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Behavioural and Emotional Economics
Bachelor Seminar
Seminar announcement - Summerterm 2014

1 Background, target audience and organization

- Background

Why do you read this announcement? Why will you meet a friend later today or why did you decline to meet him or her? Why do you want to obtain a Bachelor's degree? The answers to these questions will require an understanding of a decision making process. But do you know why you made this or that decision? The longer you think about this, the less certain you probably are. Is it cost-benefit analysis, is it marginal utility that plays a role? Or are there other factors like "I just like this" or "I felt good about it" or "I was just stressed"?

It is the objective of this seminar to understand theories of decision making that take emotions into account. While the modelling framework will be based on standard economic theory, ideas and thoughts originating from psychology on feelings and emotions can and should be taken into account. In short, this seminar can be thought of a seminar on emotional economics.

More generally speaking, the seminar is open to all interested in economic theory that is related to almost anything under the heading of behavioural economics. As long as there is sound economic model building and some link to psychological thinking, this is the seminar to be in.

- Target audience

The seminar is targeted at bachelor students in the 3rd year. Analytical skills and a desire to work with the formal approaches of behavioural economic theory are required. It is further useful to exhibit a certain familiarity with dynamic optimization methods or axiomatic systems. Students are expected to present the relevant aspects of the corresponding papers.

- Organization

The seminar is organised by Prof. Klaus Wälde and Dennis Krieger. There will be a first meeting at the beginning of the term, at 29th of April (time&room: tba), where topics / papers are briefly presented by the course organizers. Students can then chose a topic. An exposé must be handed in until 14th of May, 12 noon. Discussions with the organizes are of course possible and actually strongly encouraged. At 27th of May there will be one meeting where students present the topic they chose.

The Bachelor thesis starts at 28th of May. The deadline for turning in the thesis is 8 weeks after the start. A typical thesis and presentation would present one paper from the literature in depth, i.e. it is essential to understand the central arguments, statements and key meassages but not each step in the paper and to go into greater detail in the essay to be written. Suggesting potential extensions or adding own thoughts, maybe even presenting related own work is also more than welcome.

If you want to be kept up to date about the organizational details of the seminar, please send an email to kriegerd@uni-mainz.de.

2 A brief overview

Defining and classifying emotions is not an obvious task. In fact, this is one of the challenges when working on emotions. The following list is therefore incomplete and in no particular order. Nevertheless, it gives an idea of where emotions have been treated in the economics literature. It also shows that the topic does receive some attention but it needs much more attention if we want to truly understand human behaviour.

emotion	paper
compulsion	Loewenstein et al. (2003)
desire	Laibson (2001)
desire/ compulsion	Bernheim and Rangel (2004) Ameriks, Caplin, Leahy and Tyler (2007) Brocas and Carrillo (2008)
disappointment/ elation	Bell (1985)
disappointment/ regret	Gul (1991), Grant, Kaji and Polak (2001)
fear/ joy	Caplin and Leahy (2001, 2004), Köszegi (2006)
regret	Loomes and Sugden (1982)
stress (distress)	Wälde (2014)

Table 1 *Some emotions treated formally in the economics literature*

The obvious literature to consult on questions concerning emotions is of course psychology. As looking at emotions from a psychological perspective takes much more than just a seminar, this has to be done elsewhere.

3 Topics of interest for the seminar

Each of the following subsections is a topic which is worth being presented in the seminar. Of course, there is no clear-cut border between any two of these topics. But they are sufficiently distinct to deserve independent presentation. In case you are interested in the seminar, please make up your mind which topic you would like to present - but don't get distracted by thinking why you choose this topic ... :-)

3.1 The axiomatic approach to decision making

A textbook presentation of the axiomatic foundation for expected utility preferences is provided by Mas-Collel, Whinston and Green (1995). The axiomatic approach is applied to dopamine release in the context of neuroeconomics by Caplin and Dean (2008). Their view on the “dopaminergic reward prediction error” hypothesis results in a utility function where the reward is a function of the difference between expectations and realizations. Bernheim and Rangel (2009) provide a foundation for welfare analysis.

3.2 Dual-self models

“In me there are two souls, alas, and their division tears my life in two” - “Zwei Seelen wohnen, ach! in meiner Brust, die eine will sich von der andern trennen” bewails Goethe’s Faust. It seems obvious to many that one individual often has conflicting views when it comes to one issue or decision. The economists’ view on this can be seen in Brocas and Carrillo (2008) and Fudenberg and Levine (2006), inter alia. Fudenberg and Levine argue that decisions “should be viewed as a game between a sequence of short-run impulsive selves and a long-run patient self”. Brocas and Carrillo model decisions as the outcome of an interaction between a short-run informed agent and a long-run uninformed principal.

