

# Look for the answers to these questions:

- How does asymmetric information affect market outcomes?
- How can market participants reduce the resulting problems?
- Why might democratic voting systems fail to represent the preferences of society?
- Why do people not always behave as rational maximizers?

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# Hidden Actions and Moral Hazard

- Moral hazard:
  - Tendency of a person who is imperfectly monitored to engage in dishonest or otherwise undesirable behavior
- Moral hazard problems:
  - Workers sometimes shirk their responsibilities because their employer cannot continually monitor their effort and performance.

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# Hidden Actions and Moral Hazard Moral hazard problems: Someone whose property is insured may not try as hard to protect it from theft / damage. While the parents are out, the babysitter may spend more time watching videos than watching the children.





# Corporate Management Principal-Agent Problem

# • Solution:

- Shareholders hire a board of directors to oversee management, create incentives for management to pursue the firm's goals instead of their own.
- Corporate managers sometimes sent to jail for taking advantage of shareholders.

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# Hidden Characteristics and Adverse Selection

# Adverse selection

 Arises when the seller knows more than the buyer about the good being sold.

# • Example 1: The market for used cars

- The seller knows more than the buyer about the quality of the car being sold.
- Owners of "lemons" are more likely to put their vehicles up for sale.
- So buyers are more likely to avoid used cars.
- Owners of good used cars are less likely to get a fair price, so may not bother trying to sell

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# Hidden Characteristics and Adverse Selection

- Example 2: Insurance
  - Buyers of health insurance know more about their health than health insurance companies.
  - People with hidden health problems have more incentive to buy insurance policies.
  - So, prices of policies reflect the costs of a sicker-than-average person.
  - These prices discourage healthy people from buying insurance.

# The information asymmetry prevents some mutually beneficial trades.

# Market Responses to Asymmetric Info.

# The Market Itself is a response to hidden characteristics of buyers/sellers (asym. info!)

- Competition results in a market price
- Buyers with values above this price would buy
- Sellers with costs below this price would sell
- "As if" there is full information
- Asymmetric information per se is not a problem
  if we have a good mechanism to solve it
- Question: Do you think markets are the result of "natural selection" or "intelligent design"?

# Market Responses to Asymmetric Information

- Signaling:
  - Action taken by an informed party to reveal private information to an uninformed party
  - Individual selling a good used car provides all receipts for work done on car.
  - Dealership provides warranties on used cars.
  - Firms spend huge sums on advertising to signal product quality to buyers.
  - Highly competent workers get college degree to signal their quality to employers.

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# Market Responses to Asymmetric Information

# • Screening:

- Action taken by an uninformed party to induce informed party to reveal private information
- Health insurance company requires physical exam before selling policy.
- Buyer of a used car requires inspection by a mechanic.
- Auto insurance company charges lower premiums to drivers willing to accept a larger deductible -most likely the safer drivers.

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# Asymmetric Information and Public Policy

- Asymmetric information
  - May prevent market from allocating resources efficiently
- Public policy may not be able to improve on the market outcome:
  - Private markets can sometimes deal with the problem using signaling or screening.
  - The government rarely has more information than private parties.
  - The government itself is an imperfect institution.

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# Active Learning 1 Asymmetric information

For each situation below, identify whether the problem is moral hazard or adverse selection.

Explain how the problem has been reduced.

A. iDaiwan Audio sells home theater sound systems over the Internet and offers to refund the purchase price and pay shipping both ways if the buyer is not satisfied.

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B. Landlords require tenants to pay security deposits.

## Active Learning 1

### Answers, part A

iDaiwan Audio sells home theater sound systems over the Internet and offers to refund the purchase price and shipping both ways if the buyer is not satisfied.

- Adverse selection:
  - Buyers may fear that systems purchased on the Internet will not sound good, since the sellers know that buyers cannot hear them first.
  - So, firms with good systems are less likely to be successful selling them on the Internet.
  - iDaiwan Audio reduces the problem by signaling high quality with its generous return policy.

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# Active Learning 1 Answers, part B

Landlords require tenants to pay security deposits.

## • Moral hazard:

- The landlord (principal) does not know how well the tenant (agent) treats the apartment.
- Tenants may not be careful if they can get away without paying for damage they cause.
- The security deposit increases the likelihood the tenant will take care of the property in order to receive his deposit back when he moves out.

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# Political Economy

Political economy

- Applies the methods of economics to study how government works.
- The Condorcet voting paradox:
  - The failure of majority rule to produce transitive preferences for society.
  - Transitivity: If A is preferred to B, and if B is preferred to C, then A should be preferred to C.

