Economics and Behaviour

Prof. Dr. Nora Szech

Wintersemester 2015

Martin Belica

Content of teaching

The course covers topics from behavioral economics with regard to contents and methods. In addition, the students gain insight into the design of economic experiments. Furthermore, the students will become acquainted with reading and critically evaluating current research papers in the field of behavioral economics.

Prerequisites
None. Recommendations: Basic knowledge of microeconomics and statistics are recommended. A background in game theory is helpful, but not absolutely necessary.

Aim
The students gain insight into fundamental topics in behavioral economics; get to know different research methods in the field of behavioral economics; learn to critically evaluate experimental designs; get introduced to current research papers in behavioral economics; become acquainted with the technical terminology in English.

Bibliography

- Kahnemann, Daniel: Thinking, Fast and Slow. Farrar, Straus and Giroux, 2011.
- Ariely, Dan: Predictably irrational. New York: Harper Collins, 2008.
- Ariely, Dan: The Upside of Irrationality. New York: HarperCollins, 2011.

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1 Gametheorie

1.1 Introduction

In analysing game theoretical situations we distinguish between the judging

- **prescriptive** - means containing an indication of approval or disapproval
- **normative** - means relating to our model

or the kind of equilibrium

	complete information	**incomplete information**
static games	Nash-Equilibrium	Bayesian-Nash-Equilibrium
dynamic games	Perfect Nash-Equilibrium	Perfect Bayesian-Nash-Equilibrium

1.1.1 Games in strategic form

A game in strategic form is completely characterized by $\{N, S, u\}$ where

(1) N is the number of players and for player n would that mean $n \in \{1, \ldots, N\}$.

(2) For each player we have a set of *pure* strategies S.

(3) For each player $n \in \{1, \ldots, N\}$ we have an expected utility function $u : S \to \mathbb{R}$

For two players ($P1$ and $P2$) and two possible signals (a and b) we could use the matrix form, where the $u_i(x, y)$ is the utility function for Player i for signal x for $P1$ and y for $P2$ with $x, y \in \{a, b\}$

$P1$ / $P2$	**a**	**b**
a	$(u_1(a,a), u_2(a,a))$	$(u_1(a,b), u_2(a,b))$
b	$(u_1(b,a), u_2(b,a))$	$(u_1(b,b), u_2(b,b))$

We call a **set of strategies** in a game a complete plan of actions for each situation in the game.

Example 1.1 (Prisoner's Dilemma)
Two members of a criminal gang are arrested and imprisoned. Each prisoner is in solitary confinement with no means of communicating with the other. The prosecutors lack sufficient evidence to convict the pair on the principal charge. They hope to get both sentenced to a year in prison on a lesser charge. Simultaneously, the prosecutors offer each prisoner a bargain. Each prisoner is given the opportunity either to: betray the other by testifying that the other committed the crime, or to cooperate with the other by remaining silent. The offer is:

- If A and B each betray the other, each of them serves 6 years in prison
- If A betrays B but B remains silent, A will be set free and B will serve 9 years in prison (and vice versa)
- If A and B both remain silent, both of them will only serve 1 year in prison (on the lesser charge)

P1 / P2	**defects**	**cooperates**
defects	$(-6, -6)$	$(0, -9)$
cooperates	$(-9, 0)$	$(-1, -1)$

Other Interpretations for the Prisoner's Dilemma

- Collusion on prices
- Investing in human capital vs. arming for a war
- Buying a SUV vs. a smaller car

Definition 1.2
A strategy s_i'' is strictly dominated if and only if there exists another strategy s_i' such that

$$u(s_i', s_{-i}) \geq u(s_i'', s_{-i}) \quad \forall s_{-i} \in S_i$$

In the Prisoner's Dilemma is *cooperate* strictly dominated by $defect$. Simply the elimination of strictly dominated strategies leads to the prediction of $(defects, defects)$.

Example 1.3
Iterated elimination of strictly dominated strategies leads to

- for Player 2: l strictly dominates r

- after having eliminated r;

1.2 The Beauty-Contest

Abkürzungsverzeichnis

Beh. Behauptung

Bew. Beweis

bzgl. bezüglich

bzw. beziehungsweise

ca. circa

d. h. das heißt

Def. Definition

etc. et cetera

ex. existieren

Hom. Homomorphismus

i. A. im Allgemeinen

o. B. d. A. ohne Beschränkung der Allgemeinheit

Prop. Proposition

sog. sogenannte

Vor. Voraussetzung

vgl. vergleiche

z. B. zum Beispiel

zhgd. zusammenhängend

z. z. zu zeigen

Stichwortverzeichnis