3.3 Ex-ante emotions: Psychological expected utility

Emotions can be classified into ex-ante, ex-post and “ex-nunc”, i.e. immediate emotions. Ex-ante emotions have been analysed by Caplin and Leahy (2001, 2004) and Kőszegye (2006). Emotions are forward looking and based on (equilibrium-consistent) beliefs as in psychological games (Geanakoplos, Pearce and Stacchetti, 1989). The influence of anticipated emotions on choice is analysed using experiments by Mellers et al. (1999).

3.4 Ex-post emotions

Regret theory goes back to Loomes and Sugden (1982). Related work on disappointment was undertaken by Bell (1985). In the latter approach, disappointment/ elation is a function of the difference between expected payoff and realization. In the former, regret and rejoicing takes place relative to a reference choice.

The literature on guilt includes Battigalli and Dufwenberg (2007) and Charness and Dufwenberg (2011).

Stress understood as a mismatch between demands and resources to meet these demands can also be classified as an ex-post emotion as it gradually builds up (or reduces) as a function of past mismatches (or matches). The dynamics of stress and the optimal choice of coping behaviour including emotional outbursts is analysed in Wälde (2014).

3.5 Instantaneous emotions: Visceral factors

Hunger, thirst, pain, desire can be modeled as state-dependent preferences (Loewenstein, 2000, Laibson, 2001) - or maybe not when people do not remember well emotions in past visceral states, leading to projection bias (Loewenstein, O’Donoghue and Rabin, 2003).

Self-confidence as an emotion that affects performance is analysed by Compte and Postlewaite (2004).

3.6 Self-control

In models of self-control, individuals should follow some ideal action but are victims of temptations. A recent empirical paper referring to many theoretical studies is by Ameriks, Caplin, Leahy and Tyler (2007). Theoretical papers include Bernheim and Rangel (2004) and Laibson (2001). The classic “rational addiction” view is by Becker and Murphy (1988).

3.7 Emotions in labs

It has long been recognized that emotions do influence the behaviour in experiments. Various approaches exist to defining and measuring these emotions and to understanding how they affect behaviour. Relevant work includes Reuben et al. (2008), Ben-Shakhar et al. (2007), Smith and Dickhaut (2005) and Bosman and van Winden (2002). See also Mellers et al. (1999) for anticipated emotions. The introduction in the latter paper also offers a long list of experiments in psychology where the impact of emotions on decisions is analysed.

Ifcher and Zarghamee (2011) look at the effect of positive as opposed to neutral affect on the time preference of individuals in an experiment. An overview of related experiments is provided.

3.8 Emotions and neuroscience

A survey on neuroscience and economics is provided by Camerer et al. (2005) and an introductory overview is provided in the book by Glimcher et al. (2009). There are various papers in neuroscience on the “somatic marker hypothesis”. Simply speaking, decisions can not be made without emotions. This work goes back to Damasio (1994) and led to papers both in economic journals (Bechara and Damasio, 2005) as well in medical journals (Bechara et al., 2000, Verdejo-Garcia and Bechara, 2009) both on decisions in general but also on addiction. There is very little math (if at all) but one could write beautiful papers (and a beautiful dissertation) if these ideas were put in a formal language.

3.9 Resuscitating emotions in economic thinking

The link between psychology and economics is of course much older. Think of Bentham where psychological concepts like emotions played a central role in decision making (see the brief discussion in Loewenstein, 2000). For a revival of the link between subjective well-being (happiness) and choice, see Benjamin et al. (2012), Rayo and Becker (2007) or Kahneman, Wakker and Sarin (1997).

3.10 General background

There are various survey papers on emotions. They include Elster (1998) and DellaVigna (2009, ch. 4.5)

References

- Battgalli, P., and M. Dufwenberg (2007): “Guilt in Games,” *American Economic Review*, 97(2), 170–176.
- Bechara, A., and A. Damasio (2005): “The somatic marker hypothesis: A neural theory of economic decision,” *Games and Economic Behavior*, 52, 336–372.