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# Example of the Condorcet Paradox

**A**, **B**, and **C** are three candidates running for an open seat on the city council.

There are 3 types of voters, each with its own rankings of the candidates:

	,	Voter Type		
	Type 1	Type 2	Туре 3	
% of all	voters 35%	45%	20%	
1st choi	ce A	В	С	
2nd cho	oice <b>B</b>	С	Α	
3rd cho	ice C	Α	в	
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	Example of the	Condorcet	Parad	ох		
	Suppose pair-wise voting: First, <b>B</b> runs against <b>C</b> : <b>B</b> wins. Then, <b>A</b> runs against <b>B</b> : <b>A</b> wins. The overall winner: <b>A</b>					
	Alternative order:					
	First, A runs against C: C wins.					
Then, C runs against B: B wins.		Voter Type				
	Then, C runs agair	nst <b>B</b> : <b>B</b> wins.	V	oter Type	e	
	<ul> <li>Then, C runs again</li> <li>The overall winner</li> </ul>	nst B: B wins.	V Type 1	oter Type Type 2	e Type 3	
	<ul> <li>Then, C runs agair</li> <li>The overall winner</li> </ul>	st B: B wins. B % of all voters	V Type 1 35%	oter Type Type 2 45%	e Type 3 20%	
	<ul> <li>Then, C runs agair</li> <li>The overall winner</li> </ul>	st B: B wins. B % of all voters 1st choice	V Type 1 35% A	oter Type Type 2 45% B	e Type 3 20% C	
	<ul> <li>Then, C runs agair</li> <li>The overall winner.</li> </ul>	nst B: B wins. B % of all voters 1st choice 2nd choice	Type 1 35% A B	oter Type 2 Type 2 45% B C	e Type 3 20% C A	
	<ul> <li>Then, C runs agair</li> <li>The overall winner.</li> </ul>	st B: B wins. B % of all voters 1st choice 2nd choice 3rd choice	V Type 1 35% A B C	oter Type Type 2 45% B C A	e Type 3 20% C A B	

	The Condorcet Paradox				
• Lessor	Lessons from the Condorcet Paradox				
– Dem trans	ocratic preferences are not always itive.				
– The o affec	order on which things are voted can t the result.				
– Majo what	rity voting does not always reveal society really wants.				
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Arrow's Four Desirable Properties of a Voting System	Arr
1. Unanimity:	3. Indeper
<ul> <li>If everyone prefers A to B, then A should beat B.</li> </ul>	– The rai should
2. Transitivity:	option
– If A beats B, and B beats C, then A should	4. No dicta
beat C.	-There
	way, re
	prefere
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# Politicians are People Too Politicians: motivated by self-interest, just like firms and consumers. Some politicians motivated by re-election, willing to sacrifice the national interest toward that goal. Others motivated by greed.

# • The lesson:

 Economic policy is not made by benevolent leaders, and sometimes fails to resemble the ideals derived in economics textbooks.

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# Active Learning 2

# Application of the Median Voter Theorem

- Would you expect the DPP presidential nominee to be more pro-independence during the primaries or the general election, or to be consistent throughout both?
- Would you expect the KMT nominee to be more anti-independence during the primaries or the general election, or to be consistent throughout both?

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# Active Learning 2

### Answers

- The median voter in DPP primaries is more pro-independence than the median voter in the general election.
  - So, the DPP candidate's best strategy is to act more pro-independence during the primaries and more centrist during the general election.
- Similarly, the KMT candidate will want to appeal more to the median KMT voter during the primaries, and then appear less anti-independence during the general election.

# <section-header> Concomics and Psychology An "Behavioral economics" Subfield of economics that integrates the insights of psychology People aren't always as rational as traditional economic models assume. Herbert Simon viewed humans as satisficers, people who make choices that are merely "good enough" rather than optimal. Other economists have suggested that people are only "near rational" or exhibit "bounded rationality.

# People Aren't Always Rational

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• Studies find people make systematic mistakes:

- People are overconfident.
- People give too much weight to a small number of vivid observations.
- People are reluctant to change their minds.

Even though people are not always rational, the assumption that they are is usually a good approximation for economic modeling.

(The question is can we get an "even better" approximation with new theory...)

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# People Care About Fairness

- · People's choices
  - Sometimes influenced more by their sense of fairness than self-interest.
- Example: The ultimatum game
  - Two players who do not know each other have a chance to share a prize of \$100.
    - Player A decides what portion of the prize to give to player B.
    - B must accept the split or both get nothing.

