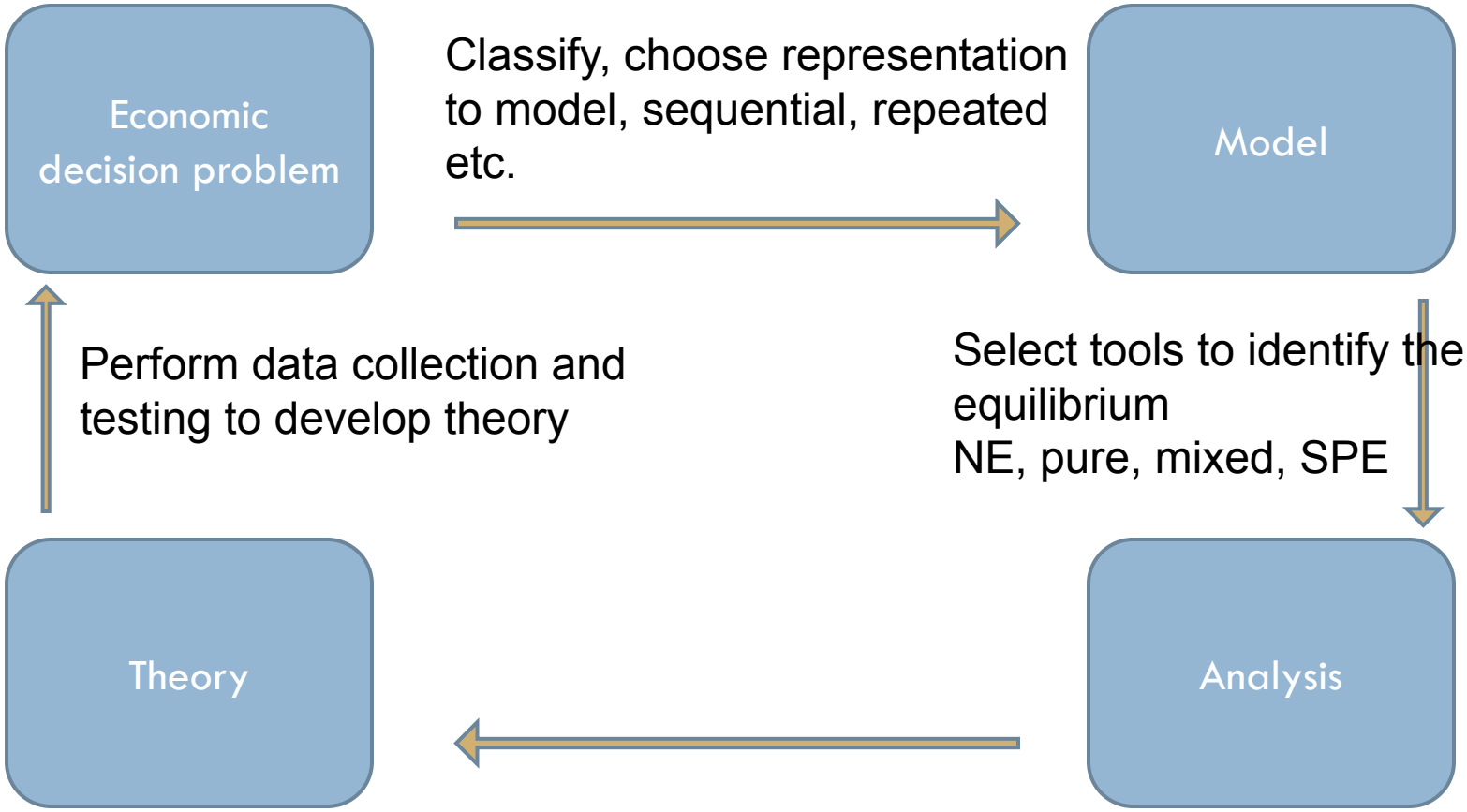
LECTURE 11

Outline

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

Structure


Economic decision problem
Classify, choose representation to model, sequential, repeated etc.
Model
Select tools to identify the equilibrium
NE, pure, mixed, SPE
Analysis
Formulate theory that predicts, explains
Theory
Perform data collection and testing to develop theory

Lecture 1-2

Classification	Representation	Concept	Process
Simultaneous games, 2 players	Normal form (payoff table)	•Pure NE •Cooperation	•Iterative elimination •Best response

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

Lecture 3

Classification	Representation	Concept	Process
Simultaneous games, 2 players	Normal form (payoff table)	Mixed NE	Solve $\pi(a)=\pi(b)$

Lesson	
	•Randomness •Indifference

Lecture 4-5

Classification	Representation	Concept	Process
Sequential	Extensive form (game tree)	SPE Coordination	Backward induction

Lesson	•Order matters •Strategic moves

Lecture 6

Classification	Representation	Concept	Process
Repeated games (vs one-shot games)	Normal form	•Trigger strategies •Cooperation	Backward induction

Lesson	
	•Importance of r •TFT •Cournot and repetition

Lecture 7

Classification	Representation	Concept	Process
Evolutionary games	Normal form	ESS	Solve $\pi(a)=\pi(b)$

Lesson	• Justification for NE •Some NE are not ESS

Lecture 8-9

Classification	Representation	Concept	Process
Asymmetric information	Diverse	Information manipulation	Signaling, screening, mechanism design

Lesson

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

Lecture 10-11

Classification	Representation	Concept	Process
Auctions	Bid scale	Winning bid	Optimal bid

Lesson

- Revenue equivalence
- Winner's curse

Exam

- 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

- 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

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