- Bechara, A., H. Damasio, and A. Damasio (2000): “Emotion, Decision Making and the Orbitofrontal Cortex,” *Cerebral Cortex*, 10(3), 295–307.
- Becker, G. S., and K. M. Murphy (1988): “A Theory of Rational Addiction,” *Journal of Political Economy*, 96(4), 675–700.
- Bell, D. E. (1985): “Disappointment in Decision Making under Uncertainty,” *Operations Research*, 33(1), 1–27.
- Ben-Shakhar, G., G. Bornstein, A. Hopfensitz, and F. van Winden (2007): “Reciprocity and emotions in bargaining using physiological and self-report measures,” *Journal of Economic Psychology*, 28(3), 314–323.
- Benjamin, D., O. Heffetz, M. Kimball, and A. Rees-Jones (2012): “What Do You Think Would Make You Happier? What Do You Think You Would Choose?,” *American Economic Review*, 102(5), 2083–2110.
- Bernheim, D., and A. Rangel (2004): “Addiction and Cue-Tiggered Decision Processes,” *American Economic Review*, 94(5), 1558–90.
- (2009): “Beyond Revealed Preference: Choice Theoretic Foundations for Behavioral Welfare Economics,” *Quarterly Journal of Economics*, 124(1), 51–104.
- Bosman, R., and F. van Winden (2002): “Emotional Hazard in a Power to Take Experiment,” *The Economic Journal*, 112(476), 147–169.
- Brocas, I., and J. D. Carrillo (2008): “The Brain as a Hierarchical Organization,” *American Economic Review*, 98(4), 1312–1346.
- Camerer, C., G. Loewenstein, and D. Prelec (2005): “Neuroeconomics: How Neuroscience Can Inform Economics,” *Journal of Economic Literature*, 43(1), 9–64.
- Caplin, A., and M. Dean (2008): “Dopamine, Reward Prediction Error, and Economics,” *Quarterly Journal of Economics*, 123(2), 663–701.
- Caplin, A., and J. Leahy (2001): “Psychological Expected Utility Theory And Anticipatory Feelings,” *Quarterly Journal of Economics*, 116(1), 55–79.
- (2004): “The supply of information by a concerned expert,” *Economic Journal*, 114(497), 487–505.
- Caplin, A., J. Leahy, and T. Tyler (2007): “Measuring Self-Control Problems,” *American Economic Review*, 97(3), 966–72.
- Charness, G., and M. Dufwenberg (2011): “Participation,” *American Economic Review*, 101(4), 1211–1237.
- Compte, O., and A. Postlewaite (2004): “Confidence-Enhanced Performance,” *The American Economic Review*, 94(5), 1536–1557.
- Damasio, A. (1994): *Descartes’ Error: Emotion, Reason, and the Human Brain*. Grosset Putnam, New York.
- DellaVigna, S. (2009): “Psychology and Economics: Evidence from the Field,” *Journal of Economic Literature*, 47(2), 315–372.

- Elster, J. (1998): “Emotions and Economic Theory,” *Journal of Economic Literature*, 36(1), 47 – 74.
- Fudenberg, D., and D. K. Levine (2006): “A Dual-Self Model of Impulse Control,” *American Economic Review*, 96(5), 1449 – 1476.
- Geanakoplos, J., and P. D. (1989): “Psychological Games and Sequential Rationality,” *Games and Economic Behavior*, 1(1), 60–79.
- Glimcher, P. W., C. Camerer, R. A. Poldrack, and E. Fehr (2009): *Neuroeconomics: decision making and the brain*. Amsterdam, Elsevier.
- Granta, S., A. Kajii, and Polak. B. (2001): “Different notions of disappointment aversion,” *Economics Letters*, 70(2), 203–208.
- Gul, F. (1991): “A Theory of Disappointment Aversion,” *Econometrica*, 59(3), 667–86.
- Ifcher, J., and H. Zarghamee (2011): “Happiness and Time Preference: The Effect of Positive Affect in a Random-Assignment Experiment,” *American Economic Review*, 101(7), 3109–3129.
- Kahneman, D., P. Wakker, and R. Sarin (1997): “Back to Bentham? Explorations of Experienced Utility,” *The Quarterly Journal of Economics*, 112(2), 375–406.
- Kőszegi, B. (2006): “Emotional Agency,” *Quarterly Journal of Economics*, 121(1), 121–156.
- Laibson, D. (2001): “A Cue-Theory of Consumption,” *Quarterly Journal of Economics*, 116(1), 81 – 119.
- Loewenstein, G. (2000): “Emotions in Economic Theory and Economic Behavior,” *American Economic Review*, 90(2), 426 – 432.
- Loewenstein, G., T. O’Donoghue, and M. Rabin (2003): “Projection Bias in Predicting Future Utility,” *Quarterly Journal of Economics*, 118(4), 1209 – 1248.
- Loomes, G., and R. Sugden (1982): “Regret Theory: An Alternative Theory of Rational Choice under Uncertainty,” *Economic Journal*, 92(368), 805–824.
- Mas-Colell, A., M. D. Whinston, and J. R. Green (1995): *Microeconomic Theory*. Oxford University Press.
- Mellers, B., A. Schwartz, and I. Ritov (1999): “Emotion-Based Choice,” *Journal of Experimental Psychology*, 128(3), 332–345.
- Rayo, L., and G. Becker (2007): “Evolutionary Efficiency and Happiness,” *Journal of Political Economy*, 115(2), 302–337.
- Reuben, E., and F. van Winden (2008): “Social Ties and Coordination on Negative Reciprocity: The Role of Affect,” *Journal of Public Economics*, 92(1-2), 34–53.
- Smith, K., and J. Dickhaut (2005): “Economics and emotion: Institutions matter,” *Games and Economic Behavior*, 52(2), 316–335.
- Verdejo-Garcia, A., and A. Bechara (2009): “A somatic marker theory of addiction,” *Neuropharmacology*, 56 Suppl 1, 48–62.
- Wälde, K. (2014): “Stress and Coping: An Economic Approach,” mimeo Gutenberg University Mainz, available at www.waelde.com/pub.