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# People Care About Fairness

- Predicted outcome (rational players)
  - A would propose a 99-1 split and B would accept, because \$1 is better than nothing.
- Actual outcomes (experiments)
  - B usually rejects lopsided splits like 99-1 as wildly unfair.
  - Expecting this, A usually proposes giving \$30 or \$40 to B.
  - B views this as unfair, but not so much as to abandon his self-interest, so B accepts.

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# People Care About Fairness The results of the ultimatum game Apply in other situations. Example: A firm may pay above-equilibrium wages during profitable years to be fair, Or to avoid appearing unfair and risking retaliation from workers.



Conclusion

Markets are usually a good way to organize economic activity.

Governments can sometimes improve market outcomes.

Research illustrates some caveats:

- -Consumers aren't always rational
- Market outcomes may not be best when information is asymmetric
- -Government solutions are not always ideal

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# Summary

- In many transactions, information is asymmetric.
  - When there are hidden actions, principals may be concerned that agents suffer from the problem of moral hazard.
  - When there are hidden characteristics, buyers may be concerned about the problem of adverse selection among the sellers.
  - Private markets sometimes deal with asymmetric information with signaling and screening.

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# Summary

- Governments are imperfect institutions.
  - The Condorcet paradox shows that majority rule fails to produce transitive preferences for society.
  - Arrow's impossibility theorem shows that no voting system will be perfect.
  - In many situations, majority voting will produce the outcome desired by the median voter, regardless of the preferences of everyone else.
  - Policymakers may be motivated by self-interest rather than the national interest.

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# Summary

- The study of psychology and economics reveals that human decision making is more complex than is assumed in conventional economic theory.
  - People are not always rational, they care about the fairness of economic outcomes (even to their own detriment), and they can be inconsistent over time

# Chapter 22: Frontier of Microeconomics

- Asymmetric Information
- Experiment 11 is a "lemon" market!
- Political Economy
  - Political candidates act like "location" firms!
- Economics and Psychology
  - aka "Behavioral" Economics
  - vs. Non-behavior Economics (What is that?)

Frontier of Microeconon

What Theory Says
 vs. What People Actually Do

- Chapter 22: Frontier of Microeconomics
  - Asymmetric Information
  - Political Economy
  - Economics and Psychology
  - My own research agenda is on these frontier!
    - Talk to me after class if you interested...
  - Homework: Mankiw, Ch.22, 2, 3, 5-7, 9
  - Challenge Questions (Past Finals)
    - > 2007 Part 5
    - 2012 Essay B6-7
    - 2018 Essay D

# Chapter 22: Frontier of Microeconomics

- Behavioral Game Theory and Eyetracking <u>AER</u>: Eyetrack people when they cheap talk (lying) <u>JEEA</u>: Learning to play normal form games, <u>Psych Science</u>: Answering Trivia questions, and <u>GEB</u>: Playing spatial beauty contest games
- Asymmetric Information and Experiments
   <u>AEJmicro</u>: Least Unique Positive Integer (LUPI) game
   <u>EL</u>: Lowest Unique Bid Auction (LUBA) games
- ▶ <u>GEBr&r</u>: Imitation learning in winner-take-all games
- Confucianism affects Time/Risk Preferences D19/12/11 Frontier of Microeconomics Joseph Tao-yi War

# Chapter 22: Frontier of Microeconomics

- Political Economy Experiments
   <u>PER</u>: Pivotal-voting games
   Design legal prediction markets
   CPE: Choice behind veil of ignorance, and:
- Strategic Information Transmission
   <u>GEB</u>: Overcommunication
   <u>REE</u>: Level-k model (for cheap talk games)
   <u>GEB</u>: Decipher conflicting messages of 2 senders?!
   <u>APSR</u>: Legislative committee design: Open vs.
   closed rule

Frontier of Microeconomics

# Recommendation for Further Studies

- 1. Take good courses such as:
  - ▶ 古慧雯/黃貞穎's Intermediate Microeconomics
- ▶ 陳旭昇+駱明慶's Statistics and Econometrics
- ▶ My Experimental Economics or
- (Graduate) Micro Theory I
- Start to do research/write thesis (學士論文)
   Even replicating a classic experiment is great!
- 3. BESAP: Visit UC-Berkeley's Econ Dept.

Frontier of Microeconomics

• Challenge: Pay their tuition!