

LECTURE 11



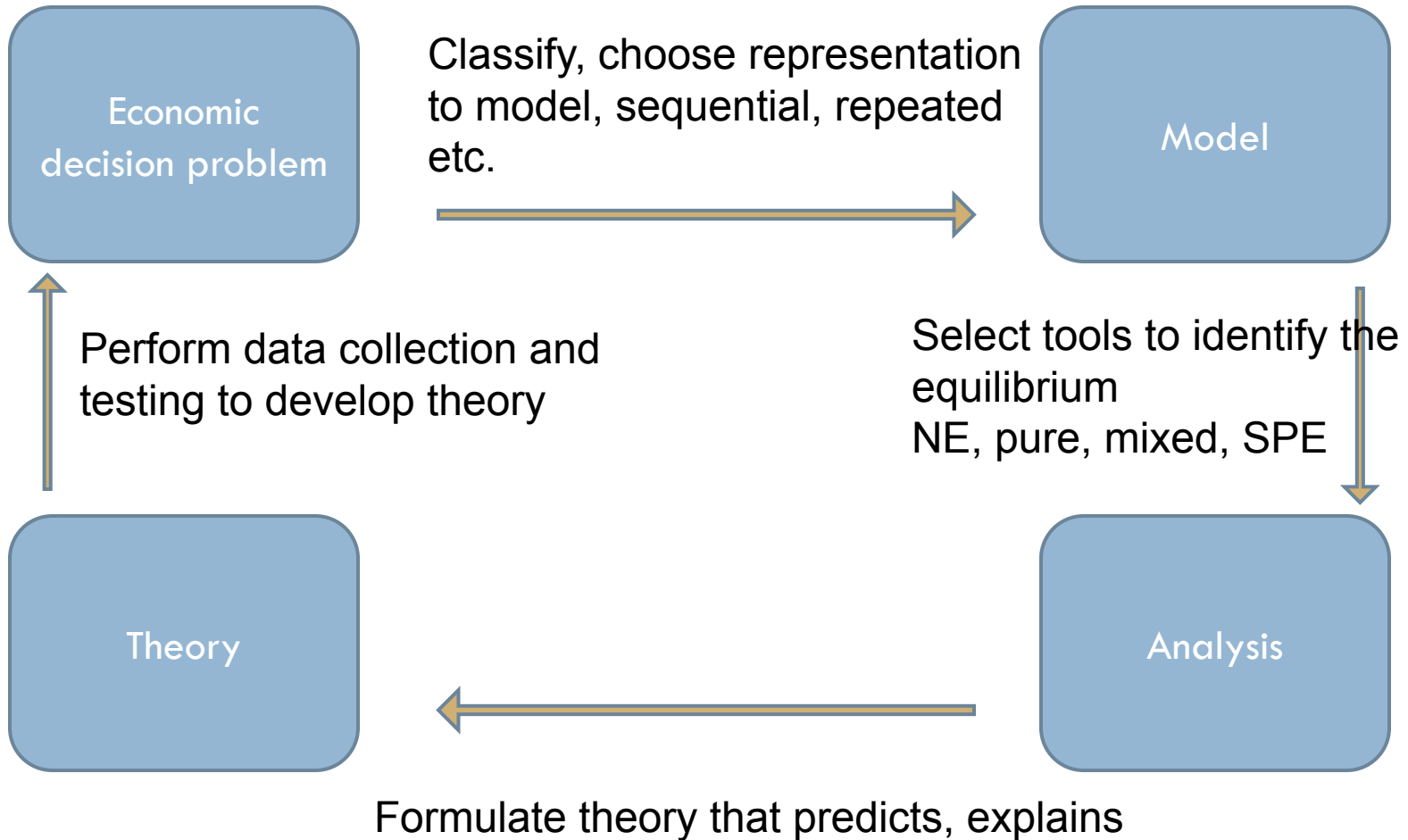
Outline

2

- Auctions
 - Common value auctions
 - All-pay auctions
- Review of seminar 2
- Revision slides

Structure

3



Lecture 1-2

4

Classification

**Simultaneous
games, 2 players**

Representation

**Normal form
(payoff table)**

Concept

**•Pure NE
•Cooperation**

Process

**•Iterative
elimination
•Best response**

Lesson

**•NE= likely outcome
•NE vs. optimal outcome
•Cournot**

Lecture 3

5

Classification

**Simultaneous
games, 2 players**

Representation

**Normal form
(payoff table)**

Concept

Mixed NE

Process

**Solve $\pi(\mathbf{a})=\pi$
(b)**

Lesson

- Randomness
- Indifference

Lecture 4-5

6

Classification

Representation

Concept

Process

Sequential

**Extensive form
(game tree)**

**SPE
Coordination**

**Backward
induction**

Lesson

- **Order matters**
- **Strategic moves**

Lecture 6

7

Classification

Repeated games (vs one-shot games)

Representation

Normal form

Concept

- **Trigger strategies**
- **Cooperation**

Process

Backward induction

Lesson

- **Importance of r**
- **TFT**
- **Cournot and repetition**

Lecture 7

8

Classification

Representation

Concept

Process

Evolutionary games

Normal form

ESS

**Solve $\pi(\mathbf{a}) = \pi$
(b)**

Lesson

- **Justification for NE**
- **Some NE are not ESS**

Lecture 8-9

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Classification

**Asymmetric
information**

Representation

Diverse

Concept

**Information
manipulation**

Process

**Signaling,
screening,
mechanism
design**

Lesson

- Cheap talk may or may not work
- Importance of credibility
 - costly signaling

Lecture 10-11

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Classification

Representation

Concept

Process

Auctions

Bid scale

Winning bid

Optimal bid

Lesson

- Revenue equivalence
- Winner's curse

Exam

11

- Section A: 5 compulsory questions, at most 3 "mathematical/analytical" questions. (10 marks each)
- Section B: choose 1 long essay style question out of 2. (50 marks)

Past paper (2014-15)

6. In games of cooperation, explain how the repetition of play may affect the possibilities of cooperation compared with one-shot games. Illustrate your answer with an example.
7. Explain the purpose and the mechanism of signaling in games with incomplete information. Illustrate your answer with an example.

Section A

13

- 1 conceptual question:
 - e.g. explain the meaning of mixed strategies in evolutionary game theory...
 - e.g. explain what the guessing game tells us about players' rationality...
- 1 definition question: 3 definitions.
 - e.g: A Nash equilibrium in mixed strategies, Subgame perfect equilibrium, The Winner's curse.

Section A

14

- 3 exercises + explain.
- Seminars
- Find the NE (sequential, simultaneous games, repeated etc.)
- Bargaining games, cooperation games etc.
- Find the NE in games of Cournot and Stackelberg.
- Find the ESS. Are the NE evolutionary stable?
- Explain...