making

- (Quasi) Hyperbolic Discounting
- Dual-Self Theory

### Role of Non-cognitive skills

Self-control  
Delay of Gratification  
Persistence  
Grit...

## Example

- You can get half a chocolate bar now.
- But, if you wait till tomorrow, you can get a whole chocolate bar tomorrow.



Today



Tomorrow

## Example

- Now, you can get half a chocolate bar on November 10<sup>th</sup> (1 month from today)
- Or if you want one more day, you can get a whole chocolate bar on November 11<sup>th</sup>.



## An experiment with numbers and cake

Shiv & Fedorikhin (1999)

1. Memorize a two-digit number (Group A) or seven-digit number (Group B).
2. Walk to a table and choose between two desserts, chocolate cake and fruit salad.
3. Walk to another room and repeat the memorized number.



OR



## What do you think?

Which group was more likely to choose the chocolate cake?

- a) Group memorizing 2-digit number
- b) Group memorizing 7-digit number
- c) Both were equally likely



OR



## When the deliberative “self” is busy...

Group memorizing 2-digit number chose chocolate cake

**41% of the time**

Group memorizing 7-digit number chose chocolate cake

**63% of the time**



OR



## Public Goods Provision

- Are people selfish or cooperative in volunteering to contribute to public good production?
- Can markets provide optimal allocations of public goods? (air pollution, public health etc.)
- How well do current political institutions perform in the production and funding of public goods? (space exploration, national defense etc.)

- Do people behave differently when confronting public goods decisions than when making private goods decisions?
- Should the concepts such as altruism or fairness be incorporated in solving the organizational problems?
- Do people really “free-ride”?

## Market Design

- Use economic theory, experiments, and empirical analysis to design new market institutions (for the allocation of sensitive goods)
  - Telecommunication licenses to space stations
  - Airport slots
  - Labor market clearinghouses
  - Tradable emission permit market

- examines the reasons why markets institutions fail and considers the properties of alternative mechanisms, in terms of efficiency, fairness, incentives, and complexity.

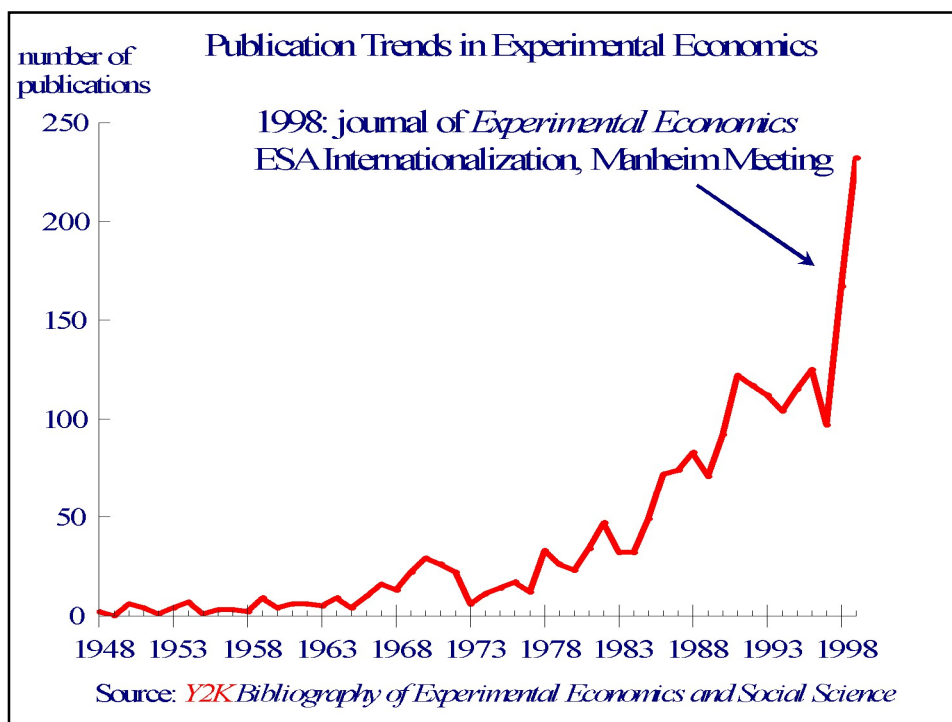
## Other Resources

### Journal

- Experimental Economics
- Journal of Economic Behavior and Organization

### Web sites

- <http://web.stanford.edu/~alroth/alroth.html>
- <http://people.virginia.edu/~cah2k/y2k.htm>
- <http://www-ceel.economia.unitn.it/index.html>
- <http://www.iew.uzh.ch/ztree/index.php>



## Neuroeconomics

- Attempt to explain human decision makings by using brain imagining.
- Interdisciplinary: neuroscience, experimental and behavioral economics
- <http://neuroeconomics.org/>

## Neuroeconomics: How Neuroscience Can Inform Economics

COLIN CAMERER, GEORGE LOEWENSTEIN, *and* DRAZEN PRELEC\*

Who knows what I want to do? Who knows what anyone wants to do? How can you be sure about something like that? Isn't it all a question of brain chemistry, signals going back and forth, electrical energy in the cortex? How do you know whether something is really what you want to do or just some kind of nerve impulse in the brain. Some minor little activity takes place somewhere in this unimportant place in one of the brain hemispheres and suddenly I want to go to Montana or I don't want to go to Montana. (*White Noise*, Don DeLillo)



- Why do people lose self-control more often when they are tired?
- Why do people lose self-control when their working memory is loaded?