

Summary and Course Overview

ECON 1820 Spring 2015
Mark Dean

1

Topics we Have Covered

- Utility Maximization
 - What do we mean by a representation theorem?
- Bounded Rationality
 - Search and satisficing
 - Rational Inattention
 - Level K thinking
- Temptation and Self Control
 - Gul and Pesendorfer Model
 - Quasi-Hyperbolic Discounting
- Choice Under Risk and Uncertainty
 - Expected Utility
 - Probability Weighting
 - Subjective Expected Utility
 - Maxmin Expected Utility
 - Models of Overconfidence
- Reference Dependent Preferences
 - Loss Aversion
- Social Preferences
 - Inequality Aversion
 - Rabin model of Fairness

2

What do you Need to Know? – General Principles

- Think!
 - What is the point of this section of the course?
 - What are we trying to understand?
- Definitions
 - Important that you understand them but....
 - Don't just regurgitate – try to apply them
- Models
 - What is this a model of?
 - Why do we need it?
 - Why do we need to move away from the standard model?
 - Do you understand what sort of behavior the model allows that the standard model does not
 - Especially 'classic violations'
 - Allais paradox
 - Preference reversals
 - Etc
 - Again, try to apply them
- Proofs
 - What am I trying to prove?
 - Do I understand each step of the proof
 - Can I see how each of the assumptions in the proof are used

3

What do you Need to Know? – Techniques

- Reading the notes is a first step
 - Read once to get the flavor of what is going on
 - Read second time to get the technical details
 - Play with the definitions/models/proofs until you think you understand them
- Practice problems
 - Use them wisely
 - After you think you have understood what is going on
 - Close your notes!
 - Work through them as much as possible on your own
 - After all, this is what you are going to have to do on the exam
 - Only use notes/answers when you have REALLY done as much as you can
- Exam
 - Exam questions will ask you to apply what you have learned in a new setting
 - Can you do that?

4

What do you Need to Know? – Utility Maximization

- Key points
 - What is the model of utility maximization?
 - Why is testing utility maximization difficult
 - What is a representation theorem, and why does it help with this problem?
- Definitions
 - Choice correspondence and choice function
 - Preference relations and their properties
 - Properties alpha and beta
 - Utility representation
 - Commodity bundles and budget sets
 - Local non-satiation
 - Revealed preference and GARP
- Theorems
 - Relationship between alpha and beta and preferences
 - Relationship between preferences and utility
 - Relationship between GARP and utility (Afriat's theorem)
 - Uniqueness results

5

What do you Need to Know? – Bounded Rationality 1

- Key points
 - Utility maximization may fail if information is not free
 - People may not 'choose the best'
 - How can we introduce costs of information into models of choice?
 - What are the testable implications
- Definitions
 - Satisficing model
 - Choice process data
 - Information Structure
 - Entropy
- Theorems
 - Satisficing as optimal search
 - The value of an information structure
 - Rational Inattention in a simple 2 state 2 act case

6

What do you Need to Know? – Bounded Rationality 2

- Key points
 - Nash Equilibrium requires a high degree of rationality
 - How might less rational players play
- Definitions
 - Nash Equilibrium
 - Best response
 - Level K thinking

7

What do you Need to Know? – Temptation and Self Control

- Key points
 - Problems of temptation and self control seem ubiquitous in everyday choice
 - How can we behaviorally detect such problems
 - Preference for commitment
 - Preference reversals in discounting
- Definitions
 - Preferences over menus
 - Preference for commitment
 - The Gul Pesendorfer model
 - Set Betweenness
 - Sophistication
 - Preference reversal
 - The exponential discounting model
 - The beta delta model
- Theorems
 - Gul Pesendorfer implies set betweenness
 - Exponential discounting implies no preference reversals and no preference for commitment
 - Beta delta discounting allows for preference reversals and preference for commitment
 - Preference for flexibility

8

What do you Need to Know? – Choice Under Risk

- Key points
 - In many cases we make choices over risky propositions
 - Standard model: people maximize expected utility
 - People often violate the predictions of this model
 - Allais Paradox
 - What are alternatives to expected utility
- Definitions
 - Lottery
 - Independence axiom
 - Expected utility representation
 - Risk aversion
 - Common ratio and common consequence effects
 - Cumulative probability weighting model
- Theorems
 - Axioms and Expected utility representation
 - Uniqueness results
 - Common ratio and common consequence violate independence
 - Effect of the shape of the probability weighting function

9

What do you Need to Know? – Choice Under Uncertainty

- Key points
 - People may also make choices when probabilities are unknown
 - Standard model: Subjective Expected Utility
 - People often violate the predictions of this model
 - Ellsberg paradox
 - What are alternatives to expected utility
- Definitions
 - Acts
 - Subjective expected utility model
 - The Ellsberg Paradox
 - Maxmin expected utility model
- Theorems
 - SEU model cannot accommodate the Ellsberg Paradox
 - Maxmin model can accommodate the Ellsberg Paradox
 - Ambiguity aversion and no-trade prices

10

What do you Need to Know? – Reference Dependent Preferences

- Key Points
 - People's choices are affected by their reference points
 - Violates standard model
 - Endowment effect
 - How can we model the effect of reference points?
- Definitions
 - The Endowment Effect
 - Reference dependence in risky choice
 - Loss Aversion
 - Personal Equilibrium
 - Diminishing Sensitivity
 - Prospect theory
- Theorems
 - Loss aversion can cause the endowment effect
 - Effect of loss aversion in risky choice

11

What do you Need to Know? –Other Regarding Preferences

- Key Points
 - People's preferences depend on what other people get and do
 - Altruism, reciprocity, fairness
 - Rejecting unfair offers in the ultimatum game
 - How can we model this?
- Definitions
 - Ultimatum game
 - Dictator game
 - Inequality aversion
 - Rabin fairness
 - Equilibrium in the Rabin model
- Theorems
 - Inequality aversion can lead to observed behavior in ultimatum and dictator games
 - Rabin model can lead to observed behavior in modified ultimatum